



## NCAKUBANA WATER SUPPLY SCHEME – PHASE 3B

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WATER TREATMENT WORKS**

**CONTRACT No.: HGDM/696/HGDM/2020**

**(CIDB CATERGORY: 6CE, or HIGHER)**

### PROCUMENT DOCUMENT

Name of Tenderer

\_\_\_\_\_

Telephone Number

\_\_\_\_\_

Fax Number

\_\_\_\_\_

Address

\_\_\_\_\_

\_\_\_\_\_

Tender Sum

\_\_\_\_\_

#### EMPLOYER:

#### CONSULTING ENGINEERS:



The Municipal Manager  
Harry Gwala District Municipality  
Private Bag X501  
IXOPO  
3276  
Tel: 039 – 834 8704  
Fax: 039 – 834 2259

*Ubuhle Bempisi Consulting Engineers cc*



108 & 109 iL Palazzo Building,  
5 Zenith Drive  
Umhlanga Town Centre  
Umhlanga Ridge, 4319  
Private Bag X14  
Gateway 4321  
Tel: 031 566 4209  
Fax: 086 615 1555  
Email: [info@umpisi.com](mailto:info@umpisi.com)  
Web: [www.umpisi.com](http://www.umpisi.com)

**Umpisi Engineers**



**EXPANDED PUBLIC WORKS PROGRAMME  
CONTRIBUTING TO A NATION AT WORK**

## TENDER DOCUMENT CHECKLIST

Tenderers must complete this document checklist to ensure that all information is completed in the Tender Document.

	ITEMS	CHECKED Tenderer
1)	Correct Tender Offer Amount carried forward to Cover Page and Form of Offer on Section C.1.....	<input type="checkbox"/>
2)	All pages requiring signatures signed by the Tenderer .....	<input type="checkbox"/>
3)	Bill of Quantities	
	i) Completed in <b>BLACK INK</b> only .....	<input type="checkbox"/>
	ii) Corrections crossed out and initialled.....	<input type="checkbox"/>
4)	Submission of All Returnable Documents and Schedules	
	A Authority for Signatory.....	<input type="checkbox"/>
	B MBD Forms.....	<input type="checkbox"/>
	C Schedule of work carried out by Tenderer.....	<input type="checkbox"/>
	D Amendments, Qualifications and Alternatives.....	<input type="checkbox"/>
	E Tax Clearance Certificate.....	<input type="checkbox"/>
	F Compulsory Enterprise Questionnaire.....	<input type="checkbox"/>
	G BBBEE Certificate.....	<input type="checkbox"/>
	H Key Personnel .....	<input type="checkbox"/>
	I Contractor's Health and Safety Declaration.....	<input type="checkbox"/>
	J Data to be provided by Tenderer.....	<input type="checkbox"/>

**NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
 CONTRACT N<sup>o</sup> HGDM/696/HGDM/2020  
 CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE**

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GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW CONTRACT: HGDM/696/HGDM/2020**

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CONTRACT N<sup>0</sup> HGDM/696/HGDM/2020  
CONSTRUCTION OF 160mm DIAMETER,1.8KM LONG BULK PUMPING MAIN, OPERATOR  
HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW  
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**T1.1: Tender Notice and Invitation to Tender**



**HARRY GWALA DISTRICT MUNICIPALITY  
INFRASTRUCTURE SERVICES DEPARTMENT**

**BID NOTICE**

**BID INVITATION**

Bids are hereby invited from qualified and experienced Bidders for the construction of the following Infrastructure projects within the Harry Gwala District municipality.

<b>NO.</b>	<b>PROJECT NAME</b>	<b>CIDB GRADING</b>	<b>COMPULSORY BRIEFING DATE</b>	<b>TENDER NUMBER</b>	<b>CLOSING DATE</b>
i.	NCAKUBANE WATER SUPPLY SCHEME PHASE 3B  CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW	6CE OR HIGHER	08 April 2021@ 10h00am Municipal boardroom then proceed to site	Contract No. HGDM/696/HGDM/2020	30 April 2021@ 12h00

Only Bidders that have the required CIDB Grading listed on the table above will be considered. Joint Ventures are also eligible to submit Bids provided that every member of the Joint Venture is registered with the CIDB and a combined grade of Joint Venture calculated in accordance with the CIDB regulations is equal to or higher than the specified Contractor grading.

Invalid or non-submission of the following documents will lead to immediate disqualification.

- Central Supplier database registration
- JV Agreement (if applicable);
- A signed MBD4 form must be submitted with all bids ( available on our website or at reception)

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**The following will apply in all the above bids:**

- Valid tax certificate or SARS pin
- Price(s) quoted must be firm and must be inclusive of VAT;
- A firm delivery period must be indicated;
- All tenders must be valid for 90 days after the tender closing date
- A certified and valid B-BBEE status level verification certificate for claiming preference points.
- 80/20 Preference point system will be used in Evaluation. Functionality will be calculated first.

**COLLECTION OF BID DOCUMENTS**

Bid documents may be collected from the **29 March 2021** between **09h00 and 16h00** at Harry Gwala District Municipality Offices, Finance Services Department, situated at Ixopo 40 Main Street, Ixopo 3276. Tender documents will be issued upon payment of a non-refundable cash fee of **R500 each**.

**NB: No documents will be sold after briefing meetings.**

**CLOSING DATE**

The closing date for the bids is as per the table above. Bids must be enclosed in **SEALED ENVELOPES** and clearly labelled with the contract number and project name on the outside of the envelopes addressed to **The Municipal Manager**.

Bids must be deposited in the Bid Box at the reception area of **Harry Gwala District Municipal, 40 Main Street, IXOPO** before the closing date. Telegraphic, telexed or faxed bids will not be considered and late bids will not be accepted.

Harry Gwala District Municipality does not bind itself to accept the lowest or any Bid and reserves the right to accept the whole or any part of the bid.

**BID ENQUIRIES**

All bid enquires and other matters shall be directed to: Executive Director: Water Services: Mr D.S. Gqiba during working hours on Tel: 039 834 3939

**Mrs N. A Dlamini  
Municipal Manager**

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## **T1.2: Tender Data**

The Conditions Of Tender are the Standard Conditions of Tender as contained in Annex F of the legislated Standard Conditions of Tender as published in Board Notice 62 of 2004 in Government Gazette 2647 of 9 June 2004 and amended by:

1. Board Notice 67 of 2005 in Government Gazette No 27831 of 22 July 2005;
2. Board Notice 99 of 2005 in Government Gazette No 28127 of 14 October 2005;
3. Board Notice 93 of 2006 in Government Gazette No 29138 of 18 August 2006;
4. Board Notice 8 of 2008 in Government Gazette No 30692 of 1 February 2008; and
5. Board Notice 12 of 2009 in Government Gazette No. 31823 of 30 January 2009.
6. Board Notice 136 of 2015 in Government Gazette No. 10684 of 20 January 2017.

are for ease of reference included herein in their entirety. In case of any discrepancies, the gazetted version takes precedence.

The standard conditions of tender are included separately after the Tender Data

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

<b>Clause Number</b>	<b>Description</b>
F.1.1	The Employer is <b>Harry Gwala District Municipality</b>
F.1.2	<p>The tender documents issued by the employer comprise the following:</p> <p>T1.1 Tender Notice and Invitation to Tender T1.2 Tender Data T2.1 List of Returnable Documents T2.2 Returnable Schedules</p> <p><b>Part 1: Agreements And Contract Data</b> C1.1 Form of offer and acceptance C1.2 Contract data C1.3 Form of Guarantee C1.4 Adjudicator's Contract</p> <p><b>Part 2: Pricing data</b> C2.1 Pricing instructions C2.2 Activity schedules / Bills of Quantities</p> <p><b>Part 3: Scope of work</b> C3 Scope of work</p> <p><b>Part 4:Site information</b> C4 Site information</p> <p><b>Part 5: Drawings</b> C5 Drawings</p>

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Clause No.	Description
	<p>The Employer's Agent's (also referred to as the Engineer) details are as follows:</p> <p>Name: Umpisi Engineers  Address: 108 iL Palazzo Building,  Corner Zenith Drive and Solstice Road,  Umhlanga Ridge,  Durban,  4319  Tel N<sup>o</sup>: +27 031 566 4209  Fax N<sup>o</sup>: +27 086 615 1555  Contact Person Nkululeko Sithole  Email: nkululekos@umpisi.com</p>
F.2.1	<p>The following tenders who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submissions, are eligible to submit tenders.</p> <p>a) contractors who have a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 6CE, or Higher class of construction work; and</p> <p>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 (<b>ie 6CE</b>) and who satisfy the following criteria:</p> <ul style="list-style-type: none"> <li>• They can demonstrate they have the financial resources to undertake the work being tendered for</li> <li>• They have priced documents fairly and can demonstrate the basis of pricing of items where in the Engineer's opinion the pricing is unbalanced</li> <li>• They can demonstrate that they have experienced personnel to manage the work being tendered for.</li> </ul> <p>c) Joint ventures are eligible to submit tenders provided that:</p> <ol style="list-style-type: none"> <li>1. Every member of the joint venture is registered with the CIDB;</li> <li>2. the lead partner has a contractor grading designation in the CE class of work</li> <li>3. The combined contractor grading designation calculated in accordance with the Construction Industry Board Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for <b>6CE or higher</b> class of construction or a value determined in accordance Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.</li> </ol>
	<p>The arrangements for a compulsory briefing meeting are:</p> <p>Location Harry Gwala Municipal offices  Date 08 April 2021  Starting Time 10h00am</p> <p>Tenderers must sign the Attendance Register in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the Attendance Register.</p>



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F2.12	<p>If a tenderer wishes to submit an alternative 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.</p> <p>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 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 in the development of the pricing proposal.</p> <p>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 the full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements</p> <p>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 of confirming the acceptability of the detailed design before it is constructed.</p>
	<p>The employer's address for delivery of tender offers and identification details to be shown on each tender offer package are as follows:</p> <p>Location of Tender Box:                   <b>Foyer of Harry Gwala District Municipality Offices</b> Physical Address:                           <b>40 Main Street, IXOPO</b> Tender Documents Endorsed:           <b>Contract HGDM/696/HGDM/2019</b></p>
F.2.13	A two-envelope procedure will not be followed.
F.2.15	The closing time for submission of tender offers is <b>12h00 on Friday, 30 April 2021</b>
F.2.15	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be acceptable.
F.2.16	The tender offer validity period is <b>thirteen (13) weeks (90 days)</b> from the tender closing date
F.2.23	<p>The tenderer is required to submit with his tender:</p> <ol style="list-style-type: none"> <li>1) either a copy of the Certificate of Contractor Registration issued by the Construction Industry Development Board or a copy of the application Form for registration in terms of the Construction Industry Development Board Act (Form F006).</li> <li>2) Copies of company registration documents.</li> <li>3) an original valid Tax Clearance issued by the South African Revenue Services.</li> <li>4) Copies of ID documents of Shareholders/Members/Directors of the business enterprises.</li> <li>5) Copy of Letter of Good Standing from the Department of Labour;</li> <li>6) JV Agreement (if applicable);</li> <li>7) Occupational Health and Safety Plan (OHS)</li> <li>8) Proof of Preference Points Claimed (BBEEE Certificate).</li> </ol>
	<p>The time and location for opening of the tender offers are:</p> <p>Time:                   <b>12h00</b> Date:                   <b>Friday, 30 April 2021</b> Location:              <b>Tender Box, Foyer of Harry Gwala District Municipality Offices, 40 Main Street, IXOPO, 3276</b></p>

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F.3.11	<p>The procedure for the evaluation of responsive tenders is <b>Method 2</b> with the 80/20 Preference Point System. Tenders will be scored for quality first and only those tenders that meet the specified minimum total score for quality will be considered further. These tenders will then be evaluated on the basis of the 80/20 Preference Points System.</p> <p><b>Method 2: Financial Offer, Quality and Preferences</b></p> <p><u>(a) Quality</u></p> <p>The score for quality is to be calculated using the following formula:</p> $W_q = W_2 \times S_o / M_s$ <p>where:</p> <p><math>W_2</math> = is the percentage score given to quality and equals <b>100</b>  <math>S_o</math> = is the score for quality allocated to the submission under consideration  <math>M_s</math> = is the maximum possible score for quality in respect to the submission</p> <p>The quality will comprise scores for the following based on criteria indicated in the respective tender returnables and summarised as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Description</th> <th style="text-align: center;">Maximum Allocated Points</th> </tr> </thead> <tbody> <tr> <td>Experience of Key Personnel (Contracts Manager)</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Experience of Key Personnel (Site Agent)</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Experience of Key Personnel (Foreman)</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Experience of Bidder with respect to similar projects</td> <td style="text-align: center;">25</td> </tr> <tr> <td>Financial Capacity</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Previous Performance</td> <td style="text-align: center;">20</td> </tr> <tr> <td><b>TOTAL MAXIMUM POINTS</b></td> <td style="text-align: center;"><b>100</b></td> </tr> </tbody> </table> <p>The score for quality can be further broken down per individual criteria as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Key Criteria Aspect</th> <th style="text-align: left;">Basis for Points Allocation</th> <th style="text-align: center;">Score</th> <th style="text-align: center;">Max Score</th> <th style="text-align: left;">Verification Method</th> </tr> </thead> <tbody> <tr> <td rowspan="6">Experience of Key Personnel  (Contracts Manager)</td> <td>NQF level 7 relevant qualification and 10 and above years' relevant experience in the position</td> <td style="text-align: center;">20</td> <td rowspan="6" style="text-align: center;"><b>20</b></td> <td rowspan="6">Certified Qualification certificates and Curriculum Vitae to be attached with traceable references (proof of permanent employment on the company). Experience must be on water projects</td> </tr> <tr> <td>Less than 4 years' experience</td> <td style="text-align: center;">8</td> </tr> <tr> <td>Between 4-9 years relevant experience in the position.</td> <td style="text-align: center;">15</td> </tr> <tr> <td>No qualification with minimum of 5 years' experience in the position</td> <td style="text-align: center;">5</td> </tr> <tr> <td>No qualification with 5-10 years' experience in the position.</td> <td style="text-align: center;">8</td> </tr> <tr> <td>No qualification with 10 and above years' experience in the position</td> <td style="text-align: center;">12</td> </tr> <tr> <td>Experience of Key Personnel</td> <td>NQF level 6 relevant qualification and 10 and above years' relevant experience in the position</td> <td style="text-align: center;">10</td> <td style="text-align: center;"><b>10</b></td> <td>Certified Qualification certificates and Curriculum Vitae to be attached with</td> </tr> </tbody> </table>	Description	Maximum Allocated Points	Experience of Key Personnel (Contracts Manager)	20	Experience of Key Personnel (Site Agent)	10	Experience of Key Personnel (Foreman)	5	Experience of Bidder with respect to similar projects	25	Financial Capacity	20	Previous Performance	20	<b>TOTAL MAXIMUM POINTS</b>	<b>100</b>	Key Criteria Aspect	Basis for Points Allocation	Score	Max Score	Verification Method	Experience of Key Personnel  (Contracts Manager)	NQF level 7 relevant qualification and 10 and above years' relevant experience in the position	20	<b>20</b>	Certified Qualification certificates and Curriculum Vitae to be attached with traceable references (proof of permanent employment on the company). Experience must be on water projects	Less than 4 years' experience	8	Between 4-9 years relevant experience in the position.	15	No qualification with minimum of 5 years' experience in the position	5	No qualification with 5-10 years' experience in the position.	8	No qualification with 10 and above years' experience in the position	12	Experience of Key Personnel	NQF level 6 relevant qualification and 10 and above years' relevant experience in the position	10	<b>10</b>	Certified Qualification certificates and Curriculum Vitae to be attached with
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	(Site Agent)	Less than 4 years' experience	5		traceable references (proof of permanent employment on the company). Experience must be on water projects.	
		Between 4-9 years relevant experience in the position.	7			
		No qualification with minimum of 5 years' experience in the position	5			
	Experience of Key Personnel (Foreman)		1- 3 years' experience in the position	1	<b>5</b>	Curriculum Vitae to be attached with traceable references. Experience must be only on civil engineering projects specifically water.
			4-6 years' experience in the position	2		
			7-9 years' experience in the position	3		
			10 and above years' experience in the position	5		
	Experience of Tenderer (water projects)		1 Completed Project	5	<b>25</b>	Appointment letters and Completion Certificates (for subcontracting attach appointment letter and completion certificate of main contractor).
			2 Completed projects with minimum value of 2 Million (each)	10		
			3 Completed projects with minimum value of 2 Million (each)	15		
			4 Completed projects with minimum value of 2 Million (each)	20		
			5 or more Completed projects completed with minimum value of 2 Million (each)	25		
	Financial Capacity		Undoubted for the amount of your enquiry	A = 20	<b>20</b>	Rating by bank where account is held
			Good for tender amount quoted	B = 15		
			Average too good for the amount of tender enquiry, if strictly in the way of business	C = 10		
Rating below good (D)			E-F = 5			
Previous Performance on two similar projects		Performance on 6 similar projects scored on the following by Employer of Referee (Max 5 points per project)		<b>20</b>	Completed and signed referee Form <b>M</b> (form to be signed by client)	
		Contract Management	5			
		Communication and compliance to instructions	5			
		Quality of work produced	5			
		Time of completion of contract	5			

**Tenderers that score less than 60% of the total score allowed for quality will not be considered further.**

**(b) Financial Offer**

The financial offer will be scored using the following formula

$$Nf = W1 \times [1 - (P - Pm) / Pm]$$

where:

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	<p>W1 = <b>80</b> for financial values up to R50 000 000 (inclusive of VAT) of all responsive tenders received, and <b>90</b> for financial values over R50 000 000; Pm = the value of the comparative offer of the most favorable tender; P = the value of the comparative offer under consideration</p> <p><u>(c) Preferences</u></p> <p>Up to <b>20</b> points (for financial values up to R50 000 000) or <b>10</b> points (for financial values over R50 000 000) will be awarded to tenderers who are found to be eligible for the preference claimed.</p> <p>Points will be awarded to Tenderers for attaining the BBBEE status level of contribution as per the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017 as detailed below.</p> <table border="1"> <thead> <tr> <th>BBBEE Status Level Contributor</th> <th>Number of Points (80/20 Principle)</th> <th>Number of Points (90/10 Principle)</th> </tr> </thead> <tbody> <tr><td>1</td><td>20</td><td>10</td></tr> <tr><td>2</td><td>18</td><td>9</td></tr> <tr><td>3</td><td>14</td><td>8</td></tr> <tr><td>4</td><td>12</td><td>6</td></tr> <tr><td>5</td><td>8</td><td>4</td></tr> <tr><td>6</td><td>6</td><td>3</td></tr> <tr><td>7</td><td>4</td><td>2</td></tr> <tr><td>8</td><td>2</td><td>1</td></tr> <tr><td>Non-Compliant Contributor</td><td>0</td><td>0</td></tr> </tbody> </table>	BBBEE Status Level Contributor	Number of Points (80/20 Principle)	Number of Points (90/10 Principle)	1	20	10	2	18	9	3	14	8	4	12	6	5	8	4	6	6	3	7	4	2	8	2	1	Non-Compliant Contributor	0	0
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Non-Compliant Contributor	0	0																													
F.3.13.1	<p>Tender offers will only be accepted if:</p> <ol style="list-style-type: none"> <li>a) the tenderer has in his or her possession an original valid Tax Clearance Certificate or SARS Pin issued by the South African Revenue Services or has made arrangements to meet outstanding tax obligations</li> <li>b) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation, by tender closing date;</li> <li>c) the tenderer is not in arrears for more than 3 months with the municipal rates and taxes and municipal services charges;</li> <li>d) the tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector;</li> <li>e) the tender has not             <ol style="list-style-type: none"> <li>i) abused the Employer's Supply Chain Management System; or</li> <li>ii) failed to perform on any previous contract and has been given a written notice to this effect; and</li> </ol> </li> <li>f) has completed the Compulsory Enterprise Questionnaires and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interest of the employer or potentially compromise the tender process.</li> <li>g) the Tenderer or a competent authorized representative of the Contractor who submitted the tender has attended the compulsory clarification meeting and/or site inspection, as specified;</li> <li>h) the tender offer is signed by a person authorized to sign on behalf of the Tenderer;</li> <li>i) a Tenderer who submitted a tender as a Joint Venture has included an acceptable Joint Venture Agreement with his tender.</li> </ol>																														
F.3.18	<p>The number of paper copies of the signed contract to be provided by the Employer is one original plus one original duplicate.</p>																														
	<p>The additional conditions of tender are as follows:</p> <ol style="list-style-type: none"> <li>1. The BBBEE Certificate from an accredited organisation will be used to award preference points.</li> </ol>																														

## **APPENDIX: STANDARD CONDITIONS OF TENDER**

*(These Standard Conditions of Tender have been reproduced, without any changes, from Appendix A of the CIDB Standardized Construction Procurement Documentation for Engineering Construction Works (5 August 2005))*

### **F.1 General**

#### **F.1.1 Actions**

**F1.1.1.** The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

**F1.1.2.** The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

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

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

**F.1.1.3** The employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

#### **F.1.2 Tender Documents**

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

#### **F.1.3 Interpretation**

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

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

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

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

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- ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
  - iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- (b) **comparative offer** means the 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
- (c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and
- (d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels
- (e) **Organisation** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body
- (f) **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 reasons for such action upon written request to do so.

**F.1.5.2** The employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all 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.1.6 Procurement Procedures**

##### **F.1.6.1 General**

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

#### **F.1.6.2 Competitive Negotiation Procedure**

- F.1.6.2.1** Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of F.3.4, the Employer shall announce only the names of the tenderers who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive positions of tenderers shall not apply.
- F.1.6.2.2** All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the data, shall be invited in each round to enter the competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the Employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning and additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.
- F.1.6.2.3** At the conclusion of each round of negotiations, tenderers shall be invited by the Employer to make a fresh tender offer, based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.
- F.1.6.2.4** The contract shall be awarded in accordance with the provisions of F.3.11 and F.3.13 after tenderers have been requested to submit their best and final offer.

#### **F.1.6.3 Proposal Procedure using two stage system**

##### **F.1.6.3.1 Option 1**

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

##### **F.1.6.3.2 Option 2**

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

**F.1.6.3.2.2.** The Employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

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**F.2 Tenderer's obligations**

**F.2.1 Eligibility**

**F.2.1.1** Submit a tender offer only if the tenderer complies with the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.

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

**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 Site visit and clarification meeting**

Attend, where required, a site visit and 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) may 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** Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. 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 one tender offer only, either as a single tendering entity or as a member in joint venture, to provide the whole of the works, services or supply identified in the contract data, 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.

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- F.2.13.5** Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- F.2.13.6** Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- F.2.13.7** Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.
- F.2.13.8** Accept that the employer shall not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.
- F.2.13.9** Accept that tender offers submitted by facsimile or email will be rejected by the Employer, unless stated otherwise in the tender data.
- F.2.14** **Information and data to be completed in all respects**
- Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.
- F.2.15** **Closing time**
- F.2.15.1** Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. 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.2.16.3** Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.
- F.2.16.4** Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with the packages clearly marked as "SUBSTITUTE".

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**F.2.17 Clarification of tender offer after submission**

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

**F.2.18 Provide other material**

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

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

**F.2.19 Inspections, tests and analysis**

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

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

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

**F.2.21 Check final draft**

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

**F.2.22 Return of other tender documents**

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

**F.2.23 Certificates**

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

**F.3 The employer's undertakings**

**F.3.1 Respond to requests from the tenderer**

**F.3.1.1** Respond to a request for clarification received up to five working days prior to the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

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

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

**F.3.2 Issue Addenda**

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date of the Tender Notice 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, will then notify it to 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 opening held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened, the total of his prices, preferences claimed and time for completion, if any, for the main tender offer only.

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

**F.3.5 Two-envelope system**

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

**F.3.5.2** Evaluate the quality of the technical proposals offered by tenderers, then 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 above 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.

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**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) meets 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:

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

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

**F.3.9 Arithmetical errors**

**F.3.9.1** Check responsive tender offers for arithmetical errors between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.

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

- a) The gross misplacement of the decimal point in the unit rate,
- b) Omissions made in completing the pricing schedule or bills of quantities or
- c) Arithmetic errors in
  - Line item totals resulting from the product of unit rate and a quantity in bills of quantities or schedule of prices; or
  - The summation of the prices.

**F3.9.2** Notify the tenderers of all errors or omissions that are identified in the tender offer and invite the tenderer to either confirm the tender offer as tendered or accept the corrected total of prices.

**F.3.9.3** Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows

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- a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total as quoted shall govern, and the unit rate will 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.
- b) 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 a bill of quantities applies) to achieve the tendered total of the prices.

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

### **F.3.10 Clarification of a tender offer**

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

### **F.3.11 Evaluation of tender offers**

#### **F3.11.1 General**

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

#### **F.3.11.2 Method 1: Price and Preference**

In the case of a price and preference:

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

#### **F.3.11.3 Method 2: Functionality, Price and Preference**

In the case of a functionality, price and preference:

- 1) Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data.
- 2) No tender must be regarded as an acceptable tender if it fails to achieve the minimum qualifying score for functionality as indicated in the tender invitation.
- 3) Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system prescribed in paragraphs 4 and 4 and 5 below.

The 80/20 preference point system for acquisition of services, works or goods up to Rand value of R50 million

- 4) (a)(i) The following formula must be used to calculate the points for price in respect of tenders( including price quotation) with a rand value equal to, or above R 30 000 and up to Rand value of R 50 000 000 ( all applicable taxes included):

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

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*Where*

*Ps = Points scored for comparative price of tender or offer under consideration; Pt = Comparative price of tender or offer under consideration; and  
Pmin = Comparative price of lowest acceptable tender or offer.*

(4)(a)(ii) An employer of state may apply the formula in paragraph (i) for price quotations with a value less than R30 000, if and when appropriate:

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(4)(b) Subject to subparagraph(4)(c), points must be awarded to a tender for attaining the B-BBEE status level of contributor in accordance with the table below:

<b>B-BBEE status level of contributor</b>	<b>Number of points</b>
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

(4)(c) A maximum of 20 points may be allocated in accordance with subparagraph (4)(b)

(4)(d) The points scored by tender in respect of B-BBEE contribution contemplated in contemplated in subparagraph (4) (b) must be added to the points scored for price as calculated in accordance with subparagraph (4)(a).

(4)(e) Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

The 80/20 preference points system for acquisition of services, works or goods with a Rand value above R 50 million

(5)(a) The following formula must be used to calculate the points for price in respect of tenders with a Rand value above R50 000 000 (all applicable taxes included):

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

Where:

*P<sub>s</sub>* = Points scored for comparative price of tender or offer under consideration;

*P<sub>t</sub>* = Comparative price of tender or offer under consideration; and

*P<sub>min</sub>* = Comparative price of lowest acceptable tender or offer.

(5)(b) Subject to subparagraph(5)(c), points must be awarded to a tender for attaining the B- BBEE status level of contributor in accordance with the table below:



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B-BBEE status level of contributor	Number of points
1	10
2	9
3	8
4	5
5	4
6	3
7	2
8	1
Non-compliant contributor	0

- (5)(c) A maximum of 20 points may be allocated in accordance with subparagraph
- (5)(d) The points scored by tender in respect of B-BBEE contribution contemplated in subparagraph (5) (b) must be added to the points scored for price as calculated in accordance with subparagraph (5)(a).
- (5)(e) Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

#### F.3.11.6 Decimal places

Score price, preference and functionality, as relevant, to two decimal places.

#### F.3.11.7 Scoring Price

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

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

where:

$N_{FO}$  is the number of tender evaluation points awarded for price.

$W_1$  is the maximum possible number of tender evaluation points awarded for price as stated in the Tender Data.

$A$  is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of  $A$

Formula	Comparison aimed at achieving	Option 1 <sup>a</sup>	Option 2 <sup>a</sup>
1	Highest price or discount	$A = (1 + (\frac{P - P_m}{P})) P_m$	$A = P / P_m$
2	Lowest price or percentage commission / fee	$A = (1 - (\frac{P - P_m}{P})) P_m$	$A = P_m / P$
<sup>a</sup> $P_m$ is the comparative offer of the most favourable comparative offer. $P$ is the comparative offer of the tender offer under consideration.			

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#### **F.3.11.8 Scoring preferences**

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences. Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

#### **F.3.11.9 Scoring functionality**

Score each of the criteria and subcriteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$$NQ = W2 \times SO / MS$$

where:

*SO is the score for quality allocated to the submission under consideration;*

*MS is the maximum possible score for quality in respect of a submission; and*

*W2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data*

#### **F.3.12 Insurance provided by the employer**

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

#### **F.3.13 Acceptance of tender offer**

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

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

#### **F.3.14 Prepare contract documents**

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- F.3.14.1** If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:
- a) addenda issued during the tender period,
  - b) inclusion of some of the returnable documents, and
  - c) other revisions agreed between the employer and the successful tenderer.
- F.3.14.2** Complete the schedule of deviations attached to the form of offer and acceptance, if any.
- F.3.15** **Complete adjudicator's contract**
- Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.
- F.3.16** **Notice to unsuccessful tenderers**
- F.3.16.1** Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.
- F.3.16.2** After the successful tenderer has been notified of the employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.
- F.3.17** **Provide copies of the contracts**
- Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.
- F.3.18** **Provide written reasons for actions taken**
- Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender, but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.
- F3.19** **Transparency in the procurement process**
- F3.19.1** The CIDB prescripts require that tenders must be advertised and be registered on the cidb iTender system.
- F3.19.2** The employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.
- F3.19.3** The transparency model must identify the criteria for selection of projects, project information template and the threshold value of the projects to be disclosed in the public domain at various intervals of delivery of infrastructure projects.

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- F3.19.4** The client must publish the information on a quarterly basis which contains the following information:
- Procurement planning process
  - Procurement method and evaluation process
  - Contract type
  - Contract status
  - Number of firms tendering
  - Cost estimate
  - Contract title
  - Contract firm(s)
  - Contract price
  - Contract scope of work
  - Contract start date and duration
  - Contract evaluation reports
- F3.19.5** The employer must establish a Consultative Forum which will conduct a random audit in the implementation of the transparency requirements in the procurement process.
- F3.19.6** Consultative Forum must be an independent structure from the bid committees.
- F3.19.7** The information must be published on the employer's website.
- F 3.19.8** Records of such disclosed information must be retained for audit purposes.

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**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK  
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**PART T2:  
RETURNABLE DOCUMENTS**

## RETURNABLE DOCUMENTS

### INDEX

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<b>T2.2</b>	<b>RETURNABLE SCHEDULES.....</b>	<b>T2.2.2</b>

**HARRY GWALA DISTRICT MUNICIPALITY**

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PUMP HOUSE AND REPAIRS AT WTW CONTRACT:  
HGDM/696/HGDM/2020**

**PART T2.1**

**LIST OF RETURNABLE DOCUMENTS**

## T2.1 List of Returnable Documents

The tenderer must submit the following returnable documents:

### **VOLUME 1: TENDER DOCUMENT** in its entirety.

The information the tenderer shall supply in his tender or attached to his tender shall include, but not be limited to the documents and schedules as set out below:

The following certificates / information are to be provided with the tender offer:

- a. Original valid tax clearance certificate (in terms of the Preferential Procurement Regulations, 2001 published in the Government Gazette No 22549 dated 10 August 2001),
  - i) In order to meet this requirement Tenderers are required to complete in full the attached form TCC 001 "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally. The Tax Clearance Certificate Requirements are also applicable to foreign Tenderers / individuals who wish to submit bids.
  - ii) SARS will then furnish the Tenderer with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.
  - iii) The original Tax Clearance Certificate must be submitted together with the bid. Failure to submit the original and valid Tax Clearance Certificate will result in the invalidation of the bid. Certified copies of the Tax Clearance Certificate will not be acceptable.
  - iv) In bids where Consortia / Joint Ventures / Sub-contractors are involved; each party must submit a separate Tax Clearance Certificate.
  - v) Copies of the TCC 001 "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website [www.sars.gov.za](http://www.sars.gov.za).
  - vi) Applications for the Tax Clearance Certificates may also be made via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website [www.sars.gov.za](http://www.sars.gov.za).
- b. Certified copy of VAT Registration Certificate (if VAT Registration number is not indicated on the Tax Clearance Certificate),
- c. Certified copy of Certificates of Incorporation (if tenderer is a Company),
- d. Certified copy of Founding Statement (if tenderer is a Closed Company),
- e. Certified copy of Partnership Agreement (if tenderer is a Partnership),
- f. Certified copy of Identity Document (if tenderer is a One-man concern),
- g. Certified copies of Identity Documents of all Members of the Bidding Entity,
- h. Joint venture agreement (if tenderer is a joint venture),
- i. Property Rates Clearance: Copy of latest Municipal account / lease agreement.
- j. Original bank rating certificate (Letter from bank institution confirming bank rating based on R1 million for 60 days).
- k. One-page CV of each of the Proposed Project Personnel e.g. Contracts Manager, Site Agent, Site Technicians, Engineer and Foreman.
- l. Company CV/Profile
- m. Site inspection Minutes and Addenda Issued



- n. Audited annual financial statement for 3 years, or for the period since establishment if established during the last 3 years, if required by law to prepare annual financial statements for auditing;
- o. A certificate certifying that the Tenderer has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days;
- p. Particulars of any contracts awarded to the Tenderer by any organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract;
- q. A statement indicating whether any portion of the goods or services are expected to be sourced from outside the republic, and, if so, what portion and whether any portion of payment from the municipality or municipal entity is expected to be transferred out of the republic

The returnable schedules included in Section T2.2 will be used to evaluate tenders received. These schedules will also form part of the Contract.

**Failure to comply with any of the above will render the Tender incomplete and therefore rejected** (If a Booklet is used for the above, ensure that it is firmly attached by a strong stapler, the Employer or its agents may not be held liable for loose pages that get misplaced).

**HARRY GWALA DISTRICT MUNICIPALITY**

**NCAKUBANE WATER SUPPLY SCHEME PHASE 3B**

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK  
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PUMP HOUSE AND REPAIRS AT WTW CONTRACT:  
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**PART T2.2**

**RETURNABLE SCHEDULES**

## T2.2 RETURNABLE SCHEDULES

### INDEX

#### Returnable schedules:

The returnable schedules listed below must be completed and submitted with the tender offer.

In cases where the tenderer has failed to submit any of the documents below with the tender, the Municipality reserves the right to, at any time after the closure of the tender but before the award of the contract, request the tenderer to provide the outstanding documents within 7 (seven) calendar days from date of notification.

<b>Item</b>	<b>Description</b>	<b>Page No</b>
FORM A	CERTIFICATE OF TENDERER'S VISIT TO SITE.....	T2.2.3
FORM B	PRESENT COMMITMENTS.....	T2.2.4
FORM C	SCHEDULE OF PREVIOUS SIMILAR WORKS.....	T2.2.5
FORM D	SCHEDULE OF PLANT AND EQUIPMENT TO BE DEPLOYED.....	T2.2.6
FORM E	COMPULSARY ENTERPRISE QUESTIONNAIRE.....	T2.2.7
FORM F	RECORD OF ADDENDA TO TENDER DOCUMENTS.....	T2.2.9
FORM G	DECLARATION OF SUBCONTRACTORS.....	T2.2.10
FORM H	CERTIFICATE OF AUTHORITY FOR SIGNATORY .....	T2.2.11
FORM I	ALTERATIONS BY TENDERER.....	T2.2.12
FORM J	BANK DETAILS.....	T2.2.13
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FORM M	ASSESSMENT OF BIDDER'S PREVIOUS PERFORMANCE.....	T2.2.16
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FORM O	FORM OF INTENT TO PROVIDE PERFORMANCE GAURANTEE.....	T2.2.18
FORM P	RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES.....	T2.2.19
FORM Q	JOINT VENTRURE DISCLOSURE FORM.....	T2.2.23
FORM R	DECLARATION OF INTEREST.....	T2.2.29
FORM S	CONTRACTORS HEALTH DECLARATION.....	T2.2.30
FORM T	TAX CLEARANCE CERTIFICATE.....	T2.2.33

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<b>Item</b>	<b>Description</b>	<b>Page No</b>
FORM U	B-BBEE CERTIFICATE.....	T2.2.34
FORM V	CERTIFICATE FOR MUNICIPAL SERVICES .....	T2.2.34
MBD 2	LETTER OF GOOD STANDING (Tax Clearance and letter of good standing)	T2.2.35
MBD 4	DECLARATION OF INTEREST.....	T2.2.36
MBD 6.1	PREFERENCE POINTS CLAIM.....	T2.2.39
MBD 8	DECLARATION OF TENDERER'S PAST SUPPLY MANAGEMENT.....	T2.2.44

**1A: CERTIFICATE OF TENDERER'S VISIT TO SITE**

This is to certify that I.....

representative of (Tenderer) .....

of address .....

.....

.....

.....

Telephone number. ....

Fax number .....

visited and examined the Site on (date) .....

in the company of (Employer's Representative) .....

Having previously studied the Tender Document, I examined the Site and have familiarized myself with all the local conditions likely to influence the Work and the cost thereof.

I further certify that I am satisfied with the description of the Work and the explanation given by the said Employer's Representative and that I understand perfectly the work to be done, as specified and implied, in the execution of this Contract.

TENDERER'S REPRESENTATIVE: (Signature).....

(Name).....

EMPLOYER'S REPRESENTATIVE: (Signature).....

(Name).....

ENGINEER'S REPRESENTATIVE: (Signature).....

(Name).....

NOTE: Tenderers are to bring their tender documents to the briefing for signature, unsigned by any of the above would be regarded as incomplete.

**1B: SCHEDULE OF CURRENT COMMITMENTS**

Notes to tenderer:

- The tenderer shall list below all contracts currently under construction or awarded and about to commence. Attachment in the format listed below only accepted.
- In the event of a joint venture enterprise, details of all the members of the joint venture shall similarly be attached to this form.

<b>Employer &amp; Contact Details</b>	<b>Consulting Engineer &amp; Contact Details</b>	<b>Project Name &amp; Number</b>	<b>Contract Amount</b>	<b>Duration &amp; Completion Date</b>

Date .....

Signature of Tenderer.....

**1C: SCHEDULE OF PREVIOUS SIMILAR WORKS**

Tenderers must furnish hereunder details of similar works which they have satisfactorily completed in the past. Attachments only in the format below are allowed.

<b>Project No.</b>	<b>Project Name &amp; Number</b>	<b>Employer, Contact Person &amp; Tel. Number</b>	<b>Consulting Engineer, Contact Person &amp; Tel. Number</b>	<b>Awarded Amount(incl. VAT)</b>	<b>Completion Date</b>
1					
2					
3					
4					
5					
6					
7					
8					
9					
<b>Total value of previous awarded similar projects</b>					<b>R</b>

Date: .....

Signature of Tenderer:.....





**1E. COMPULSORY ENTERPRISE QUESTIONNAIRE**

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

**Section 1: Name of enterprise:** .....

**Section 2: VAT registration number, if any:** .....

**Section 3: CIDB registration number, if any:** .....

**Section 4: Particulars of sole proprietors and partners in partnerships**

Name*	Identity number*	Personal income tax number*

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

**Section 5: Particulars of companies and close corporations**

Company registration number .....

Close corporation number .....

Tax reference number .....

**Section 6: Record in the service of the state**

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

<input type="checkbox"/> A member of any municipal council <input type="checkbox"/> A member of any provincial legislature <input type="checkbox"/> A member of the national assembly or the national council of province <input type="checkbox"/> A member of the board of directors of any municipal entity <input type="checkbox"/> An official of any municipality or municipal entity	<input type="checkbox"/> 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) <input type="checkbox"/> a member of an accounting authority of any national or provincial public entity <input type="checkbox"/> an employee of Parliament or a provincial legislature
--	---

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

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

\*insert separate page if necessary

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

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

<input type="checkbox"/> a member of any municipal council <input type="checkbox"/> a member of any provincial legislature <input type="checkbox"/> a member of the National Assembly or the National Council of Province <input type="checkbox"/> a member of the board of directors of any municipal entity <input type="checkbox"/> an official of any municipality or municipal entity	<input type="checkbox"/> 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) <input type="checkbox"/> a member of an accounting authority of any national or provincial public entity <input type="checkbox"/> 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) 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 Bid Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- ii) 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;
- iii) Confirms that I / we are not associated, linked or involved with any other tendering entities submitting bid offers and have no other relationship with any of the Tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- iv) Confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed ..... Date .....

Name ..... Position .....  
 Enterprise name \_\_\_\_\_

**1F. RECORD OF ADDENDA TO TENDER DOCUMENTS**

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

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

Attach additional pages if more space is required.

**Signed** .....

**Date** .....

**Name** .....

**Position** .....

**Tenderer** .....

**1G: DECLARATION TO EMPLOY LOCAL EMERGING SUBCONTRACTORS**

We declare that it is our intention to employ the following subcontractors for work in this contract.

If we are awarded a contract, we agree that this notification does not change.

We confirm that all subcontractors who are contracted to construct works are registered with the Construction Industry Development Board (CIDB).

**Bidders are to note that a minimum of 10% of the work and the contract value must be carried out by Local Emerging Contractors residing within the HARRY GWALA District Municipality area of jurisdiction.**

Date:.....

Signature of Tenderer.....

**H: CERTIFICATE OF AUTHORITY FOR SIGNATORY**

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for the relevant category, **and attach their Registration Certificates for Companies, Close Corporations and Partnerships, or Agreements and Powers of Attorney for Joint Ventures, or ID documents to the page provided at the end of this form.**

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

**(I) CERTIFICATE FOR COMPANY**

I, ..... chairperson of the Board of Directors of ..... hereby confirm that by resolution of the Board (copy attached) taken on ..... 20....., Mr/Ms .....acting in the capacity of ....., was authorised to sign all documents in connection with the tender for Contract No ..... and any contract resulting from it, on behalf of the company.

**Chairman:** .....

**As Witnesses:** 1. ....

2. ....

**Date:** .....

**I: ALTERATIONS BY TENDERER**

Should the Tenderer desire to make any departure or modification to the General Conditions of Contract, Special Conditions of Contract, Specifications, Schedule of Quantities, or Drawings, or to qualify his tender in any way, he shall set out his proposals clearly hereunder, or alternatively, state them in a covering letter attached to his Bid and referred to hereunder, failing which the Bid will be deemed to be unqualified.

PAGE	CLAUSE OR ITEM NO.	DESCRIPTION

*(Use more forms if necessary)*

Date:.....

Signature of Tenderer:.....

**J: BANK DETAILS**

Failure to submit the required details shall disqualify the contractor from the tender process.

**Bank Name:**.....

**Account Number:**.....

**Account Type:**.....

**Branch Code:**.....

**Branch Name:** .....

**Bank Contact person:**.....

**Phone No:**.....

**Fax No:**.....

**Address:**.....

**Date:**.....

Signature of Tenderer: .....

**BANK STAMP**

Date

.....  
**SIGNATURE OF THE BANK OFFICIAL**  
 .....

Bank Rating	Description
A	Excellent for the contract value
B	Very good for the contract value
C	Satisfactory for the contract value
D	Fair trade risk for the contract value
E	Contract value considered too high
F	Unknown financial standing
G	Occasional bad dept

In the case of joint venture enterprise, details of all the members of the joint venture shall be similarly provided and attached to this form.



**K: SCHEDULE OF KEY PERSONNEL**

The bidder must insert in the space below, details of staff and workmen he intends employing on the contract.

CATEGORY	NUMBER
Contracts Manager(s)	
Site Agent(s)	
Site Foremen / Technicians	

Specify the name, qualifications and experience of the Contracts Manager(s) proposed for this project. (Also attached his / her CV).

---



---

Specify the name, qualifications and experience of the Site Agent(s) proposed for this project. (Also attached his / her CV).

---



---

Specify the name, qualifications and experience of the Site Foremen / Technicians proposed for this project. (Also attached his / her CV).

---



---

**Note:** By submitting bids, Bidders would be deemed as having confirmed permanent availability of the proposed staff should their bid be successful or undertake to propose alternative staff of equivalent experience to those originally listed should that not be the case. Failure to do this may result on the awarded bid being reviewed and the bidder may risk his proposal being set aside.

Date .....

Signature of Tenderer.....



**M: ASSESSMENT OF BIDDER'S PREVIOUS PERFORMANCE**

**ASSESSMENT OF BIDDER'S PREVIOUS PERFORMANCE BY INDEPENDENT REFERENCE**  
 (This must be sent by the bidder to the references listed in the Experience of Tenderer schedule. All assessment forms must be attached with the tender submission.)

<b>Name of Bidder</b>	
<b>Contract/Tender Number (if applicable)</b>	
<b>Value of Contract</b>	
<b>Date of Commencement</b>	
<b>Contract Duration</b>	
<b>Contract Completion Date</b>	

<b>Your assessment of the Contractor's performance in the following areas:</b> Please tick one of the blocks on the right hand side. 1 = Poor; 5 = Excellent	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Contract Management					
Communication and Compliance to Instructions					
Quality of Work Produced					
Time of Completion of Contract					
<b>1 = Poor; 2 = Unsatisfactory; 3 = Average; 4 = Good; 5 = Excellent</b>					

<b>COMMENTS:</b>	
Contractor has completed the works within the budget.	
<b>Name of Person Completing this Assessment Form</b>	
<b>Representing Firm</b>	
<b>Telephone Number</b>	
<b>Email Address</b>	
<b>Date of Assessment</b>	
<b>OFFICIAL COMPANY STAMP/ SIGNATURE OF OFFICIAL RESPONSIBLE FOR COMPLETING THE ASSESSMENT FORM</b>	

Date .....

Signature of Tenderer.....

**1N: PROOF OF REGISTRATION WITH THE CONSTRUCTION INDUSTRY DEVELOPMENT BOARD**

Tenderers must attach to this page, a recent printout of proof from the CIDB website verifying their valid CIDB registration. In the case Joint Ventures, proof must be provided for each partner

Date:.....

Signature of Tenderer: .....

**O: 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. the guarantee shall be of an Insurance Company listed on the Johannesburg Stock Exchange or owned by such a company, a Registered South African Bank or a recognised Government sponsored provincial or national development agency. The wording of guarantee shall be on the format provided in the Contract document*

Date .....

Signature of Tenderer.....

**P: RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES**

Resolution of a meeting of the Board of Directors/Members/Partners\* of:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

Held at \_\_\_\_\_ (place) on \_\_\_\_\_ (date)

Resolved that:

1. The Enterprise submit a Bid/Tender, in consortia/joint venture with the following enterprise:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the consortia/joint venture)

to the Employer and for the work explained in the Scope of Work.

Tender No.: \_\_\_\_\_ (Tender Number as per Tender Document)

2. Mr/Mrs/Miss/Ms\*:

\_\_\_\_\_

in his/her\* capacity as: \_\_\_\_\_ (position in the Enterprise)

and who will sign as follows:

\_\_\_\_\_

be, and is hereby, authorised to sign a consortium/joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the consortium/joint venture, in respect of the project described under Item 1 above.

3. The Enterprise accepts joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture/consortium deriving from, and in any way connected with, the Contract to be entered into with the Employer in respect of the project described under Item 1 above.

The Enterprise chooses as its domicilium citandi et executandi for all purposes arising from this joint venture/consortium agreement and the Contract with the Employer in respect of the project under Item 1 above:

Physical address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (code)

Postal address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ (code)

Telephone: \_\_\_\_\_ (with code)

Fax: \_\_\_\_\_ with code)

Email: \_\_\_\_\_

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

- Note:
1. \* Delete which is not applicable
  2. This resolution must be signed by all the Directors/Members/Partners of the Bidding Enterprise.
  3. Should the number of Directors/Members/Partners exceed the space available above, additional names and signatures must be added on a separate page.

**Q: JOINT VENTURE DISCLOSURE FORM**

- Note:
- 1) All the information requested must be filled in the spaces provided. If additional space is required, additional sheets may be attached.
  - 2) A copy of the formal joint venture agreement must be attached to this form. In order to demonstrate the ABE partner's share in the ownership, control, management responsibilities, risks and profits of the joint venture, the proposed joint venture agreement must include specific details relating to:
    - i) the contributions of capital and equipment
    - ii) work items to be performed by the ABE's own forces.
    - iii) work item to be performed under the supervision of the ABE partner
  - 3) Copies of all written agreements between partners concerning the contract must be attached to this form including those which relate to ownership options and to restrictions/limits regarding ownership and control.
  - 4) ABE partners must complete ABE Declaration Affidavits.
  - 5) Should any of the above not be complied with, the joint venture will be deemed null and void and will be considered non-responsive.

**a) JOINT VENTURE PARTICULARS.**

- a) Name .....
- b) PostalAddress: .....
- c) PhysicalAddress: .....
- c) Telephone:.....
- e) Fax:.....

**d) IDENTITY OF EACH NON-ABE PARTNER**

- 2.1
  - a) Name of firm.....
  - b) Postal Address:.....
  - c) Physical Address.....
  - d) Telephone:.....
  - e) Fax:.....
  - f) Contact person for matters pertaining to Contract Participation Goal requirements .....
- 2.2
  - a) Name of Firm:.....
  - b) Postal Address:.....
  - c) Physical Address:.....
  - d) Telephone:.....
  - e) Fax.....
  - f) Contact person for matters pertaining to Contract Participation Goal requirements .....

*(Continue as required for further non-ABE Partners)*



**3. IDENTITY OF EACH ABE PARTNER**

- 3.1 a) Name of Firm:.....  
b) Postal Address:.....  
c) Physical Address:.....  
.....  
d) Telephone:.....  
e) Fax:.....  
f) Contact person for matters pertaining to Contract Participation Goal requirements.  
.....

- 3.2 a) Name of Firm:.....  
b) Postal Address:.....  
c) Physical Address:.....  
.....  
d) Telephone:.....  
e) Fax:.....  
f) Contact person for matters pertaining to Contract Participation Goal requirements  
.....

- 3.3 a) Name of Firm:.....  
b) Postal Address:.....  
c) Physical Address:.....  
.....  
d) Telephone:.....  
e) Fax: .....
- f) Contact person for matters pertaining to Contract Participation Goal requirements  
.....

*(Continue as required for further ABE Partners)*

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

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

**5. OWNERSHIP OF THE JOINT VENTURE**

- a) ABE ownership percentage(s) .....%
- Non ABE ownership percentage(s) .....%

- b) ABE percentages in report of:\*
- i) Profit and loss sharing .....
- ii) Initial capital contribution in Rands.....

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

- iii) Anticipated on-going capital contribution in Rands .....
- iv) Contributions of equipment (specify types, quality, and quantities of equipment) to be provided by each partner.

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

- a) Non-ABE Partners
  - 1) .....
  - 2) .....
  - 3) .....
  - 4) .....
  - 5) .....
- b) ABE Partners
  - 1) .....
  - 2) .....
  - 3) .....
  - 4) .....
  - 5) .....

**7 CONTROL AND PARTICIPATION IN THE JOINT VENTURE**

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

a) Joint Venture cheque signing

.....  
.....

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

.....

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

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

d) Acquisition of lines of credit.

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

e) Acquisition of performance bonds.

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

f) Negotiating and signing labour agreements.

.....  
.....

**8. MANAGEMENT OF CONTRACT PERFORMANCE**

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

a) Supervision of field operations.....

.....

b) Major purchasing.....

.....  
.....

c) Estimating.....

.....  
.....

d) Technical management  
.....  
.....

9. **MANAGEMENT AND CONTROL OF JOINT VENTURE**

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

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

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

MANAGEMENT FUNCTION/ DESIGNATION	NAME	PARTNER (EX NON-ABE/EX ABE)*

\* Fill in ex ABE or ex non-ABE.

10. **PERSONNEL**

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

TRADE/FUNCTION/ DISCIPLINE	NUMBER EX ABE PARTNER*	NUMBER EX NON-ABE PARTNER*

\* Fill in ex-ABE or ex-non ABE

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

i) Number currently employed by ABE partner  
.....

ii) Number of currently employed by non-ABE partner  
.....

- c) Number of operative personnel who are not currently in the employ of the respective partners and will

be engaged on the project by the Joint Venture  
.....

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

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

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

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

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

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

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

Signature .....

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

Name .....

Address .....

.....

Telephone .....

Date .....

Signature .....

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

Name .....

Address .....

.....

Telephone .....

Date .....

Signature .....

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

Name .....

Address .....

.....

Telephone .....

Date .....

Signature .....

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

Name .....

Address .....

.....

Telephone .....

Date .....

Signature .....

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

Name .....

Address .....

.....

Telephone .....

Date .....

*(Continue as necessary)*

**R : DECLARATION OF INTERESTS (KINSHIP, RELATIONSHIP WITH PERSONS EMPLOYED BY HARRY GWALA DM**

Any legal person, or persons having a kinship with persons employed by the HARRY GWLW DM including a blood relationship, may make an offer in terms of this bid invitation. In view of possible allegations of favouritism, should the resulting bid or part thereof be awarded to persons connected with or related to an employee of HARRY GWALA DM, it is required that the bidder or his/her authorized representative declare his position vis-à-vis the evaluating authority and/or take an oath declaring his/her interest, where–

- the legal person on who's behalf the bid document is signed, has a relationship with persons/a person who are/is involved with the evaluation of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarer acts and persons who are involved with the evaluation of the bid.

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

Do you, or any person have any relationship (family, friend, other) with a person employed with the HARRY GWALA DM or its Administration and who may be involved with the evaluation, preparation and/or adjudication of this bid?

Yes/No

If so, state particulars

.....  
.....

Are you or any other person connected with the bid, employed by any organ of State?

Yes/No

If so, state particulars

.....  
.....

.....  
**SIGNATURE OF DECLARER**

**DATE**

.....  
**POSITION OF DECLARER**

**NAME OF COMPANY OR BIDDER**



### **S. CONTRACTOR'S HEALTH AND SAFETY DECLARATION**

In terms of Clause 4(4) of the OHS 1993 Construction Regulations 2003 (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 OHS 1993 Construction Regulations 2003.

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 OHS 1993 Construction Regulations 2003.
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 Schedule of Quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHS 1993 Construction Regulations 2003, including the cost of the specific items listed in the tables hereafter.

*(Tables to be completed by the Tenderer)*

Table 1 Cost of safety personnel

<b>PERSONNEL</b>	<b>COSTS AS ALLOWED IN TENDER</b>	<b>NOMINATED PERSON</b>
Construction supervisor		
Construction safety officer		
Health and safety		
Health and safety committee		

Table 2 Cost of safety equipment

<b>EQUIPMENT</b>	<b>STATE YES/NO</b>	<b>COST ALLOWED FOR IN TENDER</b>
Hard hats		
Safety boots		
Harnesses		
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 OHS 1993 Construction Regulations 2003 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, 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 OHS 1993 Construction Regulations 2003, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.

DATE: ..... SIGNATURE OF TENDERER: .....

**NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID**

I, \_\_\_\_\_, being first dully sworn, deposes

and says that he or she is \_\_\_\_\_ of \_\_\_\_\_  
*(state position in company)* *(Bidder)*

the party making the foregoing bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation;

T that the bid is genuine and not collusive or sham;

T that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding;

T that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract;

T that all statements contained in the bid are true;

T and further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Bidder: \_\_\_\_\_

By: \_\_\_\_\_

Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ in

\_\_\_\_\_  
*(city/town)*

Commissioner of oaths \_\_\_\_\_  
*(Name)* *(Signature)*

Commissioner's official stamp: \_\_\_\_\_

**T: TAX CLEARANCE CERTIFICATE**

Tenderers must attach to this page, a VALID ORIGINAL TAX CLEARANCE CERTIFICATE OR SARS PRINTOUT

In Tenders where Consortia/Joint Ventures/Sub-contractors are involved, each party must submit a valid original tax clearance certificate.

Date.....

Signature of Tenderer.....

**U: B-BBEE CERTIFICATE**

Tenderers must attach to this page, a B-BBEE certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or Registered Auditor

In Tenders where Consortia/Joint Ventures/Sub-contractors are involved, each party must submit a B-BBEE certificate in order to claim the points.

Date .....

Signature of Tenderer.....

**V: CERTIFICATE FOR MUNICIPAL SERVICES**

Information required in terms of the Harry Gwala District Municipality's Supply Chain Management Policy. Latest municipal services account statement must be attached.

Tender Number: .....

Name of the Tenderer: \_\_\_\_\_

FURTHER DETAILS OF THE BIDDER/S: Proprietor / Director(s) / Partners, etc:

Physical Business address of the Bidder	Municipal Account Number(s)

If there is not enough space for all the names, please attach the additional details to the Tender document.

Name of Director / Member / Partner	Identity Number	Physical residential address of Director / Member / Partner	Municipal Account number(s)

I, \_\_\_\_\_, the undersigned,  
(full name in block letters)

certify that the information furnished on this declaration form is correct and that I/we have no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days.

\_\_\_\_\_  
Signature

THUS DONE AND SIGNED for and on behalf of the Bidder / Contractor

at \_\_\_\_\_ on the \_\_\_\_\_ day of \_\_\_\_\_ 2018

**Please note:**

**Even if the requested information is not applicable to the Bidder, the table above should be endorsed NOT APPLICABLE and THIS DECLARATION MUST STILL BE SIGNED.**

**MBD 2: LETTER OF GOOD STANDING**

Tenderers must attach to this page, a LETTER OF GOOD STANDING from Compensation Commissioner or FEMA. In Tenders where Consortia/Joint Ventures/Sub-contractors are involved, each party must submit a letter of good standing.

Date .....

Signature of Tenderer.....

**MBD 4: DECLARATION OF INTEREST**

**ANNEXURE C**

**MBD 4**

**DECLARATION OF INTEREST**

- 1. No bid will be accepted from persons in the service of the state<sup>1</sup>.
- 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.

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

3.1 Full Name of bidder or his or her representative:.....

3.2 Identity Number: .....

3.3 Position occupied in the Company (director, trustee, hareholder<sup>2</sup>):.....

3.4 Company Registration Number: .....

3.5 Tax Reference Number:.....

3.6 VAT Registration Number: .....

3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

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

3.8.1 If yes, furnish particulars. ....

.....

<sup>1</sup>MSCM Regulations: "in the service of the state" means to be –

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

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

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

3.9.1 If yes, furnish particulars.....

.....



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

3.10.1 If yes, furnish particulars.

.....  
.....

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

3.11.1 If yes, furnish particulars

.....  
.....

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

3.12.1 If yes, furnish particulars.

.....  
.....

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

3.13.1 If yes, furnish particulars.

.....  
.....

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

3.14.1 If yes, furnish particulars:

.....  
.....

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

Full Name	Identity Number	State Employee Number

.....  
**Signature**

.....  
**Date**

.....  
**Capacity**

.....  
**Name of Bidder**

**MBD 6.1**

**PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017**

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

**NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.**

**1. GENERAL CONDITIONS**

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

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

1.2

a) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the **...80/20.....** preference point system shall be applicable; or

1.3 Points for this bid shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contributor.

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

	<b>POINTS</b>
<b>PRICE</b>	80
<b>B-BBEE STATUS LEVEL OF CONTRIBUTOR</b>	20
<b>Total points for Price and B-BBEE must not exceed</b>	<b>100</b>

1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

## 2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
- |    |   |               |
|----|---|---------------|
| 1) | level certificate issued by an authorized body or person;     | B-BBEE Status |
| 2) | affidavit as prescribed by the B-BBEE Codes of Good Practice; | A sworn       |
| 3) | requirement prescribed in terms of the B-BBEE Act;            | Any other     |
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

## 3. POINTS AWARDED FOR PRICE

### 3.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

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

<b>80/20</b>	<b>or</b>	<b>90/10</b>
$P_s = 80 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$	or	$P_s = 90 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$

Where

$P_s$  = Points scored for price of bid under consideration

$P_t$  = Price of bid under consideration

$P_{\min}$  = Price of lowest acceptable bid

## 4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTOR

- 4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

**5. BID DECLARATION**

- 5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

**6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1**

- 6.1 B-BBEE Status Level of Contributor: . = .....(maximum of 10 or 20 points)  
 (Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

**7. SUB-CONTRACTING**

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

**(Tick applicable box)**

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

7.1.1 If yes, indicate:

- i) What percentage of the contract will be subcontracted.....%
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....
- iv) Whether the sub-contractor is an EME or QSE

**(Tick applicable box)**

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

- v) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations,2017:

Designated Group: An EME or QSE which is at last 51% owned by:	EME √	QSE √
Black people		
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
Black people who are military veterans		
<b>OR</b>		
Any EME		
Any QSE		

**8. DECLARATION WITH REGARD TO COMPANY/FIRM**

8.1 Name of company/firm:.....

8.2 VAT registration number:.....

8.3 Company registration number:.....

**8.4 TYPE OF COMPANY/ FIRM**

- Partnership/Joint Venture / Consortium
- One person business/sole propriety
- Close corporation
- Company
- (Pty) Limited

[TICK APPLICABLE BOX]

**8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....

.....

.....

.....

**8.6 COMPANY CLASSIFICATION**

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

[TICK APPLICABLE BOX]

**8.7 MUNICIPAL INFORMATION**

**Municipality where business is situated:** .....

**Registered Account Number:** .....

**Stand Number:**.....

8.8 Total number of years the company/firm has been in business:.....

8.9 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-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
  - (a) disqualify the person from the bidding process;
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
  - (e) forward the matter for criminal prosecution.

WITNESSES
1. ....
2. ....

.....
SIGNATURE(S) OF BIDDERS(S)
DATE: .....
ADDRESS .....
.....
.....



<b>MBD 8 : DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES</b>
---

1. This Standard Tender Document must form part of all tenders invited.
2. It serves as a declaration to be used by Departments in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
3. The tender of any tenderer may be disregarded if that tenderer or any of its directors have-
  - a. abused the Department's Supply Chain Management system;
  - b. committed fraud or any other improper conduct in relation to such system; or
  - c. failed to perform on any previous contract.
4. **In order to give effect to the above, the following questionnaire must be completed and submitted with the tender.**

Item	Question	Yes	No
4.1	Is the tenderer or any of its directors listed on the National Treasury's database as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the <i>audi alteram partem</i> rule was applied).	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	<b>If "Yes", furnish particulars; If "No", state "Nil":</b>		
4.2	Is the tenderer or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?  To access this Register enter the National Treasury's website, <a href="http://www.treasury.gov.za">www.treasury.gov.za</a> , click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 3265445.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	<b>If "Yes", furnish particulars; If "No", state "Nil":</b>		
4.3	Was the tenderer or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	<b>If "Yes", furnish particulars; If "No", state "Nil":</b>		
4.4	Was any contract between the tenderer and any organ of state terminated during the past five years on account of failure to perform or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	<b>If "Yes", furnish particulars; If "No", state "Nil":</b>		

**CERTIFICATION**

I, THE UNDERSIGNED (FULL NAME).....

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

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

.....  
Signature

Date.....

Position.....

Name of Tenderer.....

**NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B**  
**CONTRACT N<sup>o</sup> HGDM/696/HGDM/2020**  
**CONSTRUCTION OF 160mm DIAMETER,1.8KM LONG BULK PUMPING MAIN,**  
**OPERATOR HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT**  
**WTW**  
**PART C1: AGREEMENTS AND CONTRACT DATA**

**INDEX**

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## PART C1: AGREEMENTS AND CONTRACT DATA

### C1.1 Form of Offer and Acceptance

**A: Offer**

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a Contract for the procurement of: Ncakubana Water Supply Scheme Phase 3B; Contract No. HGDM/696/HGDM/2020; CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW.

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

By the representative of the tenderer, deemed to be duly authorized, signing this apart 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 PRICE INCLUSIVE OF VALUE ADDED TAX (VAT) IS**

.....  
.....  
..... Rand (in words);  
R .....(in figures),

This offer may be accepted by the employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

**Signature:** .....

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

**Capacity:** .....

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

**Address:** .....  
.....  
.....

Tel: ..... Fax: .....

**Witness:**

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

Date: ..... CIDB Registration N<sup>o</sup>:.....

**HARRY GWALA DISTRICT MUNICIPALITY  
NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE  
CONTRACT: HGDM/696/HGDM/2020**

---

**B: Acceptance**

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer's offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement, between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in

- Part C1 Agreements and contract data, (which includes this agreement)
- Part C2 Pricing data
- Part C3 Scope of work
- Part C4 Site information

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

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

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 contract 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. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five working days of the date of such receipt notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

**Signature:** .....

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

**Capacity:** .....

**Name of Employer (organisation):** .....

**Address:** .....  
.....

**Witness:**

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

**Date:** .....

**HARRY GWALA DISTRICT MUNICIPALITY  
NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE  
CONTRACT: HGDM/696/HGDM/2020**

---

**C: Schedule of Deviations**

Notes:

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

**Subject** \_\_\_\_\_  
**Details** \_\_\_\_\_  
\_\_\_\_\_

**Subject** \_\_\_\_\_  
**Details** \_\_\_\_\_  
\_\_\_\_\_

**Subject** \_\_\_\_\_  
**Details** \_\_\_\_\_  
\_\_\_\_\_

**Subject** \_\_\_\_\_  
**Details** \_\_\_\_\_  
\_\_\_\_\_

**Subject** \_\_\_\_\_  
**Details** \_\_\_\_\_  
\_\_\_\_\_

By the duly authorised representatives signing this agreement, the employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

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

**HARRY GWALA DISTRICT MUNICIPALITY  
NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE  
CONTRACT: HGDM/696/HGDM/2020**

---

**FOR THE TENDERER:**

**Signature:** .....

**Name:** .....

**Capacity:** .....

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

.....

**Witness :**

**Signature:** .....

**Name:** .....

**Date:** .....

**FOR THE EMPLOYER**

**Signature:** .....

**Name:** .....

**Capacity:** .....

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

.....

**Witness :**

**Signature:** .....

**Name:** .....

**Date:** .....

**HARRY GWALA DISTRICT MUNICIPALITY  
NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE  
CONTRACT: HGDM/696/HGDM/2020**

---

**D: Confirmation of Receipt**

The Tenderer, (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

The .....(day)

of .....(month)

20.....(year)

at .....(place)

**For the Contractor:**

.....  
Signature

.....  
Name

.....  
Capacity

**Signature and Name of Witness:**

.....  
Signature

.....  
Name



## **PART C1.2      CONTRACT DATA**

### **C1.2.1      General Conditions of Contract**

The General Conditions of Contract for Construction Works (3<sup>ND</sup> Edition 2015) published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685 is applicable to this contract.

Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel 011- 805 5947, Fax: 011 – 805 5971).

The Contract Data referred to in the General Conditions of Contract follow, with the Data to be completed Employer furnished. The Tenderer is to provide his details in the spaces provided.

**HARRY GWALA DISTRICT MUNICIPALITY  
NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE  
CONTRACT: HGDM/696/HGDM/2020**

**C1.2.2 Contract Data Provided by Employer**

**NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONTRACT N<sup>o</sup> HGDM/696/HGDM/2020  
CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING MAIN, OPERATOR  
HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW**

	<b>GCC 2015 Clause</b>	
Defects Liability Period	1.1.1.13	12 months
Name of Employer	1.1.1.15	Harry Gwala District Municipality
Address of Employer	1.2.1.2	40 main Street, Ixopo, 3276 Harry Gwala District Municipality P O Box X501 IXOPO 3276 Email address: Tel N <sup>o</sup> : +27 39 834 8700 Fax N <sup>o</sup> : +27 39 834 2259
Name of Engineer	1.1.1.16	Umpisi Engineers cc represented by Vuyisa Mqokiyana, PrEng
Address of the Engineer	1.2.1.2	108 iL Palazo Building, Corner of Zenith Drive & Solstice Road Umhlanga Ridge Durban 4319 Email: <a href="mailto:info@umpisi.com">info@umpisi.com</a> Tel: +27 31 566 4209 Fax: +27 86 615 1555
Pricing Strategy	1.1.1.26	Re-measurement Contract
Subcontracting	4.4.7	Add the following new Clause: The contractor will be required to subcontract up to a maximum of 10% of the work to local subcontractors. The work to be subcontracted will be agreed with the Employer
Documentation Required Before Commencement of Construction Works	5.3.1	Health and Safety File (Refer to Clause 4.3) Initial Programme (Refer to Clause 5.6) Security (Refer to Clause 6.2) Insurances (Refer to Clause 8.6)
Time to Submit the Documentation Before Commencement with the Works	5.3.2	14 days after commencement date
Non-working Days	5.8.1	Sundays
Special Non working days	5.8.1	1. Public Holidays

**HARRY GWALA DISTRICT MUNICIPALITY  
 NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
 CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE  
 CONTRACT: HGDM/696/HGDM/2020**

	<b>GCC 2015 Clause</b>	
		2. The year-end break commencing on the first day working day after 15 December and ending on the first Tuesday after 5 January of the next year
Penalty for Failing to Complete the Works	5.13.1	R1, 000.00 per calendar day
The Latent Defect Period	5.16.3	10 years
Contract Price Adjustment Schedule	6.8.2	CPA is not applicable in this contract
Area for Producer Price Index		Pietermaritzburg
Base Month	6.8.4.	Month before closing date of Tenders
Price Adjustments for Special Materials	6.8.3	Price adjustments for variations in the costs special materials are allowed
The Percentage Advance on Materials not yet Built into the Permanent Works	6.10.1.5	80% (subject to provision of Indemnity for Materials on Site)
Limit of Retention Money	6.10.3	10% of Contract Sum
Value of Plant and Material Supplied by Employer to be included in the insurance sum	8.6.1.1.2	Nil
Amount to cover professional fees for repairing damage and loss	8.6.1.1.3	14% of Required
Limit of Indemnity for Liability Insurance	8.6.1.3	R10, 000, 000.00 for each and every claim
Dispute Resolution	10.5.1	Standing Adjudication Board
Number of Adjudication Board Members to be Appointed	10.5.3	One
Dispute Determination	10.7.1	Dispute Determination shall be by Arbitration

SIGNATURE OF TENDERER: .....

DATE: .....

**HARRY GWALA DISTRICT MUNICIPALITY  
NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE  
CONTRACT: HGDM/696/HGDM/2020**

**C1.2.3 Data Provided by the Contractor**

	<b>GCC 2015 Clause</b>																			
Name of Contractor	1.1.1.9	.....																		
Address of Contractor (Physical and Postal)	1.2.1.2	..... ..... ..... .....																		
Tel:		.....																		
Fax:		.....																		
Email:		.....																		
Time for Achieving Practical Completion:	1.1.1.14	..... <b>Weeks</b>																		
Security to be Provided by Contractor	6.2.1	Refer to Table Below																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;"><b>Type of Security</b></th> <th style="width: 30%;"><b>Contractor's Choice (Indicate "YES" or "NO")</b></th> </tr> </thead> <tbody> <tr> <td><i>Is Value Added Tax included in the Contract Sum and value of Works for calculating percentages?</i></td> <td></td> </tr> <tr> <td>Cash deposit of .....% of the Contract Sum</td> <td></td> </tr> <tr> <td>Performance Guarantee of .....% of the Contract Sum</td> <td></td> </tr> <tr> <td>Retention of .....% of the value of Works</td> <td></td> </tr> <tr> <td>Cash Deposit of .....% of the Contract Sum plus Retention of .....% of the value of Works</td> <td></td> </tr> <tr> <td>Performance Guarantee of .....% of the Contract Sum plus Retention of .....% of the value of Works</td> <td></td> </tr> <tr> <td> </td> <td></td> </tr> <tr> <td> </td> <td></td> </tr> </tbody> </table>			<b>Type of Security</b>	<b>Contractor's Choice (Indicate "YES" or "NO")</b>	<i>Is Value Added Tax included in the Contract Sum and value of Works for calculating percentages?</i>		Cash deposit of .....% of the Contract Sum		Performance Guarantee of .....% of the Contract Sum		Retention of .....% of the value of Works		Cash Deposit of .....% of the Contract Sum plus Retention of .....% of the value of Works		Performance Guarantee of .....% of the Contract Sum plus Retention of .....% of the value of Works					
<b>Type of Security</b>	<b>Contractor's Choice (Indicate "YES" or "NO")</b>																			
<i>Is Value Added Tax included in the Contract Sum and value of Works for calculating percentages?</i>																				
Cash deposit of .....% of the Contract Sum																				
Performance Guarantee of .....% of the Contract Sum																				
Retention of .....% of the value of Works																				
Cash Deposit of .....% of the Contract Sum plus Retention of .....% of the value of Works																				
Performance Guarantee of .....% of the Contract Sum plus Retention of .....% of the value of Works																				
Price variation of special materials*	6.8.3	.....																		

**HARRY GWALA DISTRICT MUNICIPALITY  
 NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
 CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE  
 CONTRACT: HGDM/696/HGDM/2020**

Type of Special Material	Unit	Rate or Price*
Rate or price for base month of*	6.8.2	.....

***Tenderers are to note that failure to provide a time for completion of the contract will invalidate the tender offer.***

**\* Delete inapplicable**

Signature: .....

Name of Signatory: .....

Date: .....

Name of Tenderer .....

## LABOUR INTENSIVE CONSTRUCTION REQUIREMENTS

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

#### 1 Introduction

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

1.2 .....In this document –

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

#### 2 Terms of Work

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

#### 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 sick-pay 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 –

(a) .....absent from work for more than two consecutive days; or

(b) .....absent from work on more than two occasions in any eight-week period.

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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 EPWP 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 –

(i) .....the employee's spouse or life partner;

(ii) .....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 EPWP;

(b) .....the tasks or job that the worker is to perform; and

(c) .....the period for which the worker is hired or, if this is not certain, the expected duration of the contract;

(d) .....the worker's rate of pay and how this is to be calculated;

(e) .....the training that the worker will receive during the EPWP.

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 EPWP.

## **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.
- (f) .....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.
- (g) 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.

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**

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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
- (c) .....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 EPWP;
- (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 EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 2014.

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

## **20 Contractor's default in payment to Labourers and Employees**

.....(a) Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.

(b) .....The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

## **21 Provision of Handtools, PPE and EPWP overalls**

.....(a) The Contractor shall provide his labour force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions. All workers shall be provided with the necessary PPE and the standard EPWP two piece orange overall set. The overalls should have the DPW logo on the left hand side, the EPWP logo on the right hand side (chest). "EPWP" should also be printed in Arial, Bold, Black on the back of the overall.

## **22 MINIMUM LABOUR BASED TARGETS**

.....The following minimum labour based targets are required to be met:

### **22.1 LABOUR BUDGET AS PERCENTAGE OF PROJECT BUDGET**

.....A minimum of 5% of the Project Budget is required to be spent on local community labour.

### **22.2 EMPLOYMENT OF LOCAL LABOUR**

(i) .....The Contractor is required to make maximum possible use of the local labour force from the community, which is at present underemployed or unemployed.

(ii) .....To this end the Contractor is required to give preference to the use of local labour and limit the use of non-local labour to key personnel only.

(iii).....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

(iv) .....Local labour is defined as "people who reside in the community who have preferably been identified by the Project Steering Committee to be employed"

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(v) .....Key Personnel – are defined as foremen and skilled labourers without whom the particular job could not be accomplished. As far as possible these people should impart their management and building skills to individuals within the community workforce who show a keen interest and display a willingness to learn.

**22.3 EMPLOYMENT OF WOMEN, YOUTH AND DISABLED PERSONS**

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

- a) .....55 % women; ..
- b) .....40% youth who are between the ages of 18 and 35; and
- c) .....2% on persons with disabilities.

**C1.4: PERFORMANCE GUARANTEE**

For use with the General Conditions of Contractor for Construction Works, Second Edition, 2010.

**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: .....

.....

“Expiry Date” means: .....

**CONTRACT DETAILS**

Engineer issues; Interim Payment Certificates, Final Payment Certificate and the Certificate 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 :
  - 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create suretyship;
  - 3.2 its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor’s maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

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- 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
- 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address 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 the 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 the 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 Guarantor in terms of 4 or shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. Payment of the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the 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 his 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.

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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 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 1994, 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) .....

**C1.5: DISCLOSURE STATEMENT**

(Date).....

Contract: (Name).....

Contractor: (Name).....

Employer: (Name).....

Engineer: (Name).....

Dear Sirs,

I am willing and available to serve as (ad-hoc/standing) Adjudication Board Member in the above mentioned Contract.

In accordance with the General Conditions of Contract for Construction Works Adjudication Board Rules relating to disclosure statements by selected or nominated persons to the adjudication, I hereby state that:

1. I shall act with complete impartiality and know of nothing at this time, which could affect my impartiality.
2. I had no previous involvement with this project.
3. I do not have any financial interest in this project.
4. I am not currently employed by the Contractor, Employer or Engineer.
5. I do not have any financial connections with the Contractor, Employer or Engineer.
6. I do not have or not have had a personal relationship with any authoritative member of the Contractor, Employer or the Engineer which could affect my impartiality.
7. I undertake to immediately disclose to the parties any changes in the above position which could affect my impartiality or be perceived to affect the same.

*Should there be any deviation from the foregoing statements, details shall be given hereunder.*

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

I further declare that I am experienced in the work which is carried out under the Contract and in interpreting contract documentation.

Name in full: .....

Signature: .....



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CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING MAIN, OPERATOR  
HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW CONTRACT:  
HGDM/696/HGDM/2020**

**C1.6: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993**

THIS AGREEMENT is made between **HARRY GWALA DISTRICT MUNICIPALITY** (hereinafter called the EMPLOYER) of the one part, herein represented by: .....

.....  
in his capacity as: .....

AND: .....

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

.....  
in his capacity as: .....

duly authorized to sign on behalf of the Contractor.

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

CONTRACT No: ..... (CONTRACT TITLE)

.....  
for the construction, completion and maintenance of the works;

AND WHEREAS the EMPLOYER and the CONTRACTOR have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHS Act 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

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comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.

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

on this the ..... day of ..... 20.....

SIGNATURE:.....

NAME AND SURNAME: .....

CAPACITY: .....

WITNESSES: 1. ....

2. ....

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

on this the ..... day of ..... 20.....

SIGNATURE:.....

NAME AND SURNAME: .....

CAPACITY: .....

WITNESSES: 1. ....

2. ....

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HGDM/696/HGDM/2020**

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**C1.7: ADJUDICATION BOARD MEMBER AGREEMENT**

This Agreement is entered into between:

Adjudication Board Member: *(Name, physical address, postal address, email address, fax number, telephone number and mobile number)*.....  
.....  
.....

Contractor: *(Name, physical address, postal address, email address, fax number, telephone number and mobile number)*  
.....  
.....  
.....

Employer: *(Name, physical address, postal address, email address, fax number, telephone, number and mobile number)*  
.....  
.....  
.....

The contractor and the Employer will hereinafter be collectively referred to as “the Parties”.

The Parties entered into a Contract for .....  
*(name of project)* which provides that a dispute under or in connection with the General Conditions of Contract for Construction Works, Second Edition, 2010, must be referred to *(ad-hoc adjudication/ standing adjudication\*\*)*.

The undersigned natural person has been appointed to serve as Adjudication Board Member and together with the undersigned Parties agree as follows:

1. The Adjudication Board Member accepts to perform his duties in accordance with the terms of the Contract, the General Conditions of Contract for Construction Works Adjudication Board Rules and this Agreement.
2. The Adjudicator undertakes to remain independent and impartial of the Contractor, Employer and Engineer for the duration of the Adjudication Board proceedings.
3. The Adjudication Board Member agrees to serve for the duration of the Adjudication Board proceedings.
4. The Parties may at any time, without cause and with immediate effect, jointly terminate this Agreement.

**HARRY GWALA DISTRICT MUNICIPALITY  
NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONSTRUCTION OF OPERATOR HOUSES AND GUARD HOUSE  
CONTRACT: HGDM/696/HGDM/2020**

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5. Unless the Parties agree, the Adjudication Board Member shall not act as arbitrator or representative of either Party in any subsequent proceedings between the Parties under the Contract. No Party may call the Adjudication Board Member as a witness in any such subsequent proceedings.
6. The standing Adjudication Board's duties shall end upon the Adjudication Board Member(s) receiving notice from the Parties of their joint decision to disband the Adjudication Board.
7. The Adjudication Board Member shall be paid in respect of time spent upon or in connection with the adjudication including time spent travelling :
  - a. A monthly retainer of R.....(*amount*) for .....(*number*) of months, and /or
  - b. A daily fee of R.....(*amount*) based on a .....(*number*) hour day, and /or
  - c. A hourly fee of R.....(*amount*), and /or
  - d. A non- recurrent appointment fee of R.....(*amount*) which shall be accounted for in the final sums payable.
8. The Adjudication Board Member's expenses incurred in adjudication work shall be reimbursed at cost.

Upon submission of an invoice for fees and expenses to the Parties, the (*Contractor/ Employer\*\**) shall pay the full amount within 28 days of receipt of the invoice and he shall be reimbursed by the other party by half the amount so that the fees and expenses are borne equally by the Parties. Late payment of such invoice shall attract the interest at prime plus 3% points compounded monthly at the prime rate changed by the Adjudication Board Member's bank.

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This Agreement is entered into by:

Contractor's Signature : .....

Contractor's name : .....

Place : .....

Date : .....

Employer's signature : .....

Employer's name : .....

Place : .....

Date

Adjudication Board Member's signature : .....

Adjudication Board Member's name : .....

Place : .....

Date : .....

*\*\*Delete the inapplicable party*

**HARRY GWALA DISTRICT MUNICIPALITY**

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**CONTRACT NO HGDM/696/HGDM/2020  
CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK  
PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER  
PUMP HOUSE AND REPAIRS AT WTWHOUSE**

**PART C2: PRICING DATA**

## PRICING DATA

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## **C2.1 PRICING INSTRUCTIONS**

### **1. General**

- 1.1 This section provides the tenderer with guidelines and requirements with regard to the completion of the Schedule of Quantities. The Schedule shall be completed in black ink or can be a printed version of the electronic copy bound into the tender document. The electronic version of the schedules will be issued to the Contractor with the tender documents. The completed electronic version of the schedules shall be submitted with the tender at the closing date. The tenderer is referred to the Tender Conditions in regard to the correction of errors.
- 1.2 The Schedule of Quantities shall be read with all the documents which form part of this Contract.
- 1.3 The following words shall have the meanings hereby assigned to them:
- Unit: The unit of measurement for each item of work in terms of the Standard Specifications or Particular Specifications.
- Quantity: The number of units of work for each item.
- Rate: The payment per unit of work at which the tenderer 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 Schedule of Quantities and the Specifications, but the quantity of work of which is not measured in any units.
- 1.4 Reference shall be made to the General and Special Conditions of Contract regarding Provisional and Prime Costs Sums.

### **2. Pay Items**

- 2.1 For Civil Works, the method of measurement and payment published in the clauses titled "Measurement and Payment" in the various sections of the Standardized Specification for Civil Engineering Construction, SABS/SANS 1200, is applicable, subject to the variations and amendments contained in section C3.4.3.
- 2.2 Descriptions in the Schedule of Quantities are abbreviated and comply generally with those in the Standardized or Particular Specifications. The measurement and payment clause of each Standardized and Particular Specifications, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standard and Particular Specifications, or the Scope of Work, conflict with the terms of the Schedule of Quantities, the requirements of the Standardized and Particular Specifications or Scope of Work, as applicable, shall prevail.



- 2.3 The item numbers appearing in the Schedule of Quantities refer to the corresponding item number in the Standardized and Particular Specifications or as amended in the Scope of Work. In the latter case, the item number is prefixed with the letter "PS". The same applies to new clauses added to the standard and particular specifications.
- 2.4 Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- 2.5 The quantities set out in the Schedule of Quantities are the estimated quantities of the Works, but the Contractor will be required to undertake whatever quantities may be directed by the Engineer from time to time. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.
- 2.6 The units of measurement described in the Schedule of Quantities are metric units. Abbreviations used in the Schedule of Quantities are as follows:

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1000kg)
m <sup>2</sup>	=	square metre	no.	=	number
m <sup>2</sup> .pass	=	square metre pass	sum	=	lump sum
ha	=	hectare	MN	=	meganewton
m <sup>3</sup>	=	cubic metre	MN.m	=	meganewton-metre
m <sup>3</sup> .km	=	cubic metre-kilometre	PC sum	=	Prime Cost sum
l	=	litre	Prov sum	=	Provisional sum
kl	=	kilolitre	%	=	Percent
MPa	=	megaspascal	kW	=	kilowatt

- 2.7 Where Provisional sums or Prime Cost sums are provided for items in the Bill of Quantities, payments for the Work done under such items will be made accordance with Clause 45 of the General Condition of Contract. The Employer reserves the right, during the execution of the works, to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract, such approval shall be granted by the Executive Director Infrastructure Services (Mr DB Makwakwa) as delegated by the Accounting Officer.

The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted in the "Amount" column of the Bill of Quantities and in the Summary of the Bill of Quantities unless ordered or authorized in writing by the Employer before closure of tenders. Unauthorized changes made by the Tenderer to provisional items in the Bill of Quantities, or to the stated provisional percentages and sums in the Summary of the Bill of Quantities, will not be permissible.

- 2.8 The sum provided under contingency in the Bill of Quantities is under the sole control of Employer and may be deducted in whole or in part and shall only be expended by order of the Employer as Variation Order.
- The use of contingency shall be upon approval by the Executive Director Infrastructure Services (Mr DB Makwakwa) as delegated by the Accounting Officer.

### 3. Rates

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

3.2 A price or rate is to be entered against each item in the Schedule of Quantities, whether the quantities are stated or not. An item against which no price is entered or where a word or phrase such as "included" or "provided elsewhere" will deem the tender invalid.

With reference to bracketing of two or more rates will not be accepted and same would also be deemed tender invalid.

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

3.3 The Tenderer shall fill in a rate against all items where the words "rate only" appears in the amount column. The intention is that, 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 be actually required.

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

3.5 All rates and sums of money quoted in the Schedule of Quantities shall be in rands and whole cents. Fractions of a cent shall be discarded.

3.6 All prices and rates entered in the Schedule of Quantities must be **excluding** VAT. VAT will be added last on the summary page of the Schedule of Quantities.

3.7 Should excessively high unit prices be tendered, such prices may be of sufficient importance to warrant rejection of a tender by the Employer.

#### **CORRECTION OF ENTRIES MADE BY TENDERER**

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

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PUMP HOUSE AND REPAIRS AT WTW**

**PART C2.2  
DAY WORKS SCHEDULE**

**C2.2 DAY WORK SCHEDULE****C2.2.1 GENERAL**

Tenderers must complete this list which shall be used for the assessment of value of the work which the Engineer instructed in writing that must be done on a day work bases, all in agreement with appropriate clause of the GCC 2015 and coupled Special Contract Specifications. All the rates are fixed and shall be binding till and with the issuing of the completion certificate, except for statutory increases that will be announced from time to time.

**C2.2.2 LABOUR COSTS**

Rates for labour as listed below shall include all the allowances as specified in the General Conditions of Contract 2015 and Special Contract Specifications. Overtime costs attached to this contract shall be paid in the same relation as what the employees really are paid.

DESCRIPTION	UNIT	RATE
Unskilled labour	Hour	
Semi skilled labour	Hour	
Pipe layer	Hour	
Ganger	Hour	
Foreman/Section leader	Hour	
Brick layer	Hour	
Plumber	Hour	

**C2.2.3 EQUIPMENT COSTS**

Full comprehensive hourly rates, which also include the cost of the operators, must be listed below. Rates must also include all the costs of consumable items, maintenance, depreciation, tools and all other coincidences that shall be necessary to operate the equipment for the purpose it is designed for. The rates must also include all the overhead costs, profits, site supervision, insurance, holidays with payment, travelling costs (or travelling allowances) and residence allowances of operators and any other allowances that is applicable. No further percentage allowances shall be applicable on equipment. The Tenderer must list under each heading the fabrication and specification of the equipment available.

DESCRIPTION	UNIT	RATE
1. Excavators _____ _____ _____ _____	Hour Hour Hour Hour	
2. Bulldozers _____ _____ _____ _____	Hour Hour Hour Hour	
3. Graders _____ _____ _____ _____	hour hour hour hour	
4. Scrapers _____ _____ _____ _____	hour hour hour hour	
5. Front-end loaders _____ _____ _____ _____	hour hour hour hour	
6. Rollers _____ _____ _____ _____	hour hour hour hour	
7. Pneumatic tyre rollers _____ _____ _____ _____	hour hour hour hour	
8. Small rollers _____ _____ _____ _____	hour hour hour hour	
9. Trucks (m <sup>3</sup> specified) _____ _____ _____ _____	hour hour hour hour	

<p>10. Water truck (litres specified)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>hour</p> <p>hour</p> <p>hour</p> <p>hour</p>	
<p>11. Tractor and trailer</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>hour</p> <p>hour</p> <p>hour</p> <p>hour</p>	
	<p>hour</p> <p>hour</p> <p>hour</p> <p>hour</p>	
<p>17. Water pumps</p> <p>75 mm _____</p> <p>100 mm _____</p> <p>150 mm _____</p>	<p>hour</p> <p>hour</p> <p>hour</p>	
<p>18. Compactors (Plate) _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>hour</p> <p>hour</p> <p>hour</p> <p>hour</p>	

19. Other equipment  _____ _____ _____ _____	hour hour hour hour	
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**C2.3  
SCHEDULE OF QUANTITIES**



ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
1	<b>SABS 1200 A PSA</b>	<b><u>SECTION 1: PRELIMINARY AND GENERAL</u></b>					
	8,3	<b><u>FIXED-CHARGE ITEMS</u></b>					
1,1	8.3.1	Contractual Requirements		Sum	1		
1,2	8.3.2	Establish Facilities on the Site:					
	8.3.2.1	Facilities for the Engineer					
1,2.1		Two contract name board see Dwg 2014-NWSS-NB-01		Sum	1		
1,2.2		Engineer's Office		Sum	1		
1,2.3		Survey equipment and assistant		Sum	1		
1,3	8.3.2.2	Facilities for Contractor as well as compliance with the requirements of the Environmental Specification					
1,3.1		Office, storage, workshops, laboratories		Sum	1		
1,3.2		Living Accommodation & toilet facilities		Sum	1		
1,3.3		Water, Electricity & Communication		Sum	1		
1,3.4		Tools & small equipment		Sum	1		
1,3.5		Dealing with Water		Sum	1		
1,3.6		Access		Sum	1		
1,3.7		Plant		Sum	1		
1,4	8.3.3	Other fixed-charge obligations		Sum	1		
1,5	8.3.4	Remove Contractor's Site Establishment on completion		Sum	1		
1,6		The cost of Health & Safety measures in terms of the Construction Regulations (2003) of the Occupational Health & Safety Act		Sum	1		
	8,4	<b><u>TIME-RELATED ITEMS - ( for 6 months)</u></b>					
1,7	8.4.1	Contractual requirements		Sum	1		
	8.4.2.1	Operate and maintain facilities on the Site: Operate and maintain facilities on site for the Engineer					
1,8		Name board, Equipment, Office, Telephone & Survey		Sum	1		
1,9	8.4.2.2	Facilities for Contractor for duration of construction, except where otherwise stated:					
1,9.1		Office, storage, workshops, laboratories		Sum	1		
1,9.2		Living Accommodation & toilet facilities		Sum	1		
1,9.3		Water, Electricity & Communication		Sum	1		
1,9.4		Tools & small equipment		Sum	1		
1,9.5		Dealing with Water		Sum	1		
1,9.6		Access		Sum	1		
1,9.7		Plant		Sum	1		
1,10	8.4.3	Supervision for duration of the Contract		Sum	1		
1,11	8.4.4	Company and Head Office over-head costs		Sum	1		
1,12	8.4.5	Other time-related obligations		Sum	1		
1,13	AO	Maintenance of Health & Safety Plan, including Risk Analysis, Safe Working Procedures and working methods.		Sum	1		
<b>TOTAL OF SCHEDULE 1 CARRIED FORWARD TO SUMMARY</b>							

**Section 2**  
**Sums Stated Provisionally**

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
		<b>SECTION 2: SUMS STATED PROVISIONALLY</b>					
2,1	8,6	Community Liaison Persons - for 6 months		Prov Sum	1	35 000,00	R 35 000,00
2,2		Handling costs for item 2.1 above		%	35 000		
2,3		Amount to cover professional fees for repairing damage and loss (GCC CL 8.6.1.1.3)		Prov sum	1	50 000,00	R 50 000,00
2,4		Electronic equipment for the Engineer		Prov Sum	1	25 000,00	R 25 000,00
2,5		Percentage adjustment to item 2.3 & 2.4 above		%	25000		
2,6		Accommodation for the engineers staff		Prov Sum	1	48 000,00	R 48 000,00
2,7		Percentage adjustment to item 2.6 above		%	48000		
2,8		Allowance for compliance with Environmental Management Plan (EMP)		Prov Sum	1	87 000,00	R 87 000,00
2,9		Provision for the STUDENT TRAINEE		Prov Sum	1	30 000,00	R 30 000,00
2,10		Percentage adjustment to item 2.9 above		%	30000		
2,11		Provision for Flood lights		Prov Sum	1	50 000,00	R 50 000,00
2.11.1		Percentage adjustment to item 2.11 above		%	50000		
2,12		Provision for the operator to operate the plant for 6 months until municipality finds the permanent person		Prov Sum	1	102 000,00	R 102 000,00
2.12.1		Percentage adjustment to item 2.12 above		%	102000		
2,13		Repairs on stolen equipment at WTW- replacement of filter pumps, raw water pumps, dosing pumps, sodium hypochlorite dosing pumps, cabling in plant room, and electricity components in plant room.		Prov Sum	1	234 784,00	R 234 784,00
2.13.1		Percentage adjustment to item 2.13 above		%	234784		
	8,7	<b><u>DAYWORKS</u></b>					
2,13		Labour		Prov Sum	1	10 000,00	R 10 000,00
2,14		Percentage adjustment to Labour above		%	10000,00		
2,15		Materials		Prov Sum	1	20 000,00	R 20 000,00
2,16		Percentage adjustment to Materials above		%	20000		
2,17		Plant		Prov Sum	1	20 000,00	R 20 000,00
2,18		Percentage adjustment to Plant above		%	20000,00		
<b>TOTAL OF SCHEDULE 2 CARRIED FORWARD TO SUMMARY</b>							

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
		<b>SECTION 3: SUPERVISORS QUARTERS AND GUARD HOUSE</b> Drawing 2019/NSW/OH/01					
M1	SANS 1200 C	<b>Site clearance</b>					
M1.1		Clear and grub site including trees and stumps up to 1 m girth	LI	ha	2		
M1.2		Remove topsoil to a nominal depth of 150 mm and stockpile	LI	m <sup>2</sup>	20100		
M2	SANS 1200 D	<b>Earthworks</b>					
M2.1	8.3.2	Bulk excavation in all materials		m <sup>3</sup>	360		
M2.2	8.3.3(a)	Restricted excavation in all materials for foundations	LI	m <sup>3</sup>	14		
M2.3	8.3.3(b)	Extra-over for excavation in rock		m <sup>3</sup>	4		
M2.4	13.3.1	Compact fill material to 95% of MAMDD under floors		m <sup>3</sup>	8		
M3	SANS 1200 DM	<b>Floor slab foundation preparation</b>					
M3.1	8.3.3	Prepare subgrade ready to receive compacted fill layer		m <sup>2</sup>	56		
M3.2	13.3.1	Import from site, suitable fill (G5) for floor foundation 150 mm thick compacted layer, including 250 micron plastic sheet, ready to receive concrete for floor slab		m <sup>3</sup>	8		
	1200 G	<b>Concrete work</b>					
M4	8.1.1.6	<b>Formwork</b>					
M4.1	8.2.2 8.2.5	Smooth formwork:					
M4.1.1		Narrow section to edge of apron		m	53		
M5	8.1.3	<b>Concrete</b>					
M5.1	8.4.3	Strength concrete Grade 20 MPa/20 mm to:					
M5.1.1		Strip footing foundations		m <sup>3</sup>	5		
M5.1.2		Apron, 75mm thick		m <sup>2</sup>	49		
M5.1.3		Floor slab		m <sup>3</sup>	5		
M6	13.5.1	<b>Brickwork</b>					
M6.1		90 mm internal walls concrete block		m <sup>2</sup>	57		
M6.2		190 mm solid wall concrete block		m <sup>2</sup>	106		
		Carried forward / ...					

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
		Brought forward / ...					
M6.3	SPEC QB 8.2.4.4	Air bricks complete		No	10		
M6.4	8.2.4.3	Dampproof course:					
M6.4.1		To 90 mm wall		m	18		
M6.4.2		To 190 mm wall		m	34		
M6.5	8.2.4.2	FC window cills (painting as per roof sheets) to:					
M6.5.1		NE1		No	1		
M6.5.2		C2-RH		No	4		
M7	8.2.6.2	<b>Windows (steel) including galvanizing, glazing and burglar bars:</b>					
M7.1		NE1 (opaque glass)		No	1		
M7.2		C2 - RH		No	4		
M8	8.2.5.3	<b>Doors including furniture:</b>					
M8.1		External doors:					
M8.1.1		Single hardwood FLB including sealing		No	1		
M8.1.2		Single stable door including sealing		No	1		
M8.2		Internal doors:					
M8.2.1		Single laminated including sealing		No	3		
M9	8.2.5.5	<b>Ceiling</b>					
M9.1		Rhinoboard 5 mm complete with profile jointing strips		m <sup>2</sup>	58		
M9.2		65 mm cove cornice		m	73		
M10	8.2.5.5	<b>Eaves enclosure</b>					
M10.1		Flexit 5 mm flexit complete with profile jointing strips and quadrant		m	36		
M11	8.2.5.1	<b>Roof timberwork</b>					
M11.1		152 mm x 38 mm trusses 6,9 m span		No	9		
M11.2		76 mm x 52 mm purlins		m	105		
M11.3		115 mm x 38 mm wall plate		m	19		
		Carried forward / ...					

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
	SPEC QB	Brought forward / ...					
M12	8.2.5.6	<b>Roofing etc., (including painting to prevent fungus growth (2 coats polyacrylic emulsion)) colour to be an approved green</b>					
M12.1		Fibre roof sheeting "Big Six"		m <sup>2</sup>	89		
M12.2		Ridge capping		m	11		
M12.3		Ridge capping end cap		No	2		
M12.4	8.2.5.7	PVC bargeboard 225 mm x 16 mm		m	17		
M12.5	8.2.5.7	PVC fascia board 225 mm x 16 mm		m	21		
M13	8.2.8.1	<b>Rainwater goods</b>					
M13.1		Extruded Aluminium gutters 100mm with 2 outlets		m	21		
M13.2		Aluminium 100 mm dia stop ends		No	4		
M13.3		Aluminium drop ends with 100mm dia outlet		No	2		
M13.4		Supply and fix 2 Aluminium downpipes, 100mm dia		m	3		
M13.5		Supply and fix 100mm dia 90 deg. elbows Aluminium		No	4		
		<u>2.5kL Polypropylene Tank</u>					
M13.6		Construct base and strip footing of rainwater tank as per detail		No	4		
M13.7		Supply and fix 2.5kL Polypropylene (Jojo or similar approved) water tanks. Rate to include tie down wire and lugs		No	4		
M14	8.2.3.1	<b>Precast lintels to:</b>					
		<u>Windows:</u>					
M14.1		NE1		No	1		
M14.2		C2 - RH		No	4		
		<u>Doors:</u>					
M14.3		External		No	2		
M14.4		Internal		No	3		
M15	8.2.7.1	<b>Plasterwork to:</b>					
M15.1		Brickwork internally		m <sup>2</sup>	145		
M15.2		External brickwork		m <sup>2</sup>	90		
		Carried forward / ...					

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
	SPEC QB	Brought forward / ...					
M16	8.2.9.1	<b>Painting</b>					
M16.1		1 coat plaster primer		m <sup>2</sup>	128		
M16.2		3 coats acrylic PVA internally		m <sup>2</sup>	128		
M16.3		2 coats polyacrylic emulsion (white) to ceilings		m <sup>2</sup>	58		
M16.4		Eaves closures		m <sup>2</sup>	19		
M16.5		Bathroom painted with velvagio white		m <sup>2</sup>	17		
M16.6		External walls - 2 coats acrylic PVA		m <sup>2</sup>	90		
M16.7		2 Coats polycrylic emulsion to roof approved green		m <sup>2</sup>	90		
M17	8.2.8.3	<b>Supply, fix and connect sanitary ware complete:</b>					
M17.1		Water closet porcelain complete		No	1		
M17.2		Wash-hand basin 510 x 410 mm pedestal mounted porcelain complete		No	1		
M17.3		Towel rail 900mm long complete		No	1		
M17.4		Toilet paper holder		No	1		
M17.5		Stainless steel sink single bowl, 900 mm long complete with cupboard below		No	1		
M17.6		150 l Kwik Hot water cylinder complete with solar panel and electrical backup with timer. Eskom approved		No	1		
M17.7		Soap Dish		No	1		
M18		<b>Supply, fix and connect exterior and interior plumbing to septic tank</b>					
M18.1	8.2.8.2	PVC-U soil, vent, waste water piping, gulley and plumbing to toilets, bath, basins and sinks up to but excluding the manhole, all in accordance with SABS 967		Sum	1		
M19	8.2.7.4	<b>Tiling and flooring</b>					
M19.1		Wall tiling 150 x 150 mm white glazed tiles to shower walls to ceiling height.		m <sup>2</sup>	6		
M19.2		Wall tiling 150 x 150 mm white glazed tiles to kitchen		m <sup>2</sup>	3		
M19.3		Vinyl floor tiles and skirting		m <sup>2</sup>	58		
M20	8.1.2	<b>Glazing</b>					
M20.1		Mirrors: 400 x 400 mm fixed to wall		No	1		
		Carried forward / ...					

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
		Brought forward / ...					
M21	8.2.10	<b>Electrician</b>					
M21.1		Electrical wiring and lighting ball type light fittings, external bulkhead and plugs including switchboard (to local authority regulations) and provide COC		Sum	1		
M22		<b>Miscellaneous</b>					
M22.1	8.2.10	Supply and install three plate electrical stove (Defy or equal approved)		No	1		
M22.2	8.2.5.2	Supply and fix kitchen cupboard with formica top 1 600 mm long (post formed)		No	1		
M22.3	8.2.6.1	Supply and fix galvanized steel pelmets (including curtain rail) to suit all windows painted as per specifications for:					
M22.3.1		NE1		No	1		
M22.3.2		C2 - RH		No	4		
M22.4		Supply and fix in place a 7,5 ℓ fire extinguisher complete including bracket		No	1		
M23		<b>Electrical</b>					
M23.1	8.2.10	Allow for supply and installation of electrical power to house		Provisional Sum		1,00	R 50 000,00
M23.2		Contractor's mark-up on Item M23.1		%	50000		
M24		Costruction of the Guard House Building as per drawing		Sum	1		
<b>TOTAL OF SCHEDULE 3 CARRIED FORWARD TO SUMMARY</b>							

Section 4  
Earthworks (Pipeline)

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
4	SABS 1200 DB	<b>SECTION 4: EARTHWORKS (PIPE TRENCHES)</b>					
4,1	PSDB	<b>EXCAVATION</b>  Excavate in <b>Machine Class</b> materials for trenches <b>600mm</b> wide, backfilling measured elsewhere					
4.1.1		Depth exceeding 0.0m but not exceeding 0.8m		m	50		
4.1.2		Depth exceeding 0.0m but not exceeding 1.2m		m	3 000		
4.1.3		EO items 5.2.1 to 5.2.4 for excavation in intermediate materials		m <sup>3</sup>	377		
		<b>BACKFILLING OF TRENCHES</b>  Backfill by hand, compact and dispose of surplus/unsuitable material including removal of boulders of rock where applicable on <b>450mm</b> wide trenches of depth:	LI				
		Backfill by hand, compact and dispose of surplus/unsuitable material including removal of boulders of rock where applicable on <b>600mm</b> wide trenches of depth:	LI				
4.1.4		Depth exceeding 0.0m but not exceeding 1.2m	LI	m	3 000		
CARRIED FORWARD TO NEXT PAGE							



BROUGHT FORWARD FROM PREVIOUS PAGE					
4.2	<b>SABS 1200 LB</b>	<b><u>PROVISION OF BEDDING AND BLANKET MATERIAL</u></b>			
		Provision of bedding and blanket material compacted to 90% MOD AASHTO density (100% for sand) with <b>material from trench excavations</b>			
4.2.1		Suitable granular material within 5m from trench	LI	m <sup>3</sup>	248
4.2.2		Selected granular material within haul distance of 5m up to 1km	LI	m <sup>3</sup>	743
4.2.3		Processing of bedding from trench excavation	LI	m <sup>3</sup>	990
		Provision of bedding and blanket material compacted to 90% MOD AASHTO density (100% for sand) with <b>material from commercial sources</b> (PROVISIONAL), including borrow pit rehabilitation to environmental specification			
4.2.4		Selected granular material		m <sup>3</sup>	810
		<b>LANDSCAPING</b>			
4.2.5		Collect from stockpile and place topsoil to a minimum thickness of 100 mm after compaction to designated areas	LI	m <sup>2</sup>	8 100
4.2.6		Grassing of topsoiled areas including fertilizing, watering and cutting for 3 months.		m <sup>2</sup>	8 100
<b>TOTAL OF SCHEDULE 4 CARRIED FORWARD TO SUMMARY</b>					

Section 5  
Medium Pressure Pipelines

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
	SABS 1200L	<b>SECTION 5: MEDIUM PRESSURE PIPELINES PIPES</b>					
5	8.2.1	Supply, lay, joint, and bed on Class C or flexible pipe bedding Excavation and bedding measured elsewhere.					
5,1		<b>mPVC Pipes with mechanical rubber ring joints</b>					
5.1.1		160 mm ø PN 12		m	700		
5.1.2		160 mm ø PN 16		m	300		
5.1.3		160 mm ø PN 20		m	550		
5.1.4		160 mm ø PN 25		m	250		
5,2	8.2.1	Test, disinfect and flush the following pipeline					
		<b>mPVC Pipes with mechanical rubber ring joints</b>					
5.2.1		160 mm ø PN 12		m	700		
5.2.2		160 mm ø PN 16		m	300		
5.2.3		160 mm ø PN 20		m	550		
5.2.4		160 mm ø PN 25		m	250		
5,3	SABS 1200L	<b>SPECIALS AND FITTINGS</b>					
	8.2.2	Supply, lay, joint, bed on Class C or flexible pipe bedding, test and disinfect. Excavation and bedding measured elsewhere.					
		<b>Bends for pipelines</b>					
		Bends to be supplied with mechanical joint rubber rings integrally moulded, other end plain					
5.3.1		160mm x 90°, x 45°, x 22.5°, 11.25° (all PN 25)		No	13		
5,4		Construct airvalve chamber complete with fittings & valves as per attached drawing		No	5		
5,5		Construct scour valve chamber complete with fittings & valves as per attached drawing		No	3		
5,6		Construct gate valve chamber complete with fittings & valves as per attached drawing		No	2		
<b>TOTAL OF SCHEDULE 5 CARRIED FORWARD TO SUMMARY</b>							

Section 6  
Booster Pump House - Pumping Equipment

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
6,16	PA11	<b><u>Surface Pump Installation at Booster Pump Station -Mahhehle Village</u></b>					
		<b><u>General</u></b>					
		Required: Pumping equipment (preferred = 'KSB WKLn Pumps') in accordance with specification PA for a surface installation (flow rate = 36m³/h, Total Pumping Head = 185m)					
6.16.1		Supply direct coupled centrifugal pump + identical Standby (Total =3) in accordance with specification inclusive of a pump, coupling, mounting base, cabling and connecting to main board		P.Sum	1	1 003 200,00	<b>1 003 200,00</b>
							-
6,17		<b><u>Motor &amp; Switch Gear</u></b>					-
							-
6.17.1		Supply a 37 KW suitable motor to specification (PA) with slide bases or motor mount brackets to suite direct coupled centrifugal pumps in 6.16.1 above.		P.Sum	1	138 150,00	<b>138 150,00</b>
							-
6.17.2		Supply suitable control board, all other control and protection devices, change over switches and cabling (including connecting to Eskom supply box and standby generator) as per specifications PA to suit items 7.17.1 above. All cables to be appropriately strapped on galvanized cable trays		P.Sum	1	29 400,00	<b>29 400,00</b>
							-
6,18		<b><u>Diesel Generators</u></b>					-
							-
							-
6.18.1		Supply a suitable 3 phase Genset or similar approved model diesel generator fitted with electric start to suite 6.17 above, mounted on adjustable frame complete with lockable battery box, all connection mechanisms and mounting frame to suite item 6.16.1 and 6.17 above. The rate should include for external exhaust pipe and oil drain pipes. The Generator should be supplied with and connected to a 200 liter diesel drum with an appropriate stand if necessary as well as suitable fittings and piping, including an approved fuel transfer pump to be used for refueling. The generator should include all wiring and other necessary fittings for the control panel.		P.Sum	1	440 000,00	<b>440 000,00</b>
							-
<b>CARRIED FORWARD TO NEXT PAGE</b>							

BROUGHT FORWARD FROM PREVIOUS PAGE							
6,19		<b>Pipe work, valves and fittings (all pipework, valves and fittings to be PN 16)</b>					-
6.19.1		Supply 200mm dia /100mm dia fabricated flanged pipe work (hot dipped galvanized after fabrication) complete with suitable full face gaskets, hot dipped galv. bolts and nuts (refer to Drawing 2014-MWSS-PS-01)	P.Sum	1	15 000,00		15 000,00
6.19.2		Supply 100mm scour valve with suitable length & size outlet pipe vented to outside of the pump station building	P.Sum	1	18 000,00		18 000,00
6.19.3		Supply 80mm Vent-O-Mat RBX double acting air valve with isolating stop cock	P.Sum	1	44 000,00		44 000,00
6.19.4		Supply 150mm STOCKHAM spring loaded / Double door wafer type or similar approved Non-Return Valve with stainless steel doors	P.Sum	1	112 000,00		112 000,00
6.19.5		Supply an electronic water meter (SABS Approved) with display mounted on the wall adjacent to the MCC of the corresponding pumps.	P.Sum	1	6 000,00		6 000,00
6.19.6		Supply 100mm MEINECKE or similar approved mechanical water meter and strainer, housed in a carbon steel flanged housing	P.Sum	1	15 000,00		15 000,00
6.19.7		Supply 80mm Bermad model 735-VM or similar type Surge Anticipating valve to suite the pumping requirements complete with suitable length & size outlet pipe vented to outside of the pump station building including modification to manifold & vent to atmosphere	P.Sum	1	8 000,00		8 000,00
6.19.8		Supply 80mm Bermad 740-Q pump control valves one in each delivery outlet from pump including wiring from solenoid & limit switch back into MCC plus control equipment inside board, etc	P.Sum	1	10 000,00		10 000,00
6.19.9		Supply 100mm dia stainless steel glycerin filled pressure gage with stop cock (0-6000 kPa range reading)	P.Sum	1	12 000,00		12 000,00
6.19.10		Supply Turck flow sensor on delivery manifold incl wiring to main control board	P.Sum	1	8 000,00		8 000,00
6.19.11		Install pumps, motors, generator, pipe work and equipment detailed from 6.16.1 to 6.19.10 above including any other fittings that are implied or necessary to successfully complete the installations	P.Sum	1	12 000,00		12 000,00
6.19.12		Commission run and test installation for a minimum of 4 weeks prior to hand over	P.Sum	1	15 000,00		15 000,00
6.20		Concrete Palisade fencing around pump house and reservoir at Mahhehle Village	m	250			
6.21		Contractor's Handling Cost on items 6.1 to 6.20	%	R 1 885 750,00			
<b>TOTAL OF SCHEDULE 6 CARRIED FORWARD TO SUMMARY</b>							

Section 7  
Booster Pump House - Building

ITEM NO	PAY REFERS	DESCRIPTION	LI	UNIT	TOTAL QTY	Rate	AMOUNT
7		<b><u>EARTHWORKS</u></b>					
7,1	1200 DA PSD	<b><u>EXCAVATION</u></b>					
7.1.1		Restricted excavation in pickable material	LI	m <sup>3</sup>	80		
7.1.2		Extra-over "pickable" for excavation in Hard Rock	LI	m <sup>3</sup>	33		
		Surface bed preparation:					
8.1.3		Two layers of insitu material (150mm thick each) compacted to 90% Mod AASHTO. Approx floor area = 50m <sup>2</sup>		Sum	1		
8.1.4		One 150mm selected layer of subgrade material compacted to 95% Mod AASHTO		m <sup>2</sup>	300		
8.1.5		DPC below RC floors		m <sup>2</sup>	300		
	SABS 1200 GA	<b><u>CONCRETE (SMALL WORKS)</u></b>					
7,2		<b><u>FORMWORK: SMOOTH FINISH</u></b>					
8.2.1		Vertical walls		m <sup>2</sup>	80,0		
8.2.2		Vertical Floor edge		m <sup>2</sup>	20,0		
8.2.3		Voids for pipework on concrete walls (6 in total)		Sum	1,0		
8.2.4		Roof Slab		m <sup>2</sup>	80,0		
7,3		<b><u>REINFORCEMENT</u></b>					
		High Tensile Steel Bars:					
8.3.1		i) 25 mm diameter. Basic Price		t	9,8		
8.3.2		ii) Extra-over item 8.3.1 for bars of 12 mm diameter and less		t	9,8		
		High tensile welded steel mesh off mass: 6.17 kg/m <sup>2</sup>					
8.3.3		i) Ref No. 617		m <sup>2</sup>	85,0		
7,4		<b>CONCRETE</b>					
		i) 25 MPa Concrete - 20 mm coarse aggregate in :					
8.4.1		Walls		m <sup>3</sup>	17,0		
8.4.2		Floors and foundations		m <sup>3</sup>	30,00		
		ii) 25 MPa mass Concrete - 20 mm coarse aggregate in :					
8.4.3		Roof Slab		m <sup>3</sup>	35,00		
		iii) 15 Mpa concrete - 20mm stone					
8.4.4		Blinding		m <sup>2</sup>	85,00		
7,5		<b><u>METAL FITTINGS</u></b>					
		Supply and install the following, see drawing No. 2014-NWSS-PB-01					
8.5.1		Galvanized access steps		No	1,0		
8.5.2		Galvanized hand rails on concrete slab		m	15,0		
8.5.3		Rectagrid trench cover (30 x 4.5 - painted mass 38.0kg/m <sup>2</sup> ) with angle irons set in concrete		m	30,0		
8.5.4		Plain trolley with 1.5 ton hand operated chain block		Sum	1,0		
		Galvanized Heavy duty electric operated roller shutter door (garage type) mounted on outside (all inclusive for items such as locking devices, etc. - locks to open to client master key) to fit 4m high x 2.2m wide opening					
8.5.6				Sum	1,0		
CARRIED FORWARD TO NEXT PAGE							

BROUGHT FORWARD FROM PREVIOUS PAGE					
<b>7,6</b>	<b><u>Frames &amp; Trusses</u></b>				
	Supply and install the following, Timber trusses with a 17.5 degree pitch complete with purlines and braces. Approx floor area = 50m <sup>2</sup> , span = 7m. Trusses to be designed by a competent person, a certificate is be required.				
8.6.1		Sum	1,0		Rate Only
	Galv. Green pre-painted (0.6 mm thick) IBR roof sheeting on trusses in 9.6.1 above, ridge capping (7m), PVC Facia (14m), PVC gutter (14m) & down pipe (2 No. of) all fixed to manufactures spec.				
8.6.2		Sum	1,0		Rate Only
8.6.3	Hard wood door & frame with ventilation louvers with locking device	Sum	1,0		
8.6.4	Windows and frames (SS 41) (four sets) inclisive of painting & glozing	Sum	1,0		
<b>7,7</b>	<b><u>Bricks and Mortar</u></b>				
	Rates to include mortar and brick-force every four rows of brickwork.				
8.7.1	Hard Klinker Brick of uniform shape (two raw wall),	m <sup>2</sup>	200,00		
8.7.2	Plastering of internal walls painted with a suitable undercoat and two coats of Oil type coloured paint	m <sup>2</sup>	400,00		
8.7.3	Construct retaining wall as per Dwg 2014-NWSS-RW-01	Sum	1		
<b>7,8</b>	<b><u>Electricals, Lighting and Cabling</u></b>				
	See drawing No. 2014-NWSS-PB-01 Supply and installl the following, Rates to include adequate cabling and cubing where necessary.				
	Fluorescent lighting cube/s (4 sets x 2 units each) or similar approved low energy (long lasting) light bulbs including two sets of on/of switches located just inside the single door				
8.8.1		Sum	1		
8.8.2	Welding point	No	2		
8.8.3	15 Amp plugs	No	4		
	Low energy external light bulbs installed over both doors including two sets of on/of switches located just inside the single door				
8.8.4		Sum	1		
<b>TOTAL OF SCHEDULE 7 CARRIED FORWARD TO SUMMARY</b>					

**HARRY GWALA DISTRICT MUNICIPALITY**

**NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B**

**CONTRACT NO HGDM/696/HGDM/2020  
CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK  
PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER  
PUMP HOUSE AND REPAIRS AT WTW**

**C2.4  
SUMMARY OF SCHEDULE OF QUANTITIES**

**SUMMARY OF SECTIONS**

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING MAIN, OPERATOR HOUSES,  
GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW**

<b>SECTION</b>	<b>DESCRIPTION</b>	<b>AMOUNT</b>
1	PRELIMINARY & GENERAL	
2	SUMS STATED PROVISIONALLY	
3	SUPERVISOR'S QUARTERS	
4	EARTHWORKS (PIPE TRENCHES)	
5	MEDIUM PRESSURE PIPELINES	
6	BOOSTER PUMP HOUSE- PUMPING EQUIPMENT	
7	BOOSTER PUMP HOUSE - BUILDING	
<b>SUB-TOTAL 1</b>		
<b>ADD 10% CONTINGENCES</b>		
<b>SUB-TOTAL 2</b>		
<b>ADD 15% VAT</b>		
<b>TOTAL FORM OF TENDER</b>		



**HARRY GWALA DISTRICT MUNICIPALITY**

**NCAKUBANE WATER SUPPLY SCHEME PHASE 3B**

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK  
PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE,  
BOOSTER PUMP HOUSE AND REPAIRS AT WTW CONTRACT:  
HGDM/696/HGDM/2020**

**PART C3:  
SCOPE OF WORK**

**INDEX**

<b>Section</b>	<b>Description</b>	<b>Page No</b>
<b>C3.1</b>	<b>DESCRIPTION OF THE WORKS</b>	C3.1.1
<b>C3.2</b>	<b>ENGINEERING</b>	C3.2.1
<b>C3.3</b>	<b>PROCUREMENT</b>	C3.3.1
<b>C3.4</b>	<b>CONSTRUCTION</b>	
C3.4.1	GENERAL CLAUSES AND REQUIREMENTS	C3.4.2
C3.4.2	STANDARD SPECIFICATIONS	C3.4.11
C3.4.3	VARIATIONS AND ADDITIONS TO THE STANDARD AND PARTICULAR SPECIFICATIONS	C3.4.12
C3.4.4	PARTICULAR SPECIFICATIONS FOR CIVIL WORKS	C3.4.61
<b>C3.5</b>	<b>MANAGEMENT</b>	
C3.5.1	REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS: HEALTH AND SAFETY SPECIFICATION	C3.5.1
C3.5.2	REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE ENVIRONMENTAL MANAGEMENT PLAN & ROD	C3.5.2
<b>C4</b>	<b>SITE INFORMATION</b>	
<b>C5</b>	<b>DRAWINGS</b>	

**HARRY GWALA DISTRICT MUNICIPALITY**

**NCAKUBANE WATER SUPPLY SCHEME PHASE 3B**

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK  
PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE,  
BOOSTER PUMP HOUSE AND REPAIRS AT WTW CONTRACT:  
HGDM/696/HGDM/2020**

**C3.1:  
DESCRIPTION OF THE WORKS**

## **C3.1 DESCRIPTION OF THE WORKS**

### **C3.1.1 EMPLOYER'S OBJECTIVES**

The Harry Gwala District Municipality, as designated Water Services Authority (WSA) for its own area of jurisdiction, has embarked on a project to provide potable water to various rural communities residing in Ubuhlebezwe Local Municipality in the KwaZulu Province. Approximately 1024 households resided in villages located in the said area.

As part of the overall project, the operator houses and the guard house will need to be constructed in the WTW.

Water will be sourced from an existing 1ML/day package water treatment plant pumping to a 500KL command reservoir constructed under Phase 1, the water will then be pumped to a village reservoir via a 90mm dia pipeline. The Water would then be distributed to the various village reservoirs in the communities.

As a result of this initiative, tenders are herewith invited from qualified and experienced civil engineering contractors for the construction of operator houses and the guard house as detailed on the Drawings.

### **C3.1.2 EXTENT OF THE WORKS**

The Contract comprises the supply of all labour, materials, plant, contractor's equipment, and transport, attendance on site for the complete construction of the operator houses and the guard house and detailed on the Drawings and described in the contract document.

The general scope of works includes for the following:

- (a) Adherence to all pre-construction requirements as detailed in the Conditions of Contract;
- (b) Construction of operator houses in the Ncakubane WTW.
- (c) Construction of the guard house
- (d) Construction of the booster pump station to Mahehle Village
- (e) Repairs of the WTW equipment
- (f) Construction of 1.8km long 160mm diameter, rising main to Mahehle Village
- (g) Fencing of existing reservoirs and pump station
- (h) Contractor's establishment on Site, including provision of all facilities for the Engineer and Employer;
- (i) Maintaining the Works for a period of 6 months after receipt of the Completion Certificate during the defect's liability period.

#### **C3.1.4 LOCATION OF THE SITE AND ACCESS**

The location of the Site on which the houses will be constructed on Ncakubane village located approximately 13 km West of Umzimkhulu town at co-ordinates **30°32'20"S & 29°54'31"E**.

The access road to the Site is gravel and the contractor shall, prior to submitting his tender, assess the condition of the access to the Site and make the necessary allowances in the tender to ensure that access is adequate for all construction vehicles under all weather conditions and maintained during the period of construction.

The following climatic and general conditions are prevalent on Site and the specified capacities of all equipment provided under this Tender shall be applicable under these conditions.

Maximum ambient temperature:	30°C
Minimum ambient temperature:	13°C
24-hour maximum temperature:	30°C
Altitude (meters above mean sea level):	1000 m
Humidity:	Medium
Atmosphere:	Dusty. Lengthy periods of sunshine cause high temperatures in indoor enclosures. High breakdown of outdoor synthetic materials due to extended exposure to ultra-violet rays.
Lightning:	High lightning rate

### **C3.1.5 GEOTECHNICAL INFORMATION**

The site in general is underlain by dark grey shale, mudstone and sandstone rocks of the Eccca Group which forms part of the Karoo Supergroup. The shale is usually laminated and dark blue grey when occurring as unweathered rock. In its weathered state the shale assumes a light yellow and beige colour. The Karoo Supergroup has been extensively intruded by Dolerite in the form of dykes or sills. Certain areas may become saturated during rainy season. The extent and approximate amount of hard rock that may have to be removed is provided on the appropriate sections of the BOQ.

This information is made available to tenderers in good faith and is subjected to the normal limitations and constraints associated with information of this nature and shall not be used as a basis for any claim, of whatsoever nature, against the Employer or the Engineers.

### **C3.1.6 CONSTRUCTION PROGRAMME & METHODS**

Immediately after the handing over of the Site, the Engineer and the Contractor shall discuss the order of procedure and methods in which the Contractor shall carry out the works after which the Contractor shall compile and submit to the Engineer, within 14 days, a (Gantt-type) bar chart showing the initial construction program in terms of the maximum construction period, for the Engineer's approval. Once approved, the Contractor shall be expected to proceed in terms of the programme.

A (6) months construction period has been allowed for the project. This contract period is based on the assumption that a reasonable percentage of the trench excavation for pipelines is being undertaken by hand only. If desired, Tenderers will be at liberty to offer an alternative period for completion in the appropriate section of the Tender and Contract Data. If no alternative period is stated therein the period for completion will be held to be 6 months.

All costs due to co-operation with other contractors during construction shall be covered by the applicable rates. No separate payment will be made for this.

Construction methods must be of such a nature that no property or life is endangered. The Employer accepts no responsibility for work that is done outside the site boundaries without the Engineer's approval.

The compilation of the construction program and any amendments thereto during the course of construction shall be at the cost of the Contractor and shall not be measured elsewhere in this contract.

### **C3.1.7 LABOUR-INTENSIVE CONSTRUCTION**

Where unskilled workers are required, the Contractor shall employ and, where necessary, train workers from the local community to execute certain labour-intensive tasks. The Employer, through a Community Liaison Officer, shall facilitate the process of identifying possible individuals to be employed by the Contractor.

Labour intensive construction must be interpreted in the broader sense as defined in the particular specifications PC and also Guidelines for the implementation of labour-intensive infrastructure projects under the Expanded Public Works Programme (EPWP) – “Labour-intensive: refers to methods of construction involving a mix of machines and labour, where labour, utilising hand tools and light plant and equipment, is preferred to the use of heavy machines, where technically and economically feasible.”

The Contractor shall prepare a proposal with regards to the identification and execution of labour-intensive tasks stating (a) the number of unskilled local labour to be employed, (b) number of labourers to be trained, type of training and (c) methods of construction. The proposal shall also indicate the names and qualifications of the individuals assigned to supervise the work. The proposal shall be submitted and approved by the Engineer prior to commencing with the relevant tasks. Once approved, the Contractor shall be expected to perform in terms of the proposed targets.

A Provisional Sum has been included in the Bill of Quantities for accredited training of labourers required for the execution of labour-intensive construction.

**HARRY GWALA DISTRICT MUNICIPALITY**

**NCAKUBANE WATER SUPPLY SCHEME PHASE 3B**

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK  
PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE,  
BOOSTER PUMP HOUSE AND REPAIRS AT WTW CONTRACT:  
HGDM/696/HGDM/2020**

**C3.2:  
ENGINEERING**



## **C3.2 ENGINEERING**

### **C3.2.1 ENGINEER'S DESIGN**

Although the Engineer has designed the Permanent Works as shown on the Drawings and has selected materials that are suitably sized for the purposes of the Employer, the Contractor shall be responsible for the detail design of all propriety materials and plant in order to ensure these are appropriately selected, specified and installed to meet the particular installation conditions on Site. This requirement shall be specifically applicable to any/all items of a mechanical nature included in the contract e.g. valves, meters, sluice gates etc.

With regards to site and pipelines, the Engineer has provided the proposed layout of the pipelines on the Drawings for tendering purposes. However, the Contractor shall be responsible for all final measurements on site, final design, correct manufacturing and installation of all pipe items and specials to suit the installation. Any/all modifications on site shall be handled in terms of the relevant Specifications for repairs to damaged corrosion protection. The Contractor shall also maintain suitable records of all such items in order for the Engineer to complete the as-built drawings at the completion of the works.

### **C3.2.2 ALTERNATIVE OFFERS**

The Contractor shall complete the tender in terms of the information provided and requested in the tender document. Failure to complete the tender document, including the bill of quantities, may lead to the rejection of the tender.

In evaluating tenders received, and in accordance with its adopted procurement policy, the Employer is required to satisfy itself as to the competitiveness and cost effectiveness of each tender received. In addition, as a public entity, the Employer is required to ensure that its procurement process is fair, equitable and transparent at all times. Accordingly, except for alternatives requested in the tender documents, any tenderer wishing to submit (an) alternative offer(s) for the consideration of the Employer shall ensure that the competitiveness and cost effectiveness of the alternative can easily be determined by the Employer. Tenders that are difficult to compare to the prescribed condition of tender and contract and/or to the specified technical requirements are likely to be rejected. Even if comparable, a tender that deviates from the specified conditions or requirements may not be acceptable to the Employer for reasons of risk apportionment or otherwise. Tenderers are therefore instructed to price the specified requirements and bill of quantities before submitting any alternative offer for the Works.

### **C3.2.3 CONSTRUCTION PERIOD**

It is estimated that the total construction period of the infrastructure will be approximately 12 months and it is a specific requirement of this Contract that the works be completed in this period.

Alternative offers for a shorter construction period may be submitted (refer to section C1.2 – Data to be provided by the Contractor), which will be considered during the tender evaluation process.

### **C3.2.4 DRAWINGS**

The following drawings have been in this document for tender purposes:

**HARRY GWALA DISTRICT MUNICIPALITY**

**NCAKUBANE WATER SUPPLY SCHEME PHASE 3B**

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK  
PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER  
PUMP HOUSE AND REPAIRS AT WTW CONTRACT:  
HGDM/696/HGDM/2020**

**C3.3:  
PROCUREMENT**

### **C3.3 PROCUREMENT**

- C3.3.1 Tenders received shall be evaluated in terms of the tender evaluation criteria described in the Tender Data, taking cognisance of the Employer's preferential procurement requirements as provided and stated eligibility criteria. Failure to meet the eligibility criteria as per the Tender Data shall result in a tender being non-responsive.
- C3.3.2 Notwithstanding other requirements of the Contract, the Contractor shall not sub-contract any part of the Contract without the prior consent of the Engineer, which consent shall not be unreasonably withheld.
- C3.3.3 Apart from work identified to be executed by means of labour-intensive methods (it is a specific requirement of the contract that at least 5% (by value) of the contract be executed by suitable local sub-contractors, which may include the work identified for labour-intensive construction. Once the Contract has been awarded, the Contractor shall nominate his preferred local sub-contractor(s), the work to be executed by this sub-contractor(s) as well as the estimated value of the sub-contract(s).
- C3.3.4 Any consent granted in terms of C3.3.2 or appointment of the sub-contractor in terms of C3.3.2 or C3.3.3 shall not imply a contract between the Employer and the sub-contractor, or a responsibility or liability on the part of the Employer to the sub-contractor and shall not imply a contract between the Engineer and the sub-contractor, or a responsibility or liability on the part of the Engineer to the sub-contractor and shall not relieve the Contractor from any liability under the Contract and he (the Contractor) shall be liable for the acts, defaults and neglects of any subcontractor, his agents or employees as fully as if they were the acts, defaults or neglects of the Contractor, his agents or employees.
- C3.3.5 Before the Engineer, in terms of Clause 6.10.1 [*Interim Payments*] of the General Conditions of Contract, issues any certificate that includes any payment in respect of work done or goods supplied by any sub-contractor in terms and Clauses 4.4 [*Subcontracting*] of the General Conditions of Contract, he shall be entitled to call upon the Contractor to furnish reasonable proof that all payments (less retention moneys) included in previous certificates in respect of the work or goods of such sub-contractors have been made or discharged by the Contractor, in default of which, unless the Contractor
- (a) Informs the Engineer in writing that he has reasonable cause for withholding or refusing such payment, and
  - (b) Submits to the Engineer reasonable proof that he has so informed such subcontractor in writing,

the Employer shall be entitled to pay directly such sub-contractor (nominated or otherwise) on the Engineer's certificate all payments (less retention moneys) the Contractor has failed to make to such sub-contractor and to deduct, by way of settlement, the amount so paid by the Employer from any moneys owing to or that may become owing to the Contractor.

Provided always that where the Engineer has certified and the Employer has paid directly as aforesaid, the Engineer shall, in issuing any further certificate in favour of the Contractor, deduct from the amount thereof the amount paid direct as aforesaid, but shall not withhold or delay the issue of the certificate when due to be issued in terms of the Contract.



## **C3.4 CONSTRUCTION**

### **C3.4.1 GENERAL CLAUSES AND REQUIREMENTS**

This section of the Contract documents should be read together with all other sections and Standardized and Particular Specifications included in the Contract documents or Standardized Specifications mentioned in the Contract documents, but separately available. The documents should be read and interpreted jointly in order to determine the full requirements of the Contract.

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

#### **C3.4.1.1 Information Required at Tender Stage**

It is a specific requirement of the tender that full information of all the equipment offered must be supplied at the time of tendering in order for the Engineer to evaluate the Tenderer's submission. In this regard, the Tenderer shall complete all tender schedules issued as part of the tender document.

#### **C3.4.1.2 Drawings**

Only figured dimensions on the Drawings may be used in the interpretation thereof, and the Drawings shall not be scaled unless the Contractor is so instructed by the Engineer in writing. The Engineer will upon written request provide any dimensions that may have been omitted from the Drawings.

Only A1 size construction drawings issued by and bearing the signature of the Engineer shall be used for construction purposes. The Engineer shall issue 3 x A1 copies of the construction drawings to the Contractor at the start of construction. Additional copies may be made by the Contractor at his expense, however, copyright of the Drawings shall remain vested with the Employer at all times.

For the portions of the Works designed by the Contractor (such as final pipe items and fittings), the latter shall furnish the Engineer with a full set of working drawings showing the exact dimensions and details of equipment to be manufactured. The drawings must be approved by the Engineer before manufacture of the equipment commences. Once satisfied, the Engineer shall approve the drawings in principle, which shall not relieve the Contractor from his responsibility to execute the Works in terms of the Specification, correctness of the drawings and final dimensions of all manufactured items.

All information in the possession of the Contractor that is required by the Engineer's Representative to complete the As-Built drawings and to prepare a completion report for the Employer, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued for the civil portion of the Works.

**C3.4.1.3 Operation and Maintenance Manuals**

The contractor shall be responsible for the compilation and submission of the operation and maintenance manual for the scheme prior to a Certificate of Completion being issued.

**C3.4.1.4 Site facilities available**

**C3.4.1.4.1 Location of site camp and depot**

The proposed position of the Contractor's camp and depot will be indicated to the Contractor at the pre-tender site visit.

**C3.4.1.4.2 Access to Site**

The Contractor may make use of the existing access road to the Site but shall be responsible to maintain and restore these roads to a similar or better condition that prevailed at the Commencement Date at his expense. If the Contractor requires additional access to and within the Site, these shall be constructed at his own expense. Proper access control shall be instituted by the Contractor to prevent any unauthorised entry to the Site and complete fencing of the Site as shown on the Drawings shall be executed during the Contractor's establishment on Site.

The Contractor shall make the necessary allowance in his tender and be responsible for access control and security on site during the construction period, including weekends, public holidays and the builder's break.

**C3.4.1.4.3 Water supply**

No potable water is available on Site and the Contractor shall be responsible under the Contract for the supply and distribution at his Cost of all water that he may require for purposes of construction, testing and commissioning of the Works. Accordingly, the Contractor shall pay all consumption charges, and at his cost provide all connections, consumption meters, pipework, storage tanks, transport and other items associated with the supply of water for construction activities. All connections to pipelines of the Employer shall be in accordance to standards approved by the Employer and the Engineer.

**C3.4.1.4.4** Power supply

There is electricity in the Fobane Administrative Area, however it cannot be assumed that electricity supply will be available during the construction period. The Contractor shall be responsible for the supply and distribution of power at his cost of all electricity that he may require for the purposes of construction the Works.

The distribution of electricity shall be in accordance with the applicable bylaws and regulations of the Municipality and electrical consumption shall be billed to the Contractor.

Accordingly, the Contractor shall pay all consumption charges, and at his Cost provide all connections, transformers, consumption meters, cables, distribution boards and other items that are associated with the supply of electricity for construction of the Works.

**C3.4.1.4.5** Sanitation

The Contractor shall provide the necessary ablution facilities for his camp and depot. Pit latrines shall not be allowed, and the Contractor shall install a conservancy tank, which will be removed once construction has been completed.

**C3.4.1.4.6** Housing for Contractor's Employees

No housing is available for the Contractor's employees, and the Contractor shall make his own arrangements for housing his employees or transporting them to and from the Site. The Contractor is in all respects responsible for the housing and transporting of his employees, and for the arrangement thereof, and no extension of time due to delays resulting from this will be granted.

**C3.4.1.5** **Existing Services and Structures**

The position and details of all existing services and structures known to the Engineer are shown on the Drawings. Although the Engineer has endeavoured to indicate the position of the services and structures as accurately as possible, it will remain the responsibility of the Contractor to prove the exact position of all services impacted by construction activities prior to commencing with such activity.

Any/all services and structures damaged during the construction period due to construction activities shall be repaired by the Contractor as soon as practically possible at the Contractor's expense. In emergency situations, the Employer or its mandated agent may undertake critical repairs at the cost of the Contractor should this be deemed necessary.



#### **C3.4.1.6 Blasting activities**

Should blasting be required, the activity shall be planned and executed by a suitably-qualified professional and all steps taken to prevent any damage to existing structures, services and the general public. A detailed method statement and risk assessment shall be prepared and approved by the Engineer prior to each blasting event. All relevant occupational health and safety regulations shall strictly be observed and applied.

#### **C3.4.1.7 Fire-risk**

The Contractor shall be responsible to safeguard the plant and areas adjacent to the Contractor's camp against fire caused in any way by the construction activities on Site. The Contractor shall be responsible for any damage or loss suffered in this regard.

#### **C3.4.1.8 Potential Material Sources and Dump Sites**

All naturally-occurring excess material produced during construction activities and all building rubble and concrete debris shall be spoiled at the nearest landfill facility, the position of which shall be determined by the Contractor.

The Engineer has not designated any material source or disposal site for the purpose of the Contract. Instead, the Contractor shall be responsible for all investigations and negotiations in respect of imported naturally occurring and/or modified materials required for the construction of the Works. In addition, the Contractor shall bear all responsibility for investigations and negotiations associated with the disposal of surplus materials off the Site, either obtained from the demolition of any existing structure, or surplus or rejected for incorporation into the Permanent Works. The Contractor shall investigate, negotiate and obtain the approval of all applicable authorities and land owners in this regard and he shall report to the Engineer in respect thereof before the applicable construction works may commence on Site.

#### **C3.4.1.9 Conditions of employment**

In accordance with the Conditions of Contract the Contractor shall be responsible to engage all staff and labour, local (including CLO's) or otherwise, collectively the Contractor's Personnel, and for their payment, housing, feeding and transport. A contract of employment or subcontract shall be signed between the Contractor and each of his employees or sub-contractors as the case may be. Likewise, contracts of employment must be entered into between each such sub-contractor and each of the specific subcontractor's employees. Although the Contractor shall adhere to the minimum wage rates described below, he is at liberty to negotiate additional incentive payments based on performance.

Contracts of employment or sub-contracts should provide for the following basic conditions:

- (a) The minimum wage payable will be determined in terms of applicable legislation and shall, as a minimum, adhere to section 56(1) of the Basic Conditions of Employment Act (Act 75 of 1997), Sectoral Determination 2: Civil Engineering Sector dated 27 August 2010 (or subsequent revision hereof applicable at the time of tendering) as published periodically by the Department of Labour.

- (b) The Contractor shall adhere to the provisions for payment method and intervals, overtime and pay for work on Sundays and public holidays (if required) in the Basic Conditions of Employment Act (Act 75 of 1997).
- (c) The Contractor shall register all labourers employed on the Contract with the Workmen's Compensation Commissioner and the Unemployment Insurance Fund, as applicable. The Contractor shall obtain the Unemployment Insurance Fund and Workmen's Compensation registration cards.
- (d) Workers shall be entitled to one (1) day sick leave with full pay per month worked. This will accumulate if the leave is not used.
- (e) Annual leave shall be calculated as published in terms of section 56(1) of the Basic Conditions of Employment Act (Act 75 of 1997), Sectoral Determination 2: Civil Engineering Sector dated 27 August 2010 (or subsequent revision hereof applicable at the time of tendering) as published periodically by the Department of Labour.
- (f) Upon termination of the Contract, each locally employed labourer shall be entitled to receive his/her Unemployment Insurance Fund and the Workmen's Compensation registration cards as well as a Certificate of Employment from the Contractor clearly stating the following:
  - i) The type of work done.
  - ii) The duration of employment.
  - iii) The number of days absent from work.
  - iv) The Contractor's general impression of the quality of work done.
- (g) The Occupational Health and Safety Act must be adhered to with reference to the safety of all employees employed by the Contractor. Suitable safety equipment and clothing shall be issued and maintained by the Contractor for the duration of construction.
- (h) Should any of the above conditions be less favourable than any bargaining council agreement or Act applicable to the Contractor, the more favourable condition shall apply.

#### **C3.4.1.10 Training**

Where insufficient skills are available within targeted areas and groupings via the local content forum and associated labour desk(s) established by the Contractor, or from local sub-contractors, the Contractor shall be responsible to train local labour in specific trades or other skills for direct employment on the Works or as local sub-contractors. Such training shall be carried out either by external training experts, or in-house by the Contractor utilising the services of approved skilled key-personnel or artisans in his employ. All training provided shall be consistent with standards approved at industry level, certified by accredited training organisations and bodies.

A provisional sum has been included in the Contract to execute such training.

#### **C3.4.1.11 Quality Control**

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and the Drawings rests solely with the Contractor, and the Contractor shall, at his own expense and implement a quality assurance system to demonstrate compliance with the requirements of the Contract and provide experienced engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the quality of the Works at all stages of the Contract. The cost of the Contractor's supervision and process control, including all testing carried out by the Contractor, will be deemed to be included in the rates tendered. The Engineer shall be entitled to audit any aspect of the system.

Details of all procedures and compliance documents shall be submitted to the Engineer for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval of the Contractor himself shall be apparent on the document itself.

Within two weeks after the Commencement Date, and before commencement of manufacturing of any Plant and Materials, the Contractor shall submit a comprehensive proposal for a quality assurance (QA) plan to the Engineer for consideration. The Engineer will then issue his requirements for quality control (QC) which will be based on the Contractor's proposals, provided these are adequate.

Workshop-type drawings shall be prepared for all pipe items and specials for the Engineer's approval (in principle) prior to commencing with manufacturing. A specialist shall be appointed by the Engineer to conduct any/all factory-acceptance tests required in terms of the contractor's quality assurance plan or as required in terms of the Contract.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

#### **C3.4.1.12 Survey control and setting out**

The Engineer has established permanent survey beacons on the Site of the Works, as shown on the Drawings. The Contractor should use these survey beacons to set out the Works. The co-ordinates of the permanent survey beacons are also shown on the Drawings. The Contractor shall take special care to preserve these beacons for the duration of construction and shall be responsible to re-establish any/all beacons damaged or disturbed during construction at his expense.

#### **C3.4.1.13 Contractor's Representative and Superintendence**

The Contractor shall employ suitably-qualified representatives to oversee construction activities. CV's of the contractor's proposed Contract's Manager and Site Agent shall be submitted to the Engineer within one (1) week of the Commencement Date and shall be approved in writing by the Engineer prior to commencing with any site establishment. Any change in the contractor's key supervisory personnel shall be communicated timeously to the Engineer in writing.

Once the above personnel have been approved, the Contractor shall submit to the Employer and Engineer a list of addresses and telephone numbers of his Representative who may be contacted both during and outside normal working hours in connection with the Works. The Contractor shall also refer to Sub-Clauses 4.12 of the Conditions of Contract.

#### **C3.4.1.14 Site meetings**

The Engineer will conduct monthly site meetings as a minimum, prepare and circulate minutes, as determined by him in consultation with the Employer. The Contractor shall attend these meetings and shall ensure that when necessary, all required sub-contractors are represented. The Contractor shall submit monthly progress reports as required in terms of the Employer's reporting systems.

#### **C3.4.2 STANDARD SPECIFICATIONS**

The applicable "Standard Specifications" shall be the document "Standardized Specifications for Civil Engineering Construction, Series 1200-1986", issued by the South African Bureau of Standards.

Tenderers, Contractors and Subcontractors shall obtain their own copies of this document for tendering purposes and for use for the duration of the Contract from the SABS (SANS) and shall bear all expenses in this regard.

### **C3.4.3 VARIATIONS AND ADDITIONS TO THE STANDARD AND PARTICULAR SPECIFICATIONS**

The Standardized Specifications do not cover all the different types of work included in the Contract. The general requirements for portions of the Works not covered by the Standard Specifications are described in the Particular Specifications under section C3.4.4.

The Clauses under section C3.4.3 (referred to as Project Specifications) are numbered "PS" and refers to the clauses in the Standard or Particular Specifications. New clauses not covered by clauses in the Standard or Particular Specifications, if included here, are also designated "PS" followed by a number.

The various documents listed under sections C3.4.2, C3.4.3 and C3.4.4 shall be treated as mutually explanatory. However, should any requirement of section C3.4.3 conflict with any requirement of the Standard Specification or with any requirement of the Particular Specifications, then the requirement of section C3.4.3 shall prevail.

<b>Index to Project Specifications:</b>		<b>Page Nr</b>
PSA	General	C3.4.9
PSAB	Engineer's Office	C3.4.17
PSC	Site Clearance	C3.4.21
PSD	Earthworks	C3.4.22
PSDB	Earthworks (Pipe Trenches)	C3.4.32
PSDK	Gabions and Pitching	C3.4.34
PSDM	Earthworks (Roads, Subgrade)	C3.4.35
PSG	Concrete (Structural)	C3.4.41
PSHA	Structural Steelwork (Small Works)	C3.4.59
PSME	Sub-base	C3.4.60
PSMF	Base	C3.4.62
PSMK	Kerbing and Channelling	C3.4.65
PSLB	Bedding (Pipes)	C3.4.67

In addition, the following Particular Specifications that are bound into this document shall apply:

#### **COMMUNITY LIAISON OFFICER (CLO)**

*The Contractor shall make allowance for the employment of a CLO in accordance with the following terms of reference (TOR).*

#### *Terms of Reference of the CLO*

*The Community Liaison Officer (CLO) will be responsible to the Project Steering Committee (PSC), who will be involved in the appointment of the CLO. The CLO should be the person with a good standing and respect in the local community and would be selected according to the set criteria by the interviewing panel consisting of Local and District Municipality, ISD Consultant, PSC, Ward Councillor and selected local leadership.*

*The CLO is appointed for the period of physical construction, plus a period of 14 days prior to this period. The period will include times where small team works are busy in the area e.g. chambers, standpipes and reservoirs. The period will end when no further work is required.*

*The contractor will provide office space and stationery for the CLO to carry out his / her duties.*

*Remuneration for the CLO will be R3000 per month for the period of employment. Where the CLO is engaged for part of the month, they shall be paid an equivalent daily amount. The unit for measurement shall be the man-month of CLO employment. A CLO who fails in their responsibilities may be replaced in consultation with the PSC and ISD consultants.*

*The CLO will liaise with the following people in performing these activities: -*

*Contractor:*

- *Organise and assist the contractor in explaining to all workers the labour-based construction model.*
- *Ensure labourers understand their task and the principles behind task work.*
- *Ensure labourers are informed of their conditions of temporal employment.*
- *Attend all site meetings and briefing for work procedures.*
- *Keep written record of interviews and community liaison which should be summarised and included in the monthly progress reports.*
- *Collect monthly welfare reports and submit to social facilitators.*
- *Ensure that contractor's workers are paid what is due to them and in time.*
- *Assist in the recruitment of labour.*
- *Promote and maintain sound relations with community stakeholders and other role players.*
- *Screen the supplied labour by the community through Project Steering Committees to ensure compliance with the agreed upon recruitment policy and the government's labour employment targets.*
- *Inform local labour about their conditions of temporary employment, to ensure their timeous availability and inform them timeously when they would be relieved, where the rotation of labour is applicable.*
- *Keep the labour register of labour and manage records of project local labourers and be able to provide reports on employment statistics.*
- *Consult on all decisions regarding local problems and any matters of importance that, in any way will be of relevance to the Contract.*
- *To be on site on a daily basis.*
- *To register concerns / perceptions and raise them in the PSC meetings.*
- *Attend site and PSC meetings to present monthly report on the local community labour involvement and site matters.*
- *Identify possible labour dispute and any disciplinary matter and advise the site agent / foreman and assist in the resolution, where necessary must call for the assistance of the Social Consultant for the resolution of the conflicts.*
- *Assist the contractor in preparing records of project employees. Assist the contractor in making task measurements and the records thereof.*
- *Monitor the production of individual task workers and arrange replacement of those workers who fail to produce a reasonable task output.*
- *Attend disciplinary proceedings to ensure that hearings are fair and reasonable.*
- *Communicate daily with the contractor to determine additional labour requirements with regard to numbers and skills and pass this to the PSC.*
- *Attend weekly meetings with the contractor and make a weekly written report which shall be a prerequisite to being paid.*

*Social Facilitators:*

- *Assist in convening of workshops.*
- *Disseminate information to PSC members.*
- *Articulate implementing agency policies to PSC members.*
- *Communicate labour requirements.*
- *Attend induction training programmes for workers and induct labourers.*
- *Submit monthly welfare reports to the social facilitator's PSC.*
- *Communicate labour and skills requirements to the PSC.*
- *Assist in the recruitment and engagement of work force.*
- *Verify labour records and ensure all engaged qualify as per Special Public Works Programmes (e.g. EPWP) Code.*
- *Investigate and report all labour dispute matters to the PSC, advise site agent on resolution.*

**PSA      GENERAL**

**PSA1      QUALITY (Clause 3.1)**

All material used in the Works shall, where such mark has been awarded for a specific type of material, bear the SABS mark. Alternatively, the Contractor shall furnish the Engineer with certificates of compliance of materials, which bear the official mark of the appropriate standard.

**PSA2      CONTRACTOR'S OFFICES, STORES AND SERVICES (Clause 4.2)**

**PSA2.1      Contractor's Camp**

The Contractor's camp shall be kept clean at all times during construction and conform to the requirements and regulations of the Employer, authorities and the applicable Environmental Management Plan.

The Contractor must fence off his construction camp area with 1.8m high diamond mesh fence. The inside of each camp area shall be screened off from the public by 1.8m high green shade cloth neatly tied to the inside of the fence. All temporary fencing must be removed on completion of the Contract.

The camp may be used for the working hours activities of the Contractor's and the Employer's personnel and for all related facilities required by the Contractor and the Employer such as workshops, stores, testing laboratories, etc. The Contractor's personnel, including bona fide night watchmen, may only sleep within the camp should the Contractor:

- take all the necessary steps required to comply fully with public legislation and regulations and all specification clauses governing the environment, health, transport, safety and public disturbance impacts of such on-site accommodation;
- acquire the written permission of the Employer and relevant authority and comply with their requirements.

Should at any stage of the Contract the Employer and/or the Engineer is of the opinion that the housing of personnel within the camp site of the Contractor is causing disturbance or inconvenience to the nearby residents, then the authority granted by this clause for the Contractor to house personnel on site may be withdrawn, either partially or entirely.

The Contractor shall at all times conform to all requirements contained in law or bylaws, as well as any other requirements set by the controlling local authority.

The Contractor shall water all access roads to the construction camp, as well as working areas used by vehicles inside the camps, twice daily including weekends as required or as may be directed by the Engineer, to prevent dust being churned up by vehicles or wind.

At the completion of the construction work, the Contractor must break down and remove all concrete slabs, etc. in the construction camps and at the batching plant (if applicable), remove all rubble from the camp site and hand back the sites in a clean and tidy condition.

No Certificate of Completion shall be issued for the Works unless the site clearing is done to the satisfaction of the Engineer.



**PSA2.2 Source of Water Supply**

The Contractor shall be responsible under the Contract for the supply and distribution at his cost of all water that he may require for purposes of constructing, testing and commissioning the Works.

Accordingly, the Contractor shall pay all consumption charges, and at his cost provide all connections, consumption meters, pipework, storage tanks, transport and other items associated with the supply of water for the Works. All connections to pipelines of a municipality (or its provider) shall be at points and to standards approved by the Engineer and that municipality or designated provider.

**PSA2.3 Source of Power Supply**

The Contractor shall be responsible under the Contract for the supply and distribution at his cost of all electricity that he may require for purposes of constructing the Works. Accordingly, the Contractor shall pay all consumption charges, and at his cost to provide all connections, transformers, consumption meters, cables, distribution boards and other items that are associated with the supply of electricity for construction of the Works.

Although an application has been lodged with Eskom for the provision of bulk electricity to the Site, the Contractor shall assume that no electricity is available on Site for tendering and construction purposes and shall make the necessary arrangement to provide alternative electrical supply as required.

The Contractor shall, subject to the approval of the Engineer, make any necessary arrangements with the relevant authority for the requisite connection(s). The distribution of electricity shall be in accordance with the applicable bylaws and regulations of the supply authority.

**PSA2.4 Sanitary facilities**

Ablution facilities shall be kept hygienic at all times. In addition, the Contractor shall at all times during construction of the Works provide adequate sanitary facilities on.

**PSA2.5 Housing**

The Contractor will not be permitted to house any personnel within his camp site unless the Employer approves a written request to this end by the Contractor.

### **PSA3 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES**

#### **PSA3.1 Existing Services and Structures (Sub-Clause 5.4)**

The position and details of all existing services and structures known to the Engineer are shown on the Drawings as Site Data. The Drawings show the best information available to the Employer at time of tender. The Employer takes no responsibility as to the accuracy or completeness of this information and has provided this information merely as an aid to the tenderers in preparing their Tenders for construction of the Works.

The Contractor shall protect all known existing services as well as all work being carried out and structures being erected on the Site by other contractors or public authorities. The Contractor must familiarize himself with the various standard regulations of the relevant public authorities and act accordingly. Any damage caused to these services or structures, or any obstructions or hindrance caused to other contractors or public authorities by the Contractor and all claims arising from such damage, obstruction or hindrance shall be the sole responsibility of the Contractor.

All repair work shall be carried out at the Contractor's expense to the entire satisfaction of the Engineer or the appropriate public authority. The same obligations shall be imposed on the Employer and on other contractors employed by the Employer in respect of the Works being executed under this Contract.

The Contractor shall conduct the necessary search for unknown services as required by the Standard Specifications. After searching, all services shall be deemed as known. The Contractors' cost of searching for existing services and accommodating all existing services and relocating all services shall be priced into the appropriate items forming part of the Contract.

#### **PSA4 TESTING (Clause 7)**

**PSA4.1** All test results obtained by the Contractor in the course of his process control of the Works shall be submitted to the Engineer or his Representative prior to requesting inspection of the relevant portions of the Works. Any request for inspection shall be submitted on the prescribed forms that will be issued once the Contract has been awarded.

**PSA4.2** The Contractor shall make suitable arrangements for process control prior to commencement with the Works. Should he intend using site personnel for this purpose he shall ensure that suitably trained and competent personnel take charge of the necessary test work, and that the necessary equipment is at their disposal prior to commencement of the Works. Failure to comply with these requirements shall be just cause for the Engineer to order suspension of the Works without additional remuneration, or for him to recommend termination to the Employer in terms of the Conditions of Contract.

**PSA4.3** The Contractor shall deliver to the Engineer, for his consideration, quality assurance programmes (as obtained from all the Contractor's proposed suppliers of pipes, valves and specials) prior to the Contractor's appointment of any suppliers.

**PSA5 SUMS STATED PROVISIONALLY (Clause 8.5)**

**PSA5.1 Contingencies**

A Provisional allowance shall be included in the Summary of Schedules for contingencies. No percentage mark up will be applicable to any payments made using contingency money other than the mark-up included in prices for variations determined in terms of the Conditions of Contract. The value of the Provisional Sum shall be based on the percentage of the sub-total value as specified in the Summary of Schedules.

**PSA5.2 Contract Price Adjustment**

A Provisional allowance shall be included for Contract Price Adjustment in the Summary of Schedules to make provision for contract price adjustment in terms of the Conditions of Contract. The value of the Provisional Sum shall be based on the percentage of the subtotal value as specified in the Summary of Schedules. No percentage mark-up will be applicable to any payments made in this regard.

**PSA5.3 Salary for Labour Desk Officer and Community Liaison Officer**

Remuneration for the CLO will be R3000 per month for the period of employment. Where the CLO is engaged for part of the month, they shall be paid an equivalent daily amount. The unit for measurement shall be the man-month of CLO employment.

A CLO who fails in their responsibilities may be replaced in consultation with the PSC and ISD consultants.

**PSA5.4 Artisans and Skills Training**

A Provisional Sum has been included in Schedule 2 for payments to be made to specialists for the training of unskilled or semi-skilled persons in industry accredited management and generic skills. An allowance has also been made for wages and salaries of such labourers under a separate payment item. Payment to the Contractor will be based on invoices certified by the Engineer and issued by training specialists to the Contractor for work undertaken in terms of this item.

In addition to the above amount, provision is made in Schedule 2 for a mark-up on any payments made by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract and shall be 7.5% for the purpose of this Contract.

**PSA5.5 Telephone Calls and Rental**

A Provisional Sum has been included in Schedule 2 for telephone calls (cellular only) of the Engineer's Representative for the duration of the Contract. The Engineer's Representative will provide his own cellular telephone for the Contract. Payment for cellular calls will be based on call and rental costs.

In addition to the above amount, provision is made in Schedule 2 for a mark-up on any payments made by the Contractor. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract and shall be 7.5% for the purpose of this Contract.

**PSA5.6 Acceptance Control Testing**

A Provisional Sum has been included in Schedule 2 for acceptance control testing ordered by the Engineer to be undertaken by a commercial laboratory. Payment will be based on the actual invoicing by the laboratory to the Contractor.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on any payments made by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract and shall be 7.5% for the purpose of this Contract.

**PSA5.7 Office Consumables for Engineer's Site Facility**

A Provisional Sum has been included in Schedule 2 for the supply of office consumables for Engineer's site facility.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract and shall be 7.5% for the purpose of this Contract.

**PSA5.8 Electronic Equipment for Engineer's Site Facility**

A Provisional Sum has been included in Schedule 2 for the supply of office equipment for Engineer's site facility.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract and shall be 7.5% for the purpose of this Contract.

### **PSA5.9 Specialized Services**

A Provisional Sum has been included in Schedule 2 for the appointment and payment for specialized services if and when required. These may include all work required by the following specialists:

- Environmental compliance monitoring by the ECO
- Acceptance control testing of pipework, coatings and linings
- Health and Safety compliance monitoring

In addition to the above-mentioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract and shall be 7.5% for the purpose of this Contract.

### **PSA5.10 Accommodation for the Resident Engineer**

A Provisional Sum has been included in Schedule 2 for the provision of accommodation for the Resident Engineer for the duration of the Contract.

In addition to the above-mentioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract and shall be 7.5% for the purpose of this Contract.

### **PSA6 PRIME COST ITEMS (Clause 8.6)**

#### **PSA6.1 Materials for Dayworks**

A Provisional Sum has been included in Schedule 2 for materials to be used during the execution of dayworks. In addition to the above-mentioned amount, provision is made in Schedule 2 for a mark-up on the materials used during the execution of the dayworks by the Contractor, which shall be 15% for the purpose of this Contract. Payment made shall be regarded as full compensation for overheads, charges and profit on the materials that are used when executing dayworks.

*Add the following new clauses to section 8 – Measurement and Payment:*

#### **PSA8.3.5 Compliance with Occupational Health and Safety Act and its Regulations and with the Employer's Health and Safety Specification included under section C3.5.1 (Unit: Sum)**

The fixed charge item shall include, but shall not be limited to, the following:

- Provision of Health and Safety Plan
- Provision of Health and Safety File
- Health and Safety Training
- Personal Protective Clothing and Equipment

- Fences, Signs and Barricades
- Establishment of Safety Administration
- Baseline Medicals for all employees, working at the site of the Treatment Works, including:
  - Hepatitis A & B injections
  - Typhoid
  - Polio combined with tetanus
  - Lung function tests.
- Other Health and Safety Fixed-charge Obligations

**PSA8.3.6 Compliance with the Environmental Management Plan during the construction phase as specified under section C3.5.2 (Unit: Sum)**

The fixed charge item shall cover all initial costs deemed necessary to achieve compliance with the Environmental Management Plan (EMP).

**PSA8.4.6 Compliance with Occupational Health and Safety Act and its Regulations and with the Employer's Health and Safety Specification included under section C3.5.1 (Unit: Month)**

The time related item shall include, but shall not be limited to, the following:

- The employment cost of all health and safety personnel including consultants, health and safety officers, inspectors, supervisors and issuers required in terms of the Contractor's Health and Safety Plan,
- Updating the Health and Safety Plan as needed,
- Carrying out of periodic own audits and follow-up audits,
- Compiling on going risk assessments and risk assessment reports as required by the Works,
- Convening of regular safety meetings with the Safety Representatives,
- Accompanying and supporting the Employer or his Safety Agent during ad hoc audits,
- Compilation of monthly safety reports and statistics for the Employer or his Safety Agent,
- Implementation and maintenance of Training
- Maintenance of personal protective clothing and equipment
- Maintenance of fences, signs and barricades
- Implementation and maintenance of safety administration
- Other Health and Safety Time-related Obligations

**PSA8.4.7 Compliance with the Environmental Management Plan during the construction phase as specified under section C3.5.2 (Unit: Month)**

The time related item shall cover all costs deemed necessary to achieve compliance with the Environmental Management Plan (EMP) during the construction stage.

**PSA8.4.8 Miscellaneous**

The Contractor to specify and price any/all permanent and/or temporary works not measured under schedules 1 to 8 for the complete execution of the Contract in terms of the Conditions of Contract and Scope of Works.

**PSAB ENGINEER'S OFFICE**

**PSAB1 NAME BOARDS (Clause 3.1)**

The Contractor shall supply and erect one (1) name board in accordance with the details shown on the Drawings and in positions instructed by the Engineer.

Substitute "South African Institute of Civil Engineers" in the first paragraph of AB3.1 with "South African Association of Consulting Engineers".

**PSAB2 OFFICE BUILDING (Clause 3.2)**

**PSAB2.1 General requirements**

(a) Resident Engineer's and assistant's office

The Contractor shall provide two (2) furnished offices for the Resident Engineer and an assistant and shall properly maintain these facilities for the duration of the Contract. The facilities shall be provided according to the Standard Specifications and as amended below.

The offices shall have the floor area of at least 15 m<sup>2</sup> each and a ceiling height of at least 2,5m. The offices shall be weatherproof with wooden boarded floors that are at least 150mm above the ground, and shall be provided with ceilings, a door with a secure lock, and with opening windows of glazed area at least 40% of the floor area. Offices shall be well ventilated and shall be insulated as to provide comfortable working conditions.

The internal finishing of each office shall include the following:

- a desk with a top of size at least 1,5m x 0.9m and at least two lockable drawers;
- a lockable upright steel cabinet with three shelves;
- a steel filing cabinet with four drawers;
- racks for hanging construction drawings;
- a wash hand basin with towel rack and soap dish;
- an acceptable model air conditioner, capable of maintaining the room temperature between 18°C and 22°C,
- suitable electrical lighting (fluorescent type);
- one high stool;
- two 15 amp plug points with earth leakage;
- one drawing table, 3m long x 1m wide x 0.9m wide, with a smooth top and draftsman stool;
- two chairs;
- an acceptable blind on each window

A provisional sum has been included in schedule 2 for the Contractor to provide all electrical equipment required by the office staff as well as all consumables required for facilities and equipment. The Contractor shall be responsible to provide and maintain an adequate wireless internet connection for the Engineer's office.

All offices, facilities and equipment shall be new and be furnished, serviced, cleaned and maintained by the Contractor. The Contractor shall provide a full-time assistant for cleaning the offices and car wash. The Contractor shall provide a full-time guard service and ablution facilities for the office complex.

The Contractor shall be responsible for all running costs and costs for other services, including telecommunication, electricity, water, etc. to operate and maintain the offices efficiently. The Contractor shall be responsible for all cellular cost by the Engineer's staff. A provisional sum is included in the Contract for this item under schedule 2.

The Contractor will be responsible for the maintenance and insurance of the equipment, which shall become the property of the Contractor upon the issue of the Certificate of Completion.

(b) Conference Room

The Contractor shall provide a conference room for the joint use of the Contractor's and the Employer's Personnel. The conference room shall be available to the Engineer for all meetings convened by the Engineer with the Contractor and with the Employer, and on a reasonable basis for the Engineer for meetings with his construction monitoring staff. The Contractor shall properly maintain the conference facility for the duration of the Contract.

The conference room shall be provided in accordance with the Standard Specifications and shall have a floor area of at least 30 m<sup>2</sup> and a ceiling height of 2,5m or greater. The room shall be weatherproof with wooden boarded floors that are at least 150mm above the ground, and shall be provided with ceilings, a door with a secure lock, and with opening windows of glazed area at least 40% of the floor area. Offices shall be well ventilated and shall be insulated as to provide comfortable working conditions.

The internal finishing of the conference room shall include the following:

- a 12-seat conference table;
- 12 conference table chairs;
- a serving table with top size 1,5m x 0,9m;
- facilities to hang 4 x A1 drawings against the conference room walls;
- (an) acceptable model air conditioner(s), capable of maintaining the room temperature between 18°C and 22°C;
- suitable electrical lighting (fluorescent type);
- three 15 amp plug points with earth leakage;
- suitable blinds on each window.

(c) Kitchenette

The Contractor shall provide and properly maintain a kitchenette for the Engineer for the duration of the Contract.



The kitchenette shall have a floor area of 5 m<sup>2</sup> and generally be constructed in accordance with the standards specified for offices.

(d) Office equipment

The Contractor shall provide the following computing, printing and copying equipment for the exclusive use of the Engineer and his staff and shall provide all maintenance and consumables for this equipment for the duration of the Contract. Payment for these items shall be made under a Provisional Sum and all equipment shall become the property of the Employer at the completion of the Contract.

- Two new notebooks equipped with standard 2010 Microsoft Office; The notebook shall be of type Core 2 Duo T6670, 2.2 GHz, 3 GB RAM, 320GB/5400rpm, DVD±RW DL, 15.6" Screen, Ethernet Giga, 7-in-1 (MMC/MS/MS Pro/SD/SDHC/XD/XD Type H), Express Card, 3G ENABLED, Win 7 PRO
- One HP A4 LaserJet printer linked to both notebooks;
- One A4 300 dpi scanner linked to both notebooks;
- One plain paper photocopy machine minimum 12 pages per minute;
- One new digital camera;
- Kettle, microwave, fridge and basic crockery and cutlery for 10 persons for kitchenette.
- Wireless internet connection

(e) Carports

The Contractor shall provide and maintain three (3) carports with waterproof roofing for the exclusive use of the Employer, Engineer and his staff for the duration of the Contract. The floor shall consist of crushed aggregate to alleviate dusty and muddy conditions. Carports should be erected adjacent to the office complex of the Engineer.

(f) Ablution units

The Contractor shall provide two separate toilets for ladies and gents for the exclusive use of the Employer, Engineer and his staff. The Contractor shall provide cleaning materials and toilet paper and maintain the ablutions for the duration of the Contract.

## **PSAB2.2 Laboratory Equipment**

The Engineer only requires the laboratory facilities and equipment that are listed below. At the request of the Engineer, the Contractor shall arrange separately with an independent commercial laboratory and/or designated specialists to carry out additional acceptance control tests, over and above the normal quality control testing required for the construction of the Works. A provisional sum is included in the contract for the additional control tests ordered by the Engineer. The Contractor shall remain responsible to carry out the process control testing required by the Standardized, Particular and Project Specifications.

The Contractor shall supply and maintain the following acceptance control equipment for use by the Engineer during the Contract:

- 1 Troxler nuclear system Model 3440, complete with accessories and stored in a suitable transit case as supplied by the manufacturer. A detailed description of the unit and principals of operation shall be included in the manual for the nuclear instrument. Calibration test certificates shall be provided for each instrument.
- Six concrete cube moulds, 150mm nominal size.

**PSAB3 SURVEY EQUIPMENT (Clause 5.5)**

The survey equipment listed below shall be made available and be maintained in good condition for the exclusive use of the Engineer or his Representative for the duration of the Contract. Payment will be made as provided for in the Time Related Items included in Schedule 1.

- |   |       |
|---|-------|
| (a) Automatic surveyor's level complete with tripod and leather carry case such as Zeiss N1-2 or equivalent                     | 1 No  |
| (b) 20-second tachometer with optical plumbob complete with tripod and leather carry case such as Sokkisha TM20C or equivalent. | 1 No. |
| (c) Nylon-coated steel surveyor's tape 100m long and 10mm wide  | 1 No. |
| (d) 5m long steel tape  | 1 No. |
| (e) 5m long three-piece telescopic survey staves (metric double-face) complete with angle bracket level                         | 1 No  |
| (f) Survey books: Level   | 2 No. |
| (g) One metre long spirit level   | 1 No. |

**PSC SITE CLEARANCE**

**PSC1 DISPOSAL OF MATERIAL (Sub-Clauses 3.1 and 8.2.1)**

Materials arising from clearing and grubbing shall be disposed of at a suitable spoil site. The Contractor shall be responsible to make his own arrangements for a suitable spoil site and all transport costs shall be included in the rates tendered for site clearance. Trees and stumps necessarily removed shall not be burnt unless authorized by the Engineer but shall be cut and stacked at areas designated by the Engineer.

**PSC2 CUTTING OF TREES (Sub-Clause 5.2.3.2)**

*Replace the last sentence with the following:*

"An amount of R 1,000 will be deducted from moneys due to the Contractor as a penalty for every tree that is damaged or removed unnecessarily."

**PSC3 MEASUREMENT AND PAYMENT (Sub-Clause 8.2.1)**

*Replace the first line with the following:*

"The area designated by the Engineer to be cleared and grubbed will be measured in square meter to the nearest square meter or,"

**PSD EARTHWORKS**

**PSD1 INTERPRETATION (Sub-Clause 2.1)**

*Replace sub-clause 2.1 with the following:*

"Any of the other SABS/SANS 1200 specifications may form part of the Contract documents."

**PSD2 DEFINITIONS (Sub-Clause 2.3)**

*Replace the word and the definition for "borrow" with the following:*

**"Borrow material:** Material, other than material obtained from excavations required for the works, obtained from commercial sources or existing borrow pits. 'Borrow' shall have a corresponding meaning."

*Replace the definition for "Specified density" with the following:*

**"Specified density:** The specified dry density expressed as a percentage of modified AASHTO dry density."

*Replace the definition for "Stockpile" with the following:*

**"Stockpile (verb):** The process of selecting and, when necessary, loading, transporting and off-loading material in a designated area for later use for a specific purpose"

*Add the following definitions:*

**"Commercial source:** A source of material provided by the Contractor, not the Employer.

**Fill:** An embankment or terrace constructed of material obtained from excavations or borrow pits. In roads it includes the earthworks up to the underside of the selected subgrade level.

**Fill (material):** Material used for the construction of an embankment or terrace

**Roadbed:** The natural in situ material on which the fill or, in the absence of fill, the pavement layers are constructed"

**PSD3 CLASSIFICATION FOR EXCAVATION PURPOSES (Clause 3.1.2)**

Delete clause 3.1.2 (a) and clause 3.1.2 (b) and replace with the following:

3.1.2 (a) Soft excavation:

"All material that is not classified as hard rock excavation in terms of clause 3.1.2 (c), boulder excavation class A in terms of clause 3.1.2 (d) or boulder excavation class B in terms of clause 3.1.2 (e) shall be classified as soft excavation"

In clause 3.1.2 (c) (1), replace the words "equivalent to that specified in (b) (1) above" with the words "of mass approximately 35 t, fitted with a single-tine ripper suitable for heavy ripping and of fly wheel power approximately 220 kW."

In the last sentence of clause 3.1.2 (d), replace the words "intermediate excavation" with the words "soft excavation."

In the last sentence of clause 3.1.2 (e) (2), replace the words "or intermediate excavations, according to the nature of the material" with the word "excavation."

**PSD4 SELECTION**

*Add the following new sub-Clause 3.3.3*

"Approval of a borrow area for a certain purpose does not necessarily mean that all the material in that area is suitable for the specified purpose. What it does mean is that the borrow area contains some suitable material. The onus shall rest on the Contractor to ensure that only material that is indeed suitable is removed and used for the specified purpose.

When the Contractor has to select excavated material for a specific purpose, the above provisions relating to borrow areas shall apply *mutatis mutandis* to excavations.

The Contractor shall not waste or contaminate material that has been selected for a specific purpose."

**PSD5 PLANT (Sub-Clause 4.4)**

*Replace the contents of sub-Clause 4.4 with the following:*

"The Contractor shall, for the purposes of detecting and locating underground services in accordance with the provisions of sub-clause 5.4 of SABS 1200 A and sub-clause 5.1.2 of SABS 1200 D, at his own cost, provide and use detecting equipment which is suitable for the detection of underground cables and pipes."

**PSD6 CONSTRUCTION - PRECAUTIONS**

**PSD6.1 Safeguarding of Excavations (Sub-Clause 5.1.1.2)**

Any cost the Contractor may undergo in ensuring the safety of excavations or any additional excavation and backfilling he may have to undertake due to the unstable sides of excavations and trenches shall be held to his account and the various rates for excavation and trenching included in the Schedule of Quantities shall include full compensation therefore.

**PSD6.2 Explosives (Sub-Clause 5.1.1.3)**

*Replace the contents of this sub-Clause with the following:*

"The Contractor will generally be permitted to use explosives for breaking up hard material during excavations, for demolishing existing structures, and for other purposes where explosives are normally required, subject to the following conditions:

- (a) The Engineer may prohibit the use of explosives in cases where, in his opinion, the risk of injury to persons or damage to property or to adjoining structures is too high. Such action by the Engineer does not entitle the Contractor to additional payment for having to resort to less economical methods of construction.
- (b) The Engineer's prior written approval shall be obtained for each and every blasting operation. This approval may be withheld if the Contractor does not use explosives responsibly and carefully.

- (c) The Contractor shall comply fully with the applicable legislation and regulations.
- (d) Before blasting is undertaken, the Contractor shall satisfy the Engineer that he has established whether or not the insurers concerned require pre- and post-blasting inspections of buildings and structures within a certain radius of the proposed blasting.

Should such inspections be required, the Contractor shall, together with the Engineer and the insurer, examine and measure the buildings, houses or structures in the vicinity of the proposed blasting site and establish and record, together with the owner, lessee or occupier, the extent of any existing cracking or damage before blasting operations commence.

- (e) When there is a possibility of damage to power and telephone lines or any other services or property, the Contractor shall adapt his method of blasting and the size of the charges and shall use adequate protective measures (eg cover-blasting) to reduce the risk of damage.
- (f) All accidents, injury to persons and animals and damage to property shall be reported to the Engineer in detail and in writing as soon as is practicable.
- (g) The Engineer shall be given 24 hours notice by the Contractor before each blasting operation is carried out.
- (h) When blasting to specified profiles, the Contractor shall so arrange the holes and charges that the resulting exposed surfaces are as sound as the nature of the material permits. The Contractor shall make good, at his own expense, any additional excavation necessitated by the shattering of rock in excess of any overbreak allowances specified in the Project Specifications or given on any Drawing.

Notwithstanding the Contractor's compliance with the above provisions, the Contractor shall remain liable for any injury to persons and animals and loss of or damage to property occurring as a result of blasting operations."

### **PSD6.3 Existing Services**

#### **PSD6.3.1 Detection, location and exposure (Sub-Clause 5.1.2.2)**

*Replace the contents of sub-Clause 5.1.2.2 with the following:*

"The exposure by the Contractor of underground services, as required in terms of sub-clause 5.4 of SABS 1200 A (as amended) shall be carried out by careful hand excavation at such positions and to such dimensions as are agreed to by the Engineer.

Unless otherwise instructed or agreed by the Engineer, no service shall be left exposed after its exact position has been determined and all excavations carried out for the purposes of exposing underground services shall be promptly backfilled and compacted to the following densities:

- (a) In roadways: 93% Mod AASHTO density; and
- (b) In all other areas: 90% Mod AASHTO density.

Where hand excavations to expose underground services have to be carried out in roadways, the Contractor shall reinstate the road layerworks in accordance with the provisions of sub-clause 5.9 of SABS 1200 DB.

Payment in respect of exposing the services by means of hand excavation as described above, will be made in accordance with sub-clause PSD 8.3.8.1.

Payment in respect of reinstating layerworks in roadways will be made in accordance with sub-clause 8.3.6.1 of SABS 1200 DB (as amended)."

#### **PSD6.3.2 Protection during construction (Sub-Clause 5.1.2.3)**

*Replace the contents of sub-Clause 5.1.2.3 with the following:*

##### **"Protection during construction.**

Further to the requirements of sub-clause 5.4 of SABS 1200 A (as amended), major excavating equipment and other plant shall not be operated dangerously close to known services. Where necessary, excavation in close proximity to known services shall be carefully carried out with suitable hand tools, excluding picks wherever their use could damage the services. No additional payment will apply to such more difficult work.

Should any service not being a known service be discovered or encountered during the course of the Contract, the Contractor shall, in addition to complying with the requirements of sub-clause 5.4 of SABS 1200 A (as amended), immediately notify the Engineer thereof and implement such measures as will prevent damage of such service or, if it was damaged in the course of discovery, will prevent and minimise the occurrence of any further damage occurring."

#### **PSD6.3.3 Negligence (Sub-Clause 5.1.2.5)**

*Delete Sub-Clause 5.1.2.5*

**PSD6.4 Stormwater and Groundwater (Sub-Clause 5.1.3)**

*Add the following:*

"The Contractor shall, where applicable and at the earliest practicable opportunity, install the permanent drainage specified or shown on the Drawings and shall at his own cost provide the temporary drainage required to protect the works."

**PSD6.5 Reinstatement and Maintenance of Roads**

*Add the following:*

"Where crossings have been made, the roads shall be reinstated in accordance with the details specified in sub-clause 5.9 of SABS 1200 DB."

**PSD7 CONSTRUCTION – METHODS AND PROCEDURES**

**PSD7.1 Site Preparation**

PSD7.1.1 Conservation of top soil ((Sub-Clause 5.2.1.2)

*Add the following:*

Topsoil shall be removed from all areas where structures are to be constructed and shall be stockpiled or spread as and where indicated by the Engineer.

**PSD7.2 Excavation**

PSD7.2.1 Excavation for general earthworks and for structures (Sub-Clause 5.2.2.1)

*Add the following to paragraph (b):*

"When the nature of the material precludes the above procedure, additional excavations shall be carried out to provide working space for the erection of formwork. The tendered rate for item 8.3.5 will be deemed to include the cost of a working width of 600 mm, but the Contractor may excavate a greater working width at no additional cost to the Employer."

*Replace the first sentence of paragraph (e) with the following:*

"Where excavations have been carried below the authorised levels, the Contractor shall backfill such excavations to the correct level with approved gravel compacted to 93% of modified AASHTO density or to the density of the surrounding material, whichever is the higher density.

Where excavations for structures have been carried out in hard material, the Engineer may direct that over-excavation be backfilled with weak concrete if there is a danger of settlement or differential settlement of the foundations.

Where the sides of excavations against which concrete is to be cast have been over-excavated or have collapsed partially, the Contractor shall re-trim the excavations if necessary and, unless other remedial measures are agreed to by the Engineer, shall cast the



concrete for the structure, including the additional concrete that may be required as a result of the over-excavation or partial collapse. The cost of the additional concrete or remedial measures shall be for the Contractor's account."

PSD7.2.2 Borrow Pits (Sub-Clause 5.2.2.2)

*Add the following:*

Bedding and backfill materials shall be obtained from trench excavations, existing borrow pits or commercial sources. Where borrow materials are required, such materials shall be obtained from borrow sources to be identified by the Contractor, who shall be entirely responsible for ensuring that such materials comply in all respects with the material specifications. Unless otherwise specified the opening of new borrow pits shall not be allowed.

The Contractor shall in all respect comply with the various requirements of SABS 1200D and in relation to the opening up, closing down and utilization of borrow pits.

All costs associated with the importation of suitable material from borrow or other sources must be borne by the Contractor, including excavation, crushing, screening, transport and royalties, and the tendered rates for material from borrow must include therefore, as no other payment will be made in this regard.

The Contractor shall co-ordinate his borrowing operations with other contractors that might be using the same borrow pit(s).

The closing down of a borrow pit will include all earthworks required to leave the area in a neat condition without irregularities in the surface and with even slopes to the satisfaction of the Engineer and other concerned parties.

PSD7.2.3 Disposal (Sub-Clause 5.2.2.3)

*Replace the second sentence with the following:*

"The Contractor shall provide all necessary spoil sites for the spoiling of all surplus and unsuitable materials and shall make the necessary arrangements with the owner of the site where the material is disposed of, and pay all charges and levies as may be applicable for the use of such spoil sites.

Every spoil site provided by the Contractor shall be approved by the local authority in whose area it is located, and the spoiling shall comply with the applicable statutory and municipal regulations as well as the requirements of the owner of the spoil site.

If so instructed by the Engineer, surplus or unsuitable materials arising from the works shall be spoiled and neatly spread and levelled so as not to interfere with future works nor to disrupt the natural overland flow of storm runoff, at spoil areas arranged by the Contractor and approved by the land owner and Engineer. Where a pipeline is laid within a rail or road reserve the route of the pipeline shall be finished neatly to be flush with the natural ground level or finished sidewalk level as may be applicable.

Payment to the Contractor in respect of locating and making arrangements for suitable spoil sites and spoiling material at the such sites will be made in accordance with the provisions of sub-clause PSD 8.3.15."

**PSD7.2.4 Selection and stockpiling**

*Add the following new sub-Clause 5.2.2.4*

**"PSD 5.2.2.4 Selection and stockpiling**

Approval or designation of the material in a particular borrow pit or excavation for particular purpose does not imply that all the material in the borrow pit or excavation is suitable for the particular purpose to which the said approval or designation relates, nor that all material in the borrow pit or source should be used for the particular purpose. The Contractor shall select suitable material from that borrow pit or source, discard unsuitable material and reserve material for other purposes as necessary.

The Contractor shall organize and carry out his operations in such a manner as will prevent the contamination of suitable embankment and backfill material with unsuitable materials. Any excavated material which becomes, in the Engineer's opinion, unsuitable for use in embankments or backfill as a result of contamination, shall be disposed of in a manner acceptable to the Engineer and shall be replaced by the Contractor with materials acceptable to the Engineer, all at the Contractor's cost.

When required, or when ordered by the Engineer, material shall be stockpiled for later use. The additional costs for stockpiling material shall be paid to the Contractor in accordance with the provisions of sub-clause PSD 8.3.14."

**PSD7.3 Placing and Compaction**

*Add the following new sub-Clause 5.2.3.3*

**"PSD 5.2.3.3 Backfilling with soilcrete**

Soilcrete backfilling shall be a G5 material as specified in SABS 1200M, stabilised with 5% cement and compacted to 93% modified AASHTO maximum density.

**PSD7.4 Transport and earthworks**

**PSD7.4.1 Freehaul (Sub-Clause 5.2.5.1)**

*Replace this sub-Clause with the following:*

"All haul within the boundaries of the Site will be regarded as freehaul."

**PSD8 TESTING**

**PSD 8.1 Taking and testing of samples**

*Replace the contents of this sub-clause with the following:*

"The Contractor shall arrange with an approved independent laboratory engaged by the Contractor to carry out sufficient tests on a regular basis as agreed between him and the Engineer to determine whether the degree of compaction, and, where applicable, the quality of materials used, comply with the Specifications and shall submit the results of these tests to the Engineer in a form approved by him.

The compaction requirements for fills shall be deemed complied with when at least 75% of the dry-density tests on any lot show values equal to or above the specified density and when no single value is more than five (5) percentage points below the specified value."

**PSD9 MEASUREMENT AND PAYMENT**

**PSD9.1 SCHEDULED ITEMS**

**PSD9.1.1 Restricted excavation (Sub-Clause 8.3.3)**

*Replace the words "in 1 m increments" at the end of the first sentence of sub-item (a) with "in the increments indicated in the schedule of quantities".*

*Replace "in 5.2.2.1 – 5.2.2.3 (inclusive)" at the end of sub-clause (a) with "in sub-clauses 5.2.2.1 to 5.2.2.5 (inclusive)".*

**PSD9.1.2 PSD8.3.14 Extra over items PSD 8.3.2.(a)(1) and PSD 8.3.3 for temporary stockpiling .....Unit: m<sup>3</sup>**

*Add the following new sub-Clause:*

The unit of measurement shall be the cubic meter of material from necessary excavations, temporarily stockpiled by the Contractor on the instructions of the Engineer, before being used in embankments or backfill. Measurements shall be taken in place in compacted embankment or backfill as the case may be.

The tendered rate shall include for the costs, additional to those provided for in PSD 8.3.2(a)(1) and PSD 8.3.3, of off-loading, forming and maintaining the stockpile for as long as is required, reloading and transporting within the applicable free-haul distance from the stockpile.

Payments to the Contractor under this item will only be made in respect of that material stockpiled on the instructions of the Engineer (which instruction shall state specifically that payments for such stockpiling will be paid for under this item) and no payments will be made to the Contractor under this item in respect of materials stockpiled by the Contractor on his own volition, nor for materials necessarily stockpiled by the Contractor in consequence of the sequence of operations adopted by him in the course of executing the works, whether such stockpiling was avoidable or otherwise."

**PSD9.1.3 PSD8.3.15 Extra over items PSD 8.3.2(b) and PSD 8.3.3 for disposing of spoil material on a site provided by the Contractor .....Unit: m<sup>3</sup>**

The unit of measurement shall be the cubic meter measured in accordance with sub-clause 8.2 of SABS 1200 D of surplus and/or unsuitable material disposed of, on the instruction of the Engineer, at a spoil site or spoil sites provided by the Contractor.

The tendered rate shall include full compensation for the additional cost of providing a spoil site or other means of disposing of surplus spoil material, for transporting the material regardless of the distance involved, for acceptance charges for such material and for all other incidental costs to dispose of the spoil material."

**PSD9.1.5** PSD8.3.16 Extra over item PSD 8.3.3 above for:

- (1) Soilcrete backfill where directed by the Engineer ..... Unit: m<sup>3</sup>

The unit of measurement shall be the cubic meter of soilcrete placed on the Engineer's instructions in accordance with sub-clause PSDB 3.5(d), measured in place according to the authorized dimensions.

The tendered rate shall include full compensation for supplying the cement and for selecting, mixing and placing the soilcrete as well as for the cost of shuttering if required."

## **PSDB EARTHWORKS (PIPE TRENCHES)**

### **PSDB1 CONSTRUCTION**

#### **PSDB1.1 Precautions**

##### **PSDB1.1.1 Existing Services (Sub-Clauses 5.1.4)**

Where any existing service occurs within the specified trench excavation, and the presence of such service is known before being uncovered, then the protection of the service will be scheduled and measured as provided for in Clause 8.3.5 of 1200DB. Only known services (as defined in Clause 5.4 of 1200A) shall be measured for payment.

Where an unknown existing service is damaged during construction, and the Engineer orders that the Contractor should undertake the repair of such service, then such repair will either be measured and paid as dayworks or alternatively as a contractual variation in terms of Clause 6.3 of the General Conditions of Contract.

No construction activity which may affect the integrity of telephone or electrical poles or stays may be carried out without the prior written approval of the Engineer, which approval shall only be given subject to the acceptance of a *modus operandi* that will ensure the integrity of such structures during construction.

##### **PSDB1.1.2 Special Water Hazards (Sub-Clause 5.1.2.2)**

Where ground water is present during construction to such an extent that, in the opinion of the Engineer, it would hamper the placing and consolidation of the granular or concrete bedding, 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 with dewatering during the construction and until the trench has been backfilled to such an extent that buoyancy of the pipeline will be prevented.

The drain shall be constructed over the full width of the trench as follows:

- Place filter cloth (Kaytech A4 or similar) to cover the trench bottom and part of the vertical trench sides.
- Place and compact 300mm thick 13mm crushed stone bedding.
- Cover the stone bedding with the installed filter cloth to a minimum overlap of 300mm.

At points designated by the Engineer, sumps shall be formed from which ground water can be pumped to maintain the water table below the pipe bedding level. The Contractor shall, if instructed, establish on site, operate and remove on completion, a dewatering pump of 10 l/s minimum capacity as per the requirements of Item 8.3.4(b) of 1200 DB. Lengths of trench opened at any one stage shall be limited by the dewatering capacity of the pump.

#### **PSDB1.2 TRENCH WIDTHS (Sub-Clauses 4.1 and 5.2)**

Trenches in general shall not exceed the widths laid down in Sub-Clause 8.2.3. If trenches exceed the specified width the Contractor shall be liable for the cost of any thicker pipes or more expensive bedding which may be required as a result of the additional trench width.

**PSDB1.3 EXCAVATION (Sub-Clause 5.4)**

**PS DB 1.3.1 CLASSES OF EXCAVATION**

Substitute DB 1.3 with the following:

**METHODS OF CLASSIFYING**

PS DB 1.3.1.1 Save and except in respect of those portions of the Works, which are specified in Portion 1 of the Project Specification to be executed utilising Labour-Intensive Construction Methods, the Contractor may use any method he/she chooses to excavate any class material, but his chosen method of excavation shall not determine the classification of the excavation. The Engineer will determine the classification of the materials.

PS DB 1.3.1.2 The classification will be based on the specified construction methods, inspection of the material to be excavated and on the criteria given in PS DB 3.2 below, as applicable.

PS DB 1.3.1.3 Where the utilisation of Labour Intensive Construction Methods is specified in Portion 1 of the Project Specification for certain classes of excavation only, the material for those classes of material to be excavated using Labour Intensive Construction Methods will be classified in terms of PS DB 3.2.1 and for those classes of excavation which are not required to be executed by Labour Intensive methods, classification will be based on the criteria given in PS DB 3.2.1 (i.e. Where it is specified that the excavation of soft materials only shall be executed using Labour Intensive Construction Methods, the classification of the soft material to be so excavated will be based on the criteria given in PSDB 3.2.2.(a) and the Contractor will be required to excavate all such soft material by Labour Intensive Methods. However when the materials is classified in terms of PS DB 3.2.2(b) to be "intermediate" and is thus no longer required to be excavated using Labour Intensive methods, the classification of the material not required to be excavated using Labour Intensive methods will be based on the criteria given in PS DB 3.2.1 (thus a material classified as "intermediate" in terms of PS DB 3.2.2(b) may in terms of PS DB 3.2.1 be deemed to be "soft" and will be measured and paid as such under such circumstances.)

PS DB 1.3.1.4 All tools and equipment referred to in PS DB 3.2 shall be in good mechanical and operational condition.

PS DB 1.3.1.5 "Efficiently" as used in PS DB 3.2.2(a) – (c) shall be taken to mean "in a manner that can be reasonable expected of a Contractor, having regard to the production achieved"

PS DB 1.3.1.6 The classification of material other than "soft excitability" shall be agreed upon before such excavation may commence.

PS DB 1.3.1.7 The Contractor shall immediately inform the Engineer if and when the nature of material being excavated changes to such an extent that a new classification is warranted for further excavation. Failure on the part of the Contractor to advise the Engineer in good time shall entitle the Engineer to classify, at his discretion, such excavated material.

**PS DB 1.3.2 CLASSES OF EXCAVATION**

Add the following to new sub-clause:

**PS DB 1.3.2.1 Classes of excavation where Labour Intensive Construction Methods are NOT specified**

The excavation of material will, in the case of work which is NOT required in terms of the Contract to be executed utilising Labour-Intensive Construction Methods, be classified according to SABS 1200 D for the purpose of measurement and payment.

**PS DB 1.3.2.2 Classes of excavation where Labour Intensive Construction Methods are specified**

The excavation of material will, in the case of work, which is required in terms of the Contract to be executed, utilising Labour-Intensive Construction Methods, be classified as follows for purposes of measurement and payment:

a) Soft and or Pickable excavation

Pickable and or Soft excavation shall be excavation, including the excavation of boulders not exceeding 0.04 m<sup>3</sup>, in material that can be excavated and removed from the excavation by an average able bodied labourer or group of such labourers, at a rate of not less than 1.0 m<sup>3</sup> and not more than 2.5 m<sup>3</sup> per 9.25 hour working day per labourer, using only picks, "gwalas", shovels and similar hand tools.

b) Intermediate excavation

Intermediate excavation shall be excavation (excluding soft excavation) in material which requires ripping or loosening by mechanical means prior to removal of the loosened material utilising the method as described in PS DB 3.2.2(a).

c) Hard rock excavation

Hard rock excavation shall be excavation of un-decomposed boulders exceeding 0.04 m<sup>3</sup> and excavation in solid rock occurring in bulk or in banks or ledges, which requires loosening or breaking up by drilling, wedging, splitting or blasting or by other approved quarrying methods, prior to being excavated and removed from the excavation utilising only picks, "gwalas", shovels and similar hand tools.

(NOTE: Such excavations generally include materials such as formations of un-weathered rock that can be removed only after blasting)

d) Machine Class Material

Machine Class Material shall be all material other than Class 1 Material 'Hard Rock'. This material shall be removed by means of mechanical excavators with an operating weight of not less than 20t and a engine power of not less than 100 kW.

Prior to commencement of excavation in a particular area or pipeline sub-route, the Contractor shall dig trial holes at a rate of one per 100m of trench to ascertain whether the material is suitable to make hand labour excavation a practical alternative. The local labour will be consulted, and the Contractor shall, after consultation with the labour and Engineer, direct which method of excavations shall be used on a particular section of the pipeline. If hand labour methods are to be applied, then the excavation shall be paid for under items 'Pickable/Soft Material', 'Intermediate Material ' and or 'Hard Rock Material'.



If the proportion of Intermediate and Hard Rock material is too high at a hand excavated area, then the excavation shall be paid for under item 'Machine Class Material' and 'Hard Rock Material'.

The Engineer may, after consultation with the Contractor, direct the method if he believes that the Contractor is not acting in the interest of the local labour.

Provisional quantities have been included in the schedules.

#### **PSDB1.4 TRENCH BOTTOMS (Sub-Clause 5.5)**

*Replace the first paragraph of this sub-clause "Material that ..... compacted as directed" with the following: -*

Where a firm foundation cannot be obtained at the grade indicated due to soft or unsuitable material, the Engineer may instruct the Contractor to remove such unsuitable material and to backfill the excess depth with approved selected material or concrete, as directed by the Engineer in each particular case, at the cost of the Employer. Backfill other than concrete, shall be placed in layers of 100mm uncompacted thickness, each layer thoroughly compacted to the entire satisfaction of the Engineer, to provide adequate support for the pipe bedding to be placed on top of it.

Should the Contractor remove more ground than is required to secure the proper grade of the pipeline, the Contractor must, at his own cost, backfill the excess excavation with approved selected material or concrete, as directed by the Engineer in each particular case.

#### **PSDB1.5 DISPOSAL OF EXCAVATED MATERIAL (Sub-Clauses 5.6.3 and 5.6.4)**

All surplus or unsuitable materials arising from excavation shall be spoiled and spread within or adjacent to the Site of the Works or when ordered by the Engineer be spoilt at a spoil site established by Contractor.

#### **PSDB1.6 FREEHAUL AND OVERHAUL (Sub-Clause 5.6.8)**

All haul shall be considered as freehaul and no payment will be made for haul.

### **PSDK GABIONS AND PITCHING**

#### **PSDK1 MATERIALS**

**PSDK 1.1 Stone (Sub-Clause 3.2.1)**

*Replace the contents of table 2 with the following:*

"TABLE 2 SIZE AND MASS OF INDIVIDUAL STONES FOR PITCHING

1	2	3	4
Size/mass of pitching	Thickness of pitching mm, min	Least dimension mm, min	Mass kg, min
Extra heavy	600	300	180
Heavy	400	190	50
Medium	300	150	27
Light	200	110	11

**PSDK2 CONSTRUCTION****PSDK2.1 Grouted pitching**

*Replace the words "(table 4)" in the second line of the first paragraph with "(table 2)".*

**PSDM EARTHWORKS (Roads, subgrade)****PSDM1 MATERIALS****PSDM1.1 Classification for Placing Purposes****PSDM1.1.1 Selected layer (Sub-Clause 3.2.3)**

*Replace the contents of this sub-clause with the following:*

"The following requirements shall apply in respect of the selected layer:

(a) Maximum particle size: 60% of compacted layer thickness

(b) Unstabilized selected layer

(i) Upper selected layer

Minimum CBR at 93% of modified AASHTO density: 15

Maximum PI: 12 (the Engineer has the right to alter this requirement to 3 x the grading modulus + 10)

(ii) Lower selected layer

Minimum CBR at 90% of modified AASHTO density: 7

Maximum PI: 12 (the Engineer has the right to alter this requirement to 3 x the grading modulus + 10)

(c) Stabilized selected layer

Minimum grading modulus of natural material: 0,75

UCS of stabilized material 300 kPa - 500 kPa at 93% of modified AASHTO density

Maximum PI for stabilized material: 10"

**PSDM2 CONSTRUCTION – METHODS AND PROCEDURES**

**PSDM2.1 Cut and Borrow**

PSDM2.1.1 Use of material (Sub-Clause 5.2.2.3)

*Add the following paragraph:*

"(e) Commercial sources

The provisions of sub-clause PSD 5.2.2.5 of SABS 1200 D as amended shall apply."

PSDM2.1.1 Catchwater mounds and channels and mitre banks and channels (Sub-Clause 5.2.2.6)

*Add the following sentence:*

"Catchwater mounds and mitre banks shall be compacted to a minimum density of 90% of modified AASHTO density."

**PSDM2.2 Treatment of the road-bed**

PSDM2.2.1 Removal of suitable ground (Sub-Clause 5.2.3.2)

*Replace the second sentence of paragraph (a) with the following:*

"The excavated spaces shall then be backfilled with approved imported material compacted to the required density."

*Add the following sentence to paragraph (b):*

"Unsuitable excavated material will be paid for as cut to spoil."

PSDM2.2.2 Treatment of road-bed (Sub-Clause 5.2.3.3)

*Add the following paragraph:*

"(c) Three-pass roller compaction

Any portion of the roadbed that is shown on the Drawings or is specified or is directed by the Engineer to be given three-pass roller compaction because of its inadequate natural density, shall be prepared by shaping where necessary and compacting with a roller, complying with

the requirements specified below.

Compaction shall comprise three complete coverages by the wheels of the specified roller over every portion of the area that is being compacted. While it is not the intention that the Contractor should apply water to the roadbed for this type of compaction, and while no rigid moisture control will be exercised during compaction, the Contractor shall nevertheless satisfy the Engineer that everything is being done to take full advantage of favourable soil moisture conditions during the rainy season, and that such compaction is as far as possible carried out when the roadbed is neither excessively dry nor excessively wet.

The Engineer has the authority to decide when conditions are favourable for compaction and where such compaction is to be carried out at any particular time, and he has the right to instruct the Contractor to water the roadbed at the Contractor's expense when, in the opinion of the Engineer, the Contractor failed, neglected or refused to comply with these requirements.

The rollers to be used for roller-pass compaction shall conform to the following requirements:

Grid roller: The grid roller shall have a mass of not less than 13,5 t when ballasted, shall be loaded to this mass if required, and shall be moved at a speed of not less than 12 km/h.

Vibratory roller: The vibratory roller shall be capable of exerting a combined static and dynamic force of not less than 120 kN/m width for every metre of loose-layer thickness at an operating frequency not exceeding 25 Hz and shall move at a speed not exceeding 4 km/h."

### **PSDM2.3 Selected layer (Sub-Clause 5.2.5)**

*Replace the contents of this sub-clause with the following:*

"Except with regard to density, the requirements of sub-clause 5.2.4 shall apply. The degree of compaction shall be:

Upper selected\*  
Selected\* : 93% of modified AASHTO density

### **PSDM2.4 Gravel surfacing (Sub-Clause 5.2.6)**

*Replace the third sentence of this sub-clause with the following:*

"The relevant requirements in sub-clause 5.2.4.2 shall apply, except that the material shall be compacted to 93% of modified AASHTO density."

### **PSDM2.5 Transport (Sub-Clause 5.2.8)**

*Replace the contents of this sub-clause with the following:*

"The provisions of sub-clause PSD 5.2.5 of SABS 1200 D, as amended, shall apply."

**PSDM3 TESTING****PSDM3.1 Routine Inspection and Testing (Sub-Clause 7.3)**

*Replace table 2 and the contents of sub-clause 7.3.2 with the following:*

**"PSDM 7.3.2** The dry density requirements for a particular lot of selected layer or wearing course shall be deemed to be satisfied if the average density and the results of individual tests meet the requirements specified in table 2 below. Refer to sub-clause PSD 7.2 for the requirements for fill.

TABLE 2 - DENSITIES

1	2	3	4	5
Layer	Specified density (% of modified AASHTO density)	Number of tests per lot	Average density, %	Minimum density for any single test, %
Upper selected* or selected layer* and gravel wearing course*	93	3 and 4 5 6	93,1 93,4 93,6	89,4 89,2 89,0

**PSDM4 MEASUREMENT AND PAYMENT****PSDM4.1 Computation of quantities**

*Replace sub-clauses 8.2.1 to 8.2.3 (inclusive) with the following:*

"PSDM 8.2.1 The provisions of sub-clause 8.2.1 of SABS 1200 D shall apply.

PSDM 8.2.2 The provisions of sub-clause 8.2.2 of SABS 1200 D shall apply.

PSDM 8.2.3 The provisions of sub-clause 8.2.2 of SABS 1200 D shall apply."

**PSDM4.1.1. Verifying quantities (Sub-Clause 8.2.5)**

*Replace the first sentence with the following:*

"Before any earthworks are commenced but after completion of any site preparation, the Engineer will, upon a written request from the Contractor, provide cross-sections for the purpose of measurement of earthworks quantities."

**PSDM4.2 Scheduled items**

PSDM4.2.1 Treatment of roadbed (Sub-Clause 8.3.3)

- (a) Roadbed preparation and compaction of material to

*Add the following:*

"The unit of measurement shall be the cubic meter of material re-compacted as specified and the volume shall be determined from levelled cross-sections on which are superimposed the levels to which the roadbed is to be constructed. When material is imported to make up the required volume, such material will be paid for as cut or borrow to fill as relevant."

PSDM4.2.2 Cut to fill, borrow to fill (Sub-Clause 8.3.4)

*Replace the last sentence of this item with the following:*

"The unit of measurement shall be the cubic meter of fill and the volume will be calculated in accordance with the authorized dimensions of the embankment and levelled cross-sections.

The tendered rates shall include full compensation for excavating the material as if in soft material, for selecting, loading, transporting for the free-haul distance, off-loading, watering, mixing and compacting the material as specified. Borrow to fill in this item relates to material from designated borrow areas (provided by the Employer).

Where it is required that material be obtained from commercial sources, payment for procuring the material will be made under item PSDM 8.3.17."

PSDM4.2.3 Selected layer compacted to 93% of modified AASHTO maximum Density (Sub-Clause 8.3.5)

*Replace the heading and the contents of this item with the following:*

"PSDM 8.3.5 Selected layer using material from commercial sources:

- (a) Compacted to 90% of modified AASHTO density .....Unit: m<sup>3</sup>
- (b) Compacted to 93% of modified AASHTO density .....Unit: m<sup>3</sup>

The unit of measurement shall be the cubic meter and the quantity will be calculated from the authorized dimensions of the compacted layer.

The tendered rates shall include full compensation for excavating the material as if in soft material for loading, transporting for the free-haul distance, off-loading, spreading, watering, mixing, breaking down and compacting the layer."

PSDM4.2.4 Cut to spoil or stockpile from (Sub-Clause 8.3.7)

*Replace the heading with the following:*

"PSDM 8.3.7 Cut to spoil from"

**PSDM4.2.5 Overhaul**

*Replace this item with the following:*

"PSDM 8.3.12 Overhaul

Delete this item as no overhaul will be paid on material for the purposes of this Contract and all the costs for transporting material shall be included in the applicable tendered rates and amounts."

**PSDM4.2.6 Final finishing and cleaning up of the site of the works**

*Add the following item:*

"PSDM 8.3.18 Final finishing and cleaning up of the site of the works ..... Unit: sum

The tendered sum shall include full compensation for the clearing, disposal of material, finishing, tidying and all other work required to finish and clean up the Site of the works and affected areas by removing excess earth, stones, boulders, debris and other waste material, by clearing stormwater inlets and outlets and pipe barrels, by clearing the surfacing of all dirt, mud and foreign material, and by neatly finishing off all junctions, intersections and kerbing.

All material resulting from the finishing operations shall be disposed of to a spoil site furnished by the Contractor.

The tendered rate shall make provision for the reinstatement of existing driveways to their original condition where these have been affected by the works, as these items will not be measured and paid for separately."

**PSDM4.2.7 PSDM 8.3.19 Extra over items 8.3.4, 8.3.5 and 8.3.16 for obtaining material from commercial sources..... Unit: m<sup>3</sup>**

*Add the following new item:*

The tendered rate shall include full compensation for the additional cost of finding a suitable source of material, for procuring the material and paying all royalties or other charges to the owner of the source, for transporting the material to the point of use regardless of the distance hauled and for excavating in intermediate, hard or boulder material as required.

Items PSDM 8.3.6, PSDM 8.3.12 and PSDM 8.3.14 do not apply to material obtained from commercial sources.

**PSG CONCRETE (STRUCTURAL)**

**PSG1 SCOPE (Sub-Clause 1)**

This specification covers the requirements for all water-retaining structural concrete for civil engineering work.

**PSG2 INTERPRETATIONS**

**PSG2.1 Definition (Sub-Clause 2.3)**

For purpose of this variation to the Standard Specification, all reinforced concrete structures at the Kinira Drift Water Treatment Works will be regarded as water-retaining structures unless stated otherwise in the Project Specification or on the Drawings.

**PSG2.2 Explanation of Terms**

**PSG2.2.1 Exposure Conditions**

For the purpose of this Specification, water-retaining structures shall be deemed to be classified under clause 2.4.1.3 (severe conditions) as specified in SABS 1200 G unless specified otherwise in the project specification.

**PSG3 CEMENT**

**PSG3.1 Applicable standards (Sub-Clause 3.2.1)**

All cementitious material used in concrete shall comply with the following standards, as relevant:

***Common cements***

SABS ENV 197-1:1992 *Cement B composition, specifications and conformity criteria B Part 1: Common cements*

***Cement extenders***

SABS 1491: Part I-1989 *Ground granulated blast furnace slag*

SABS 1491: Part II-1989 *Fly ash*

SABS 1491: Part III-1989 *Condensed silica fume*

**PSG3.2 Alternative types of Cement (Sub-Clause 3.2.2)**

Only CEM II B-V shall be used in water retaining structures. The target Fly Ash content shall be 25-30%.

Other types of cementitious material may be used only if specifically approved by the Engineer.

**PSG4 AGGREGATES (Sub-Clause 3.4)**

*The following additional requirements shall be applicable to water retaining structures:*



#### **PSG4.1 Fine Aggregate**

Samples of the proposed fine aggregate shall be submitted to the Engineer for his approval before use.

The Contractor shall submit a sieve grading analysis to the Engineer for approval and if unacceptable, the Contractor shall offer another sample and grading for approval or may blend aggregate from different sources and submit the blend for approval.

The water demand of the fine aggregate shall not exceed 195 l/m<sup>3</sup>.

Fine aggregate shall be stored on a concrete surface and washed sand shall be allowed to drain for at least 24 (twenty-four) hours before use. The Engineer may require the Contractor to test the sand daily (or more frequently if necessary) for moisture content, impurities and grading before use.

#### **PSG4.2 Coarse Aggregate**

The voids ratio of the coarse aggregate shall not exceed 47 % (forty-seven per cent). Single sized aggregates shall be stored on a concrete surface in separate stock piles, according to size. The proportions of the various single sized aggregates required for the various portions of the work shall be submitted by the Contractor for the Engineer's approval.

### **PSG5 CONSTRUCTION**

#### **PSG5.1 Reinforcement**

*The following additional requirements shall be applicable to water retaining structures:*

##### **PSG5.1.1 Fixing (Sub-clause 5.1.2)**

The use of plastic spacer blocks will not be allowed. Concrete spacer blocks, of same mix design as the strength concrete, shall be used.

"The Engineer will inspect the reinforcing after it has been fixed in place, the formwork has been cleaned, cover blocks have been positioned, and before concreting commences.

Welding of reinforcing steel will not be permitted."

##### **PSG5.1.2 Cover (Sub-clause 5.1.3)**

In water retaining structures the exposure condition of a reinforcing bar closest to the face in direct contact with water or soil backfilling, shall be classified as severe.

It should be noted that in some water retaining structures only one face of the structural elements will be in contact with water.

The nominal concrete cover is generally 50 mm, unless otherwise specified on the Drawings.

The soffit of a slab suspended above the water (e.g. a reservoir roof) will be treated as being in contact with the water for the purpose of determining the cover.

## **PSG5.2 Concrete**

### **PSG5.2.1 Strength concrete (Sub-Clause 5.5.1.7)**

It is a requirement that the Contractor employ the services of an approved specialist to recommend design mixes compatible with the Specification. The preferred specialist shall confirm in writing:

- (a) The proposed concrete mix is suitable for water retaining structures with aggressive (waste) water being retained;
- (b) The proposed concrete mix is of grade 35/19 (minimum).

No concrete shall be placed until the Contractor's concrete mix design has been approved by the Engineer. The Contractor shall submit to the Engineer a statement of the mix proportion proposed, together with a report from an approved testing laboratory, showing the 28 day concrete strength obtained when using the materials proposed for the work.

The strength determinations shall be based on not less than three concrete test specimens.

When the Contractor can furnish reliable test records of concrete of a quality at least equal to that specified, having been made with materials from the same sources and of the same qualities as he proposes to use, the Engineer may waive all or part of the strength tests required in the above paragraph.

The preparation of the 150 mm test cube specimens and the sampling techniques shall be in accordance with the relevant SABS specification.

Concrete for water retaining structures shall be class (min) 35MPa/19mm concrete and shall have a cement/water ratio not less than 2.2 and a cement content of 420 kg/m<sup>3</sup>.

Admixtures may be used to increase the workability of the concrete but only with the express approval of the Engineer and when the details of the active ingredients of the admixture and their effects are supplied to the Engineer for approval before use. No additives likely to impair low permeability of the concrete will be approved. Calcium chloride or admixtures containing chlorides may not be used in concrete for water retaining structures. Other admixtures and constituents may only be used with the approval of, or as specified by the Engineer.

### **PSG5.2.2 Placing (Sub-Clause 5.5.5)**

Panels between construction joints shall be cast alternatively.

PSG5.2.3 Construction Joints (Sub-Clause 5.5.7)

The following additional requirements shall be applicable to water retaining structures:

The Engineer may allow the Contractor to cut an additional straight construction joint if it is possible without prejudicing the water tightness of the structure. The additional construction joint shall be sealed with the same seal that is specified for planned construction joints at the expense of the Contractor.

Construction joints in reinforced concrete walls, embankments, etc. shall consist only of horizontal joints. If under abnormal conditions a vertical construction joint is unavoidable it may only be constructed with the approval of the Engineer.

Construction joints shall only be placed at intervals shown on the drawings or as directed by the Engineer. The exact position of construction joints shall be marked on the formwork in order to obtain truly horizontal joints.

*Preparation of Surface*

Prior to placing any further concrete, the joint must be clean, damp and free of laitance. During the period when the concrete is still green, all loose material shall be removed, without disturbing the aggregates, by light brushing. Where this is not possible, or if the concrete has already set, the surface film shall be removed by mechanical means appropriate to the degree of hardness of concrete so as to expose the aggregate over the entire surface and leave a sound, irregular surface.

*Before Placing Concrete*

Where the concrete of the previous lift is more than 3 days old, it shall be kept continuously wet before the mortar and fresh concrete is placed.

On all construction joints the following steps shall be taken after the surface has been prepared and at the most, 30 minutes before placing the concrete:

- (i) Remove all surface water with an air hose and dry sprinkle waterproofing additive (Vandex Premix or similar approved) at 9,8 kg per m<sup>2</sup>.
- (ii) Place a layer of approximately 10 mm thickness consisting of cement, sand and water mixed in the same proportions as used in the concrete.
- (iii) Place concrete within 30 minutes.

PSG5.2.4 Curing and Protection (Sub-Clause 5.5.8)

SABS 1200 G Clause 5.5.8 will be deleted for the purpose of this Specification and replaced with the following:

“All concrete other than blinding concrete shall be maintained continuously saturated for at least ten days or as directed on the drawings immediately after placement or after stripping formwork in the case of walls, by methods which shall receive the prior written approval of the Engineer if different from the following:

- a) For floors

Ponded water with a minimum depth of 30 mm.

- b) For Columns and Walls

Continuously saturated heavy jute sacking or other approved absorbent material maintained in contact with the concrete surface by fastenings spaced at not more than 2 m centres.

- c) For Floors and Columns

Covering the previously saturated surfaces with approved plastic sheets maintained in contact with the concrete surface and with all edges and joints sealed by methods approved by the Engineer.

Where the ambient temperature is below 4°C the curing period of 10 days or as directed on the drawings, will be extended by 72 hours.

Newly cast concrete sections shall not be used for supporting loaded wheelbarrows, monorails, material or scaffolding, etc., until permission is obtained from the Engineer.”

PSG5.2.5 Adverse Weather Conditions (Sub-Clause 5.5.9)

- (a) *Concreting in cold weather*

During cold weather no material having a temperature below 5 ° C shall be used for making concrete.

No concrete shall be placed when the ground or air temperature is below 2° C or if the ground or air temperature is likely to fall below 2° C within 6 (six) hours of placing the concrete.

The temperature of placed concrete shall not be allowed to fall below 5 ° C until the concrete has attained a strength of at least 5 Mpa, and the Contractor shall be responsible for all the necessary protective measures to ensure this. All concrete that has been damaged by frost or by the formation of ice in the concrete shall be removed and replaced by the Contractor at his own expense.

*(b) Concreting in hot weather*

During hot weather, the temperature of the concrete, as placed, shall not exceed 30°C. The Contractor shall ensure that the placing of the fresh concrete does not exceed the ambient temperature by more than 5°C. Where necessary this shall be accomplished by shading aggregate stockpiles, shading or insulating water pipes and water storage tanks.

PSG5.2.6 Concrete Surfaces (Sub-Clause 5.5.10)

(a) Wood-Floated Finish

Where wood floating is specified or scheduled, the surface shall first be given a finish as specified in Sub-Clause 5.5.10.1 of SABS 1200 G after the concrete has hardened sufficiently, it shall be floated to a uniform surface free of trowel marks. The screeded surface shall be wood-floated, either by hand or machine, only sufficiently to produce a uniform surface free from screed marks.

(b) Steel-Floated Finish

Where steel is specified or scheduled, the surface shall be treated as specified in PSG6.1 except that, when the moisture film has disappeared and the concrete has hardened sufficiently to prevent laitance from being worked to the surface, the screeded surface shall be steel trowelled under firm pressure to produce a dense, smooth uniform surface free from trowel marks.

(c) Power-Floated Finish

Where power floating is specified or scheduled, the surface shall be treated as specified in PSG6.1 except that the screeded surface shall be power-floated to produce a high quality dense, smooth, uniform surface free from trowel marks.

PSG5.2.7 Watertight Concrete (Sub-Clause 5.5.11)

(a) Construction Joints (Sub-Clause 5.5.7)

Joints are the concrete at which special measures are taken to achieve subsequent continuity are termed construction joints. Construction joints will be permitted only where shown on the drawings or approved by the Engineer and shall be formed true to line on all formed or exposed surfaces. Horizontal joints shall be formed by casting against a timber or metal former. Recesses shall be formed as detailed on the drawings. Where detailed on the drawings, galvanized metal strips or waterbars shall be cast into the joints. No unplanned construction joints will be allowed. If a breakdown occurs, the contractor shall strip the shuttering as soon as possible and break out all concrete up to the previous planned construction joint.

Except in the case where movement joints are required, the entire joint contact area of the concrete already placed shall be thoroughly roughened by chipping with sharp chipping picks before placing concrete against the surface. This surface will not be accepted unless the course aggregate projects 5 mm beyond the surrounding matrix. In this connection

approved light pneumatic or electric tools are preferred provided that no structural damage is done to the concrete being chipped: otherwise hand tools are to be used. Chipping shall not be commenced until at least 48 (forty-eight) hours after the concrete was placed.

Alternative methods of preparing the surfaces of construction joints to those given above will be considered. The Contractor shall submit proposed alternative methods of achieving the roughened surface required to the Engineer for approval.

Should the Engineer at any time withhold or withdraw permission for alternative methods to be used then the Contractor shall prepare the surfaces of construction joints in accordance with the above specification.

Immediately before the adjoining concrete is placed, the chipped surface shall be thoroughly cleaned by brushing and washing and then thoroughly wetted.

At the discretion of the Engineer the percentage of coarse aggregate of the mix may be slightly reduced in a layer not exceeding 200 mm in depth immediately above the chipped surface of a horizontal construction joint. Suitable temporary openings shall be left in the shuttering to allow for the removal of sawdust, shavings, nails, debris, etc.

The application of compounds to the surfaces of stop ends at vertical joints to retard the setting of a film of concrete in contact with the stop end will be permitted subject to the Engineer's approval of the compound to be utilized and the Contractor's methods for the application of the same.

#### *Movement Joints*

Movement joints shall be formed where shown on the Drawings.

Movement joints shall be formed true to line and shall be thoroughly cleaned of all accretions of concrete or other foreign matter by scraping or other approved means. The surfaces in contact with joint sealing material shall be prepared strictly in accordance with the manufacturer's Specification.

Care shall be taken to ensure that the waterbars are in perfect contact with well compacted void-free concrete throughout, particularly on horizontal joints where special procedures shall be adopted for placing and compacting concrete under the waterbars, to the approval of the Engineer.

#### *WATERPROOFING OF CONCRETE JOINTS*

Three different systems of waterproofing (or construction of systems) exist and the appropriate system (or combination) will be applied as specified on the drawings: The three systems are:

- a) Waterproofing with hypalon bandage system
  - b) Waterproofing with waterbars
  - c) Waterproofing with surface sealants
- 
- (i) Hypalon system

Hypalon bandage joint sealing system shall be the Sikadur-Combiflex Hypalon bandage system as supplied by Sika (Pty) Ltd.

The joint shall consist of 2 mm thick Combiflex Hypalon sheeting, 200mm and 250mm wide, as shown on the drawings. The Hypalon sheeting shall have a tensile strength of 6N/mm<sup>2</sup> and an elongation at failure of not less than 400%.

The Hypalon sheeting shall be bonded to the concrete with Sikadur 31 two component, solvent free, moisture intensive, high viscosity, epoxy paste adhesive.

(ii) Waterbars

Except where otherwise specified waterbars shall be manufactured from virgin polyvinyl chloride complying with BS 2571: latest amendment (Class 3 compounds) and the Tenderer shall provide full details of the composition and properties of the material in the relevant annexure where applicable.

Samples of waterbars shall be submitted for approval and all material subsequently supplied shall be identical in size, shape, colour and quality to the approved sample. The waterbar shall be of uniform cross-section and size and shall have lugs welded at 1m centres on both edges of the waterbar to hold it securely in position during concreting operations.

It shall be possible for all sizes of waterbar to be turned through a 75mm radius without damage or permanent set to the waterbar.

Joints in waterbars shall be kept to a minimum by the use of the longest possible lengths.

Waterbars shall be held to the required shape, lines, etc, in suitable formwork: site joints shall be bonded as directed by the manufacturer in such a way as to form a continuous watertight seal free from pin holes at any point of the length or width of the strip.

Formwork shall be designed to accommodate the waterbars without subsequent bending and the waterbars shall be adequately supported and protected from damage and sunlight until finally encased in concrete.

Waterbars shall be tested in accordance with BS 2782 and ISO R527.

(iii) Waterproofing with surface sealants

a) General

A groove of dimensions specified shall be formed, where indicated, and sealed by an approved sealant. The sealant shall be non-toxic and shall be either a hand applied bitumen putty sealant or a polysulphide sealant. The type of sealant to be specified on the drawings and the product to be used shall be approved by the Engineer.

b) Bitumen Putty Sealant

All joints shall be clean, dry and free of laitance. The concrete shall be at least four weeks old. The joint surfaces shall then be primed by an ancillary product and the sealant applied as per the suppliers specification. Special precautionary measures shall be taken to acquire a neat finish by covering the face edges of the joint with masking tape before priming. Any excess material will be cut away and finished flush.

c) Polysulphide Sealant

All joints shall be clean, dry and free of laitance. Prime joint face if required – following the suppliers specification. Apply the sealant and finish off flush with the concrete surface.

**PSG6 MISCELLANEOUS**

**PSG6.1 Porous concrete/No-fines concrete**

Porous or no-fines concrete shall be laid under foundations and floor slabs and behind walls, etc, where shown on the drawings and where directed by the Engineer. Porous concrete shall be placed behind shuttering to form a vertical layer against the external face of foundations etc where shown on drawings and where directed by the Engineer. The thickness of the horizontal, sloping and vertical layers shall not be less than that shown on the drawings.

The exposed faces, both horizontal and vertical, of the porous concrete shall be finished with a cement mortar seal where reinforced concrete is to be cast against it. The porous concrete shall be sealed with a 10mm thick layer of mortar composed of one part normal portland cement to two parts of fine aggregate by mass, trowelled on before the porous concrete has hardened, and finished with a screed to provide a smooth, uniform plane surface without filling any of the internal voids of the porous concrete. The surface of the seal shall have a steel or power float surface.

The schedule rates for porous concrete shall include the cost of mortar seal and steel float finish.

Porous concrete shall comprise water, cement, coarse aggregate and not more than 5% (five percent) by mass of fine sand. The voids ratio of porous concrete shall not be less than 27.5% (twenty-seven and one half) percent. Testing of porous concrete shall be carried out in accordance with test method 3 of BS 1881 Part 3 – 1970.

(a) *Classes of no-fines concrete*

No-fines concrete shall be classified by the prefix NF and the size of aggregate to be used. Class NF 19 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 concrete shall be as follows:

<u>Class</u>	<u>Aggregate per 50 kg cement</u>
NF 38	0,33 m <sup>2</sup>
NF 19	0,30 m <sup>2</sup>
NF 13	0,27 m <sup>2</sup>

(b) *Batching and Mixing*

Cement shall be measured by mass or in full pockets of 50 kg each and aggregate shall be measured by volume in approved measuring boxes or barrows.

The aggregate shall be moist or wetted before the cement is added. Where drum mixers are used, about 20% of the water shall be poured into the drum before the aggregate and cement are loaded. The mixing time in the drum shall be about 45 to 50 seconds.

The quantity of water added shall be just sufficient to form a smooth grout which will adhere to and completely coat each and every particle of aggregate, and which is just wet enough to ensure that, at points of contact of aggregate, the grout will run together to form a small fillet to bond the aggregate together. The mix shall contain no more than 20 liters of water for every 50 kg of cement.

Mixing shall be done in an approved batch-type mechanical mixer, but small quantities may be hand-mixed.

(c) *Placing*

No-fines concrete shall be placed in accordance with the procedure approved by the Engineer. It shall be placed in its final position within 15 minutes of having been mixed.

The concrete shall be worked sufficiently to ensure that it will completely fill 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 shall the concrete be vibrated.

(d) *Protection*

All no-fines concrete shall be protected from the elements and loss of moisture. Protection against loss of moisture shall be accomplished by one or more of the following methods:

- Retaining formwork in place
- Covering exposed surfaces with sacking or other approved material kept continuously wet
- Covering exposed surfaces with plastic sheeting

No-fines concrete placed during cold weather shall be adequately protected against frost for at least 3 days.

(e) Measurement and Payment

Cast-in-situ no-fines concrete (state class)..... Unit: m<sup>3</sup>

The provisions of sub-clause 8.1.3 of SABS 1200 G shall apply *mutatis mutandis*.

**PSG6.2 Bond breaker**

Where indicated on the drawings, site or porous concrete under floor slabs and wall footings etc. shall be covered with a bond breaker consisting of 250 micron tear resistant damp proof membrane to SABS 952 (1969) C having 150mm laps and pierced at 1m intervals to allow the passage of water.

**PSG6.3 Pipe work**

All pipe specials shall be cast in by the Contractor. Special care shall be taken to maintain them in the exact position shown on the drawings and also to render the joints watertight.

**PSG6.4 Holding Down Bolts**

All holding down bolts and nuts, other than those used in structures retaining liquid shall be galvanised in accordance with SABS 763.

All holding down bolts and nuts in structures retaining liquid shall be stainless steel, Grade 316.

All holding down bolts and anchorages, shall be set in accordance with the drawings by means of accurate constructed steel templates and securely fixed in position to prevent displacement during the concreting.

Exposed threads of holdings down bolts shall be adequately protected with grease and sacking and this protection shall be maintained in all portions of the works until they are taken over.

**PSG6.5 Ferrule Cap Holes**

Holes formed in reinforced concrete walls during the fixing of formwork shall be repaired on the waterside face with an approved epoxy or non-shrink grout. On the dry face the holes left in the concrete shall be repaired with a 1:3 cement-sand mortar. All grouting material shall be thoroughly panned in.

No system leaving holes passing through the walls will be permitted. Ferrules shall be of the permanent sacrificial type.

**PSG6.6 Sterilization of Reservoirs**

Before a reservoir is sterilised, the roof shall have been tested for water tightness as set out in Clause 9.7 below, and the pipelines serving the reservoir shall have been sterilised. The reservoir shall then be thoroughly cleaned out and washed down with clean water.

The roof, beams, columns and walls shall thereafter be thoroughly sprayed down, using pressurised equipment, and the floors shall be scrubbed with water containing 0,015 g per litre of chloride of lime.

On completion of the sterilisation, the sterilising solution shall be run to waste before the reservoir is filled for testing its water tightness.

Should additional work be required to be done inside the reservoir after the water tightness test has been completed, the reservoir shall be re-sterilised at the Contractor's expense.

#### **PSG6.7 Testing for Water-tightness**

Each water-retaining structure shall be filled with water at a uniform rate not exceeding 2.0m in 24 hours 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 reservoir.

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 water tightness being unsatisfactory, the Contractor shall, when so ordered by the Engineer, discontinue such filling or testing and shall, at his own expense, take approved steps to rectify the leakage, until a test proves that a sufficient degree of water tightness has been obtained.

The water tightness of the reservoir roof shall be tested before that of the reservoir itself by water being continuously sprinkled over the roof in an approved manner so that a film of water is maintained on the surface of the slab. The roof shall be considered watertight if no damp patches are visible on the underside after 48 hours of sprinkling.

Before the expiry of the defects notification period, the Engineer shall have the right to retest the structure for water tightness. 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 water-tightness, 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.

The costs of re-testing a water-retaining structure for water tightness shall be borne by the Contractor.

**PSG7 TESTS**

**PSG7.1 Facilities (Sub-Clause 7.1.1)**

*Add the following:*

"The Contractor shall provide sufficient storage capacity for the concrete cubes and shall arrange to have them tested by an approved laboratory.

The cost of all testing, including the cost of sampling, storage and transport of samples shall be included in the rates tendered for concrete work."

**PSG8 ACCEPTANCE CRITERIA FOR STRENGTH CONCRETE (Sub-Clause 7.3)**

*Add the following:*

"Test results obtained from the supplier of ready-mixed concrete will not be accepted for evaluation in terms of sub-clause 7.3, but samples for testing shall be taken of such concrete at the point of placing."

**PSG9 MEASUREMENT AND PAYMENT**

**PSG9.1 Measurement and Rates**

**PSG9.1.1 Formwork (Sub-Clause 8.1.1)**

*Delete "or splays over 20 mm x 20 mm" from the first line of paragraph 8.1.1.2.*

*Add the following to paragraph 8.1.1.2:*

"Splays up to and including 25 mm x 25 mm will not be measured separately and will be deemed to be included in the formwork costs."

*Add the following paragraphs:*

"8.1.1.7 For construction joints at kickers, all additional costs for formwork to edges up to 300 mm high will be deemed to be included in the rates tendered for vertical formwork to sides of walls and will not be measured separately in narrow widths.

8.1.1.8 No formwork will be measured to edges of blinding layers under structures, and the cost thereof (if needed) will be deemed to be included in the rates tendered for concrete in blinding layers.

8.1.1.9 Back-shuttering or formwork to top revealed surfaces of sloping or conical formwork will only be measured to surfaces of over 40° and up to 85° to the horizontal.

8.1.1.10 Formwork to horizontal surfaces in pump stations, valve chambers, manholes or sumps can either be removed through the manhole cover opening or the Contractor may use permanent formwork at his own cost as no claims in this regard will be considered."

**PSG9.2 Scheduled Concrete Items**

PSG9.2.1 Strength concrete (Sub-Clause 8.4.3)

*Add the following after the last sentence:*

"In the case of structural floor screeds, the unit of measurement shall be the square meter and the average thickness and proportions will be stated."

*Replace "Unit: m<sup>3</sup>" With "Unit: m<sup>3</sup>, m<sup>2</sup>"*

PSG9.2.2 Unformed surface finishes (Sub-Clause 8.4.4)

(b) Steel-floated finishes

*Add the following sub-item:*

- "(i) Extra over subitem (b) for special finishing tolerances to top of outside ringwalls as specified..... Unit: m<sup>2</sup>

The quoted rate shall include full compensation for the additional cost of finishing the ringwalls to closer tolerances as specified on the Drawings and in clause PSG 6.2.3 (i)."

**PSG9.3 Joints (Sub-Clause 8.5)**

*Replace "Unit: m" with "Unit: m or m<sup>2</sup>".*

*ADD THE FOLLOWING ITEMS:*

**"PSG9.4 PSG8.9 Miscellaneous work other than metalwork** ..... Unit: as scheduled  
Separate items will be scheduled for each type of miscellaneous work.

The tendered rates shall include full compensation for providing all labour, materials and equipment required to carry out the work, for all preparatory work, for constructing the work scheduled in a workmanlike manner and for finishing off and cleaning up when the work has been completed.

**PSG9.5 PSG8.10 Testing for watertightness:**

- (a) (Structure stated) ..... Unit: sum
- (b) Etc for other structures

The unit of measurement shall be the number of each structure successfully passing the specified watertightness tests to the satisfaction of the Engineer.

The sums tendered shall include full compensation for the provision of all labour, plant and materials necessary for carrying out the test for watertightness as specified.

**PSG9.6 PSG8.11 Screeds**

- (a) Floor screeds (1:3) with falls including V-joints to form panels and a smooth steel-trowelled fish/power float finish to top:
  - (i) Description of application and thickness.....Unit: m<sup>2</sup>
  - (ii) Etc for other applications and thickness

The unit of measurement shall be the square meter of screed constructed.

The tendered rate shall include full compensation for constructing the screeds as specified including supplying of all materials, preparing the concrete surface to receive the screeds and for all else that may be necessary to complete the work

**PSG9.7 PSG8.12 Casting in pipes with or without puddle flanges**

- (a) Up to 300 mm nominal bore:
  - (i) Through (description and thickness of structural elements)..... Unit: number
- (b) Over 300 mm up to 600 mm nominal bore:
  - (i) Through (description and thickness of structural elements)..... Unit: number
- (c) Etc for other nominal bores in increments of 300 mm

The unit of measurement shall be the number of each size of pipe installed.

The tendered rates shall include full compensation for installing the pipe where new pipes are used (with or without a puddle flange) in the exact position as shown on the Drawings, for splitting or cutting the formwork where required, for ensuring watertightness where required and for all additional costs required to install the pipes specified or shown on the Drawings.

New pipes shall be measured under the items of the relevant section of the specifications.

**PSG9.8 PSG8.13 Corrosion protection by**

- (a) Vinyl anti-fouling paint and undercoats to form an algae-resistant coating on:
  - (i) (Description of structural element stated) ..... Unit: m<sup>2</sup>
  - (ii) Etc for other structural elements
- (b) Solvent-free abrasion-resistant coating and primer to a minimum thickness of 3 mm on:
  - (i) (Description of structural element stated) ..... Unit: m<sup>2</sup>
  - (iii) Etc for other structural elements

The unit of measurement shall be the square meter of surface protected against corrosion. The tendered rates shall include full compensation for surface preparation for supplying and applying the materials as specified, for all labour, equipment and appurtenant materials necessary to carry out the work and for all waste and cleaning up after the work has been completed.”

**PSG9.9 PSG 8.13 Emergency site reinforcement and equipment..... Unit: ton**

The Contractor must bring onto site the following site reinforcement that is to be used for emergency situations at the sole discretion of the Engineer:

- 10 straight lengths of 10 m of Y10 reinforcement, plus
- 10 straight lengths of 10 m of Y12 reinforcement, plus
- 10 straight lengths of 10 m of Y16 reinforcement, plus
- 10 straight lengths of 10 m of Y20 reinforcement

In addition to the above, the Contractor must keep on site manual tools for cutting and bending the above reinforcement in emergency situations as per Engineers’ instructions.

All the above reinforcement and equipment must be kept dry, clean and available for use at very short notice. Any of the above reinforcement that is used, must be replaced as soon as practically possible.

Payment will be as follows:

1. 80 % of the tendered amount will be paid when the above material and equipment is brought to site and stored in a manner that is acceptable to the Engineer.
2. Reinforcement used will be paid for under the “normal” reinforcement items.
3. The remaining 20 % of the tendered amount will be paid when all material and equipment is removed from site, after being instructed to do so by the Engineer.

**PSHA STRUCTURAL STEELWORK (SMALL WORKS)**

**PSHA1 MEASUREMENT AND PAYMENT**

**PSHA1.1 Scheduled Items**

**PSHA1.1.1"PSHA 8.3.2 Handrails:**

*Replace sub-item c(3) with the following:*

“(c)(3) Extra over rails for bends, end closures and accessories:

- (i) (Description of item stated) .....Unit: number
- (ii) Etc for other descriptions”

**PSHA1.1.2** PSHA 8.3.3 Ladders, complete and installed (Drawing number or type and length stated)

*Replace this item with the following:*

"PSHA 8.3.3 Ladders, complete and installed (Drawing number or type and length stated)

Separate items will be scheduled for grid ladders of different materials, dimensions and height. ....Unit: number

The tendered rates shall include full compensation for the cost of supplying the specified or scheduled ladders complete, including welding where applicable."

**PSHA1.1.3** PSHA 8.3.4 Flooring. Complete and installed with frames (Drawing number stated)

*Replace this item with the following:*

"PSHA 8.3.4 Flooring. Complete and installed with frames:

- (a) Open grid floors.....Unit: m<sup>2</sup>
- (b) Floor plate floors..... Unit: m<sup>2</sup> or t
- (c) Frames and kerbs for flooring..... Unit: m

Separate items will be scheduled for grid floors, floor-plate floors, frames and kerbs of different materials, dimensions, weight and different methods of fixing.

The tendered rates shall include full compensation for the cost of supplying the specified or scheduled types of flooring, frames or kerbing complete, including welding where applicable."



**SABS 1200 L: MEDIUM PRESSURE PIPELINES**

**L 3 MATERIAL**

**PS L 3.1 GENERAL**

Substitute the first sentence of L 3.1 with the following:

Types and classes of pipes shall be as scheduled.

Abbreviations

HDPE	-	High Density Polyethylene Type IV
MPVC	-	Modified Polyvinyl Chloride
GCS	-	Galvanised Carbon Steel

**PS L2 STEEL PIPES, FITTINGS, SPECIALS AND MPVC PIPES**

**PS L2.1 Buried Steel Pipes**

Steel pipes shall be grooved end galvanized piping of the Klambon type. Couplings shall be cast and not forged. All pipes, couplings and other fittings shall be rated for 25 Bar OR 40 Bar working pressure as may be appropriate as per drawings.

All pipes shall be corrosion protected with the factory-applied shrink-wrap system. All couplings and other fittings shall be protected by means of a putty blanket installed as per manufacturers instructions. Any damage occurred during transport and installation shall be rectified as per manufacturers specifications.

**PS L2.1.1 Measurement and Payment**

Measurement and payment for buried steel pipe shall be per linear metre supplied and installed and shall include for corrosion protection, couplings, putty blankets and all things necessary for the commissioning of the work.

**PSL3.4 Steel Pipes, Fittings and Specials**

**PSL3.4.2 Pipes of Nominal Bore up to 150 mm**

Replace with the following:

“These pipes and fittings shall comply with the applicable requirements of SABS 62, medium or heavy duty as scheduled.

High pressure pipes to be seamless steel tubing to ANSI / ASME B31 - Building Services. “  
*PSL3.4.3 Pipes of Nominal Bore over 150 mm*

Replace PSL3.4.3 (a) with the following:

“(a) The minimum wall thickness for grade A pipes, as per SABS 719, shall be 4.5 mm. Pipes of higher working pressure shall be separately scheduled and required working pressures, joints and grade of pipe stated. The minimum wall thickness in all cases will be 4.5 mm and the maximum working pressure shall not exceed 66.6 % of the hydraulic test pressure calculated in accordance with the formula as per Clause 4.4.4 of SABS 719 - 1971.

High pressure pipes to be seamless steel tubing of ANIS / ASME B31 - Building Services. “

PSL3.4.4 Fittings and Specials.

Add the following:

- "i) Unless shown on the drawings or scheduled differently steel pipes with nominal bore up to 150 mm will be coupled by means of slip-on type couplings and pipes with nominal bore over 150 mm by means of weld-on flanges. "

**ii) Bolt Sleeve Type Joints**

*Bolted sleeve type couplings, stepped couplings and flange adapters may be used for connecting plain ended steel, ductile iron, grey iron, uPVC and other rigid or semi-rigid pipe materials. Couplings, etc. shall be designed and manufactured in accordance with ANSI/AWWA C.219, except that elastometric gaskets shall comply with BS.2494. Type W for potable water and Type D for sewage.*

*Manufacture shall be carried out within a quality system certified to ISO 9001, EN29001 and BS5750 Part 1. Certain pipe materials, such as GRP, fibre cement and polyethylene may require either specially designed coupling products, or standard couplings installed using special procedures as recommended by the manufacturer.*

*All couplings not specifically corrosion protected to a degree similar to that achieved by bitumen tape wrapping shall be wrapped in bitumen tape.*

PSL3.7.1 mPVC

*mPVC pipes and fittings shall be fitted with spigot and socket rubber ring joints and shall comply with the requirements of SABS 966: 1998 part 2 (mPVC).*

PSL3.7.4 Buried Steel Pipes

*Steel pipes shall be grooved end galvanised piping of the Klambon type. Couplings shall be cast and not forged. All pipes, couplings and other fittings shall be rated for 25 Bar working pressure unless otherwise specified.*

*All pipes shall be corrosion protected with the factory-applied shrink-wrap system. All couplings and other fittings shall be protected by means of a putty blanket installed as per manufacturer's instructions. Any damage occurred during transport and installation shall be rectified as per manufacturer's specifications.*

Measurement and Payment

*Measurement and payment for buried steel pipe shall be per linear metre supplied and installed and shall include for corrosion protection, couplings, putty blankets and all things necessary for the commissioning of the work.*

PSL3.8 Jointing Materials

PSL3.8.3 Flanges and Accessories

Add the following:

*Flange type No 3 "Plate for Welding" as per SABS 1123 is required for steel pipes in accordance with the following:-*

<u>Working Pressure in kPa</u>	<u>Flange Table</u>
Up to 1,000	10
1,000 to 1,600	16
1,600 to 2,500	25
2,500 to 4,000	40

PSL3.9      Protection against Corrosion

PSL3.9.2      Coating

*External and internal protection for all steel fittings, valves and specials shall be electro static epoxy powder coating. Each coat will be a minimum of 65 microns thick, with an overall minimum thickness of 200 microns. After pipelines have been satisfactorily tested, all flanges, joints and couplings shall be thoroughly cleaned and given a coat of protective painting.*

PSL3.9.3      Above Ground Pipes and Screwed Fittings

*Steel pipes to be installed above ground level shall be heavy-duty pipe galvanised to heavy duty standard after manufacture. The exposed threads on assembled screwed fittings are to be protected against corrosion by the immediate application of a protective sealant. The coating thickness to be the same as on the pipe. All damaged coating shall be similarly reinstated. Galvanised steel pipes cast into concrete shall be Polyethylene bitumen tape wrapped at the concrete/atmosphere interface.*

PSL3.9.6      Corrosive Soil

Consider all soils to be corrosive. After the joints have been tested, the couplings including the bolts and nuts, shall be liberally and completely coated with a bitumen-based paste and immediately thereafter wrapped with bitumen impregnated tape. Wrapping shall commence at a point at least 50 mm beyond the opposite side of the coupling. An overlap of at least 25 mm shall be given on each turn. Care shall be taken to smooth down the tape so as to avoid air pockets and gaps through which water could penetrate.

Any turned or damaged tape shall be replaced or patched to the satisfaction of the Engineer. The Contractor shall ensure that the wrapping is not damaged during back filling.

PSL3.9.7      Galvanising

“Galvanised steel pipework, fittings, specials, etc. shall comply with SABS 934 and 763 and be entirely coated with zinc after fabrication by complete immersion in a zinc bath. The finished surface shall be clean, and uniform and any excess being removed. The zinc deposit shall exceed the following:

- Heavy Duty                      0.735 kg / m<sup>2</sup>

*Bolts and Nuts*

All bolts and nuts to be used for connecting flanges, joints, fittings, specials, etc., shall comply with the following:

- i) All other bolts and nuts shall be hot-dip galvanised as per SABS 763.
- ii) Bolts and nuts shall conform to grade 4,6 of SABS 135 and BS 916.
- iii) Plain and tapered washers for use with mild steel bolts and nuts shall comply with BS 4320. Plain and tapered washers used with high tensile steel bolts and nuts shall be case hardened with a minimum hardness of Rockwell C-35.

PSL3.10 Valves

Add the following:

“PSL3.10.1 Sluice Valves

i) Operating Pressure up to 1.6 MPa

These valves shall be the resilient seal type water works pattern gate valve able to operate successfully under a maximum unbalanced static pressure of 1.6 MPa. The valve body and other components shall comply with SABS 644.665; the valve shall be of the non-rising spindle type with clockwise closing and generally plain ended for installation in fibre cement or uPVC pipe lines. Valves for installation in steel lines or specified as flanged shall comply with the appropriate SABS 1123 table as per PSL3.8.3.

Valves shall all be provided with spindle caps for use with keys. The valve gate shall be covered with “perbunan” rubber conforming to DIN 3535, Section 2.3, Class 2 or equal. Spindles shall be manufactured from head treated stainless steel grade 1.402 or EN56B and the valve body, bonnet and gate shall be manufactured out of Spheroidal Graphite Iron Grade 42 as per SABS 936.

ii) Operating Pressure over 1.6 MPa up to 2.5 MPa

These valves shall be cast iron water works pattern gate valves to SABS 664. The valve body and other components shall comply with the specification for Class 25, the valve shall be of the non-rising spindle type with clockwise closing and shall be provided with a spindle cap for use with keys and generally flanged in compliance with the appropriate SABS 1123 table as per PSL 3.8.3.

Cast iron gate valves could be equipped with plain thrust collars or ball thrust collars and will be tee key or spur gear and tee key operated as scheduled. The valve body, gate and cover shall be manufactured out of “Meehanite” cast iron to BS 1452 Grade 14, and the spindle out of high tensile bronze to BS 2874 grade CZ.

iii) Operating Pressure over 2.5 MPa

These valves shall be cast steel wedge gate valves of approved manufacture, equipped with anti-friction bearings and a by-pass and be able to operate under the pressure stated in the Schedule of Quantities and be flanged and drilled in accordance with the pressure stated as per PSL3.8.3. Unless scheduled to the contrary valves shall be equipped with a spindle for key operation.

Cast steel gate valves could be equipped with ball thrust collars and will be the key or spur gear and tee key operated as scheduled.

iv) Copper Alloy Gate Valves

These valves shall be at least equal to that of the pipework in which it is to be installed and valves shall have parallel internal threads with hexagonal outer faces with solid wedges.

PSL3.10.2 Butterfly Valves

Butterfly valves shall comply with BS 3952 and shall be of the tight shut-off, double flanged or wafer type, with easily removable resilient seals sealing against stainless steel or bronze and suitable for use with water at temperature up to 35 °C.

The shut-off pressure rating of the disc, in both directions, shall at least be equal to the working pressure of the pipework system in which the valve is to be installed.

The valves shall be provided with a mechanical position indicator also showing the fully open and closed position. Except when power actuators are specified, all butterfly valves shall be fitted with geared handwheel actuators, closing in the clockwise direction and not requiring a rim pull in excess of 490 kN when operated

against a pressure equal to the rated pressure of the disc.

*PSL3.10.3 Control Valves*

Reservoir Control Valves shall be direct acting float valves or similar approved as per schedule.

*PSL3.10.4 Air Release & Vacuum Break Valves*

*PSL3.10.4.1 Double Orifice*

i) Operating Pressure up to 1.6 MPa and Inlet Diameter up to 100 mm

These valves shall be of compact and robust design equipped with an automatic float valve and orifice arrangement. The valve shall incorporate both the following features, viz. "Kinetic" air and vacuum release features, for large air flows in and out of filling and draining of the pipe system. "Automatic" pressure air release feature, for constant release of the accumulated air on pressurised system.

The air release orifices shall be properly protected against ingress of foreign matter.

All valves irrespective of inlet diameter will be the single valve installation in accordance with the drawings.

The valve shall in all respects be the "Vent-O-Mat" series RBX double acting valve.

ii) Operating Pressure up to 2.5 MPa and Inlet Diameter up to 50 mm

The specification as applicable to the 1.2 MPa valves above shall be "*mutatis mutandis*" applicable to the higher-pressure valve. The valve shall in all respects be the "Vent-O-Mat" series RBX double acting valve.

All installations with 50 mm to 100 mm air valves will be equipped with water works pattern isolating valves as indicated on the applicable drawings. The riser pipe, reducer piece (where required), isolating valve, other fittings and air release valves may be coupled by means of screwed fittings as per SABS 62. Higher-pressure installations will be coupled by means of flanges.

PSL3.10.5 Non-return Valves

Non-return valves shall be double door spring loaded Wafer-check valves with 1600 KPA working pressure (Uni-Flo) unless stated otherwise.

PSL3.10.6 Water Meters

Pressures as scheduled.

Water meters shall be of the magnetic drive type and must be capable of passing the continuous flow scheduled in the Bill of Quantities. The water meters shall comply with ISO 4064/B5728 specification for Class B and SABS 1529-1: 1994 as applicable and must be approved in terms of Section 18 of the Trade Metrology Act (Act 77 of 1973). The meters shall be suitable for fitting with a magnetic reed switch for supplementary external interrogation.

### **PSL3.11 Manholes and Surface Boxes**

Alter this heading to read:-

#### **PSL3.11 Manholes, Surface Boxes and Pipeline Markers**

##### **PSL3.11.1 Bricks**

All manholes, valve and meter boxes shall be constructed using NFX (Non-facing Extra) quality burnt clay bricks as per SABS 227: 1986.

##### **PSL3.11.4 Step Irons**

No step irons required in any manhole, except where specifically scheduled.

Add the following:

##### **PSL3.11.7 Pipeline Markers**

Where so instructed by the Engineer or as shown on the drawings, the contractor shall erect pipeline markers. These markers will be precast concrete units manufactured out of 25 MPa concrete to the dimensions shown on the drawings and shall comply with SABS 1200 GA Concrete (Small Works), except as might be altered hereunder. Concrete for the markers is to be manufactured with white cement containing a 4 % pigment type "Bayferrox - Light fast Blue 100".

Special care is to be taken to ensure that the fine aggregate is clean and if necessary, washed to prevent staining of the pigment.

### **PSL5 Construction**

#### **PSL5.1 Laying**

##### *PSL5.1.1 Laying*

Attention is drawn to requirement to check pipe wall deflections of the GRP pipe (Glass Reinforced Polyester Pipe) after backfilling.

##### *PSL5.1.4 Depth Cover*

Depth of excavation for pipe trenches shall be a minimum of 1000mm or as specified. Some sections of the pipeline (about 500m) may require pipes to be laid above ground. Should that be the case, these pipelines should be adequately supported in RC anchor posts.

Add the following:

##### **PSL5.11 Pipeline Markers**

Markers are to be erected 300 mm off the edge of the pipe trench to the left of the trench (in the direction of flow) and at right angles to the trench centre line at the points as indicated on the pipe long sections.

At bends the marker will be erected at the P.I. point of these 300 mm offset lines.

### **PSL7 Testing**

#### **PSL7.1 General**

Pipes shall be tested in convenient lengths not exceeding 500 m per each test. Test data shall be entered on an appropriate form. Maximum field test pressure shall be 150 % of the pressure class and minimum shall be 125%. Care must be taken to ensure required backfilling before testing.

#### PS7.5 Testing of Valves

All valves shall be pressure tested according to SABS 664 or other applicable code at the appropriate test pressure.

No separate payment shall be made for testing of valves and hydrants and the scheduled rates for the supply and installation of valves shall include for all costs in respect of testing.

### **PSL8 Measurement and Payment**

#### PSL8.2 Scheduled Items

##### *PSL8.2.1 Supply, Lay, and Bed Pipes complete with Couplings*

Until all the specified work has been completed and all requirements complied with pipes will be regarded as "materials on site (MOS)"

##### *PSL8.2.2 Extra-over 8.2.1 for the supplying, laying and bedding of specials complete with couplings.*

Until all the specified work has been completed and all requirements complied with specials and couplings will be regarded as "materials on site (MOS)"

##### *PSL8.2.3 Extra over 8.2.1 for the supplying, fixing and bedding of valves.*

Until all the specified work has been completed and all requirements complied with valves will be regarded as "materials on site (MOS)".

Add the following:

##### *PSL8.2.15 Pipeline Markers*

The unit of measurement will be the number of markers erected and accepted by the Engineer and the rate will include for all materials, pigment, manufacturing, delivery and erection of each unit.

### **PSME SUBBASE**

#### **PSME1 MATERIALS**

##### **PSME1.1 Physical Properties**

###### PSME1.1.1 Subbase material (Sub-Clause 3.2.1)

*Replace the contents of paragraph (a) with the following:*

"(a) The maximum particle dimension of the gravel shall not exceed 63 mm."

*Replace the contents of paragraph (d) with the following:*

"(d) The CBR at specified density shall be 45 for unstabilized material as well as for stabilized material prior to stabilization."

*Delete paragraph (e).*

###### PSME1.1.2 Gravel shoulder and gravel wearing course material (Sub-Clause 3.2.2)

*Replace the contents of this sub-clause with the following:*

"The material used for gravel shoulders and gravel wearing course shall comply with the

following:

- (a) The PI shall not be less than 6 and not more than  $(3 \times GM) + 10$ .
- (b) The maximum particle dimension of the gravel shall not exceed 40 mm.
- (c) The CBR shall be greater than 15 at 93% of modified AASHTO density."

## **PSME2 CONSTRUCTION**

### **PSME2.1 Excavations**

#### **PSME2.1.1 Borrow pits (Sub-Clause 5.2.2)**

*Insert the words "designated by the Engineer and" between the words "pits" AND "established" in the first line.*

## **PSME3 MEASUREMENT AND PAYMENT**

### **PSME3.1 Basic Principles**

*Insert a semicolon in the first line of paragraph (b) after the words "will be paid for once only" and delete the rest of the paragraph.*

*Amend paragraph (d) as follows:*

"(d) that, in the case of material from a commercial source or from borrow pits selected by the Contractor, no additional payment will be made for the class of excavation, method of processing (except stabilizing), or overhaul."

### **PSME3.2 Scheduled Items**

#### **PSME3.2.1 Construct the subbase course/shoulders/gravel wearing course with material from designated excavations (Sub-Clause 8.3.2)**

*Replace the contents of sub-item (a) with the following:*

"The rate for (a) shall include full compensation for excavating and selecting subbase material, for loading and transporting the material within the free-haul distance, and for either placing the material on the road or stockpiling the material for later use. When material is stockpiled, the rate shall include compensation for shaping and grading the stockpile so that it is free-draining."

#### **PSME3.2.2 Construct the subbase course/shoulders/gravel wearing course with material from commercial sources or designated borrow areas (Sub-Clause 8.3.3)**

*Replace the heading of this item with the following:*

"PSME 8.3.3 Construct the subbase course/shoulders/gravel wearing course with material from commercial sources"



*Add the following paragraph:*

"This item shall also apply to the construction of subbase course/shoulders/gravel wearing course with material from borrow pits selected by the Contractor."

**PSMF   BASE**

**PSMF1   MATERIALS**

**PSMF1.1   Physical and Chemical properties**

PSMF1.1.1 Natural gravel (stabilized or unstabilized) (Sub-Clause 3.3.1)

*Replace the contents of paragraph (a) with the following:*

"(a) The maximum particle dimension of the gravel shall not exceed 63 mm."

**PSMF2   CONSTRUCTION**

**PSMF2.1   Processing**

*Replace this sub-clause with the following:*

"PSMF 5.3   Chemical Modification

The base material shall be prepared, broken down and spread. Cement complying with the requirements of SABS 824 shall then be spread over the prepared base material at a rate of 3,0%. The materials shall then be mixed dry using road graders, ploughs and other suitable equipment until the lime is mixed thoroughly and uniformly with the base material. The mixed material shall then be watered, mixed and lightly compacted.

After 24 hours have elapsed the material shall be ripped, worked in the normal manner and compacted to 98% of modified AASHTO density."

**PSMF2.2   Transport**

*Replace the contents of this subclause with the following:*

"All movement of material will be considered as free-haul. No haulage cost will be paid."

**PSMF3   MEASUREMENT AND PAYMENT**

**PSMF3.1   Scheduled Items**

PSMF3.1.1 Construct base with material from commercial sources (Sub-Clause 8.3.3)

*Replace the title of item 8.3.3 with the following:*

"PSMF 8.3.3 Construct base course with material from commercial sources and compact to 86% of apparent density"

PSMF3.1.2 Process base material by the following processes, as relevant, and use in base (applicable to 8.3.1 or 8.3.2 or both):

*Add the following subitem:*

"(e) Process base material by chemical modification (applicable to item 8.3.1) ..... Unit: m<sup>3</sup>

The tendered rate shall include full compensation for the chemical modification as specified, including all labour, transport, etc. The modifying agent will be paid for under item PSMF 8.3.8."

**PSMJ SEGMENTED PAVING**

**PSMJ1 MEASUREMENT AND PAYMENT**

**PSMJ1.1 Scheduled Items**

PSMJ1.1.1 Construction of paving complete (Sub-Clause 8.2.2)

*Add the following:*

"The tendered rate shall also include full compensation for cutting units to fit edge restraints and for the removal of waste material from the Site."

**PSMK KERBING AND CHANNELLING**

**PSMK1 MATERIALS**

**PSMK1.1 Concrete**

*Add the following:*

"The Contractor shall timeously submit the concrete mix design for cast-in-situ kerbing to the Engineer for approval and no kerbing shall be placed before the mix design has been approved."

**PSMK2 CONSTRUCTION**

**PSMK2.1 Transition sections and inlet and outlet structures (Sub-Clause 5.11)**

*Delete the words "and with the requirements of the project specification" in the second paragraph.*

**PSMK3 TESTING**

**PSMK3.1 Cast-in-situ and extruded kerbing and channelling (Sub-Clause 7.2)**

PSMK3.1.1. General tests (Sub-Clause 7.2.1)

*Delete this sub-clause.*

PSMK3.1.2 Alternative tests (Sub-Clause 7.2.2)

*Replace the heading and contents of this sub-clause with the following:*

"PSMK 7.2.2 Tests

The Contractor shall carry out a minimum of three cube crushing tests per 1 000 m of kerbing placed. The cost of such tests shall be deemed included in the rates tendered for kerbing.

One cube crushing test shall consist of a set of six cubes made with concrete taken from the mixer, the kerbing machine or from any part of the work as ordered.

If, after 28 days in an approved laboratory, after three cubes of any set of six cubes have been tested, the average crushing strength is found to be more than 3 MPa below the specified strength, the kerbing represented by the cubes will be rejected.

The Contractor may apply for resubmission of the rejected section on the basis of cores drilled from this section and tested for the estimated actual crushing strength in accordance with SABS method 865 (excluding Appendix A). The cost of drilling and testing the cores is for the Contractor's account, regardless of the outcome of the tests on the cores. The number of cores required will be determined by the Engineer and the criterion for rejection or acceptance of the section represented by the cores shall be as specified above for cubes."

**PSMK3.1 Responsibility for the cost of testing**

*Delete this sub-clause.*

**PSMK4 MEASUREMENT AND PAYMENT**

**PSMK4.1 Scheduled Items**

PSMK4.1.1 Concrete kerbing (Sub-Clause 8.2.1)

*Replace "5.8.2" in the third line of paragraph (e) with "5.8.3".*

PSMK4.1.2 Variation of tests on extruded kerbing (Sub-Clause 8.2.3)

*Delete this sub-clause.*

**PSLB BEDDING (PIPES)**

**PSLB1 MATERIALS**

**PSLB1.1 Bedding (Sub-Clause 3.3)**

(a) Rigid Pipes

All steel, clay and concrete pipes shall be laid on a Class C bedding as shown on drawing LB-1 of SABS 1200LB.

(b) Flexible Pipes

uPVC and polyethylene pipes will be regarded as being flexible and shall be bedded as per drawing LB-2 of SABS LB.

**PSLB2 OVERHAUL (Sub-Clause 3.4.1 and 8.2.1)**

All the haulage of bedding material shall be considered as freehaul and no payment will be made for haul.

**PSLB3 SELECTION**

**PSLB3.1 Suitable material not available from trench excavations (Sub-Clause 3.4.2)**

Material for the bedding shall be obtained from a commercial source or approved borrow pit designated by the Contractor.

**PSLB4 PLACING AND COMPACTING OF RIGID PIPES**

**PSLB4.1 Class A bedding (Sub-Clause 5.2.1)**

Concrete to be used in class A bedding to pipes shall be grade 20/19.

**PSLB5 CONCRETE CASING TO PIPES (Sub-Clause 5.4)**

Concrete to be used in the casing of pipes shall be grade 20/19.

**PSLB6 TOLERANCES (Sub-Clause 6.1)**

Degree of accuracy II shall prevail.

**PSLB7 STONE BEDDING (Sub-Clause 8.2.6)**

*Add the following new sub-clause:*

**PSLB 8.2.6** Stone bedding will be measured per cubic meter under the appropriate item in SABS 1200LB. Type A bedding (crushed stone wrapped in a geotextile blanket) shall be measured per linear metre along the centerline of the trench. The provision, operation and removal of (a) de-watering pump where authorized by the Engineer will be measured as dayworks under the appropriate item in Schedule 2.

#### **C3.4.4 PARTICULAR SPECIFICATIONS FOR THE CIVIL ENGINEERING WORKS**

The following Particular Specifications for civil engineering works will be applicable to this Contract:

PC	Labour Intensive Construction Methods
PD	Manufacture, Supply and Testing of Valves
PE	Manufacture, Supply and Testing of Steel Pipes
PF	Corrosion Protection of Steel Pipes and Fittings
PG	Flow Meters
PH	Corrosion Protection

## **HARRY GWALA DISTRICT MUNICIPALITY**

### **NCAKUBANE WATER SUPPLY SCHEME PHASE 3B**

#### **CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW CONTRACT: HGDM/696/HGDM/2020**

#### **PC : LABOUR INTENSIVE CONSTRUCTION METHODS**

#### **INDEX**

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## **PC 1 SCOPE**

This Particular Specification covers the requirements wherever labour intensive methods of construction in accordance with the Tender Conditions is specified.

## **PC2 INTERPRETATIONS**

### **PC 2.1 Supporting Specifications**

Where this Particular Specification is applicable, the following specifications shall, inter alia, form part of the contract document.

- a) SABS 1200C Site Clearance
- b) SABS 1200DA Earthworks (Small Works)
- c) SABS 1200DB Earthworks (Pipe Trenches)
- d) SABS 1200DK Gabions & Pitching
- e) SABS 1200DM Earthworks (Roads Subgrade)
- f) SABS 1200GB Concrete (Ordinary Building)
- g) SABS 1200GA Concrete (Small Works)
- h) SABS 1200L Medium-Pressure Pipelines
- i) SABS 1200LB Bedding
- j) The Project Specifications

### **PC 2.2 Application**

This Particular Specification contains clauses that are applicable wherever labour intensive methods of construction are to be employed.

Machine applications shall only be allowed by the Engineer for the specific operations listed hereunder or, if so directed, by unforeseen or special circumstances on site.

Loss of contract time owing to unsatisfactory progress, poor contract management or whatsoever related reason will not be regarded as “unforeseen or special circumstances”, unless ruled to the contrary by the Engineer on a motivation submitted by the Contractor.

The Contractor shall request permission from the Engineer in writing, at least fourteen calendar days in advance, (if possible), of his intention to use machine operations for work reserved for hand labour execution. The request is to be substantiated by a proper motivation.

No machine operations subject to the above request are to commence without the prior written approval of the Engineer and no additional payment of whatsoever nature shall be allowed should the Engineer agree to the request submitted by the Contractor. The tendered rates and prices applicable to hand labour execution shall suffice.

### **PC 2.3 Definitions**

*Labour Intensive* – An activity that is undertaken by labour only, specifically excluding the use of any plant or mechanical equipment, except handtools and related equipment.

## **PC 3 ACTIVITIES THAT MAY MAKE USE OF MACHINE INTENSIVE OPERATIONS**

The activities listed hereunder may be executed by machine intensive means, if not listed hereunder the execution shall be labour intensive.

- i) Excavation in soft & intermediate materials as for restricted excavations.
- ii) Excavations in Machine Class or hard rock materials as for bulk excavations
- iii) Excavations in any Class materials as for bulk excavations in excess of 50 Cu m from a single position, subject to the Engineer’s prior approval.
- iv) Excavations in Pickable material as for restricted excavations where the utilization of hand labour has been proved to be impracticable, subject to the Engineer’s prior approval.

- v) Confined excavation with total depth in excess of 1.2 m.
- vi) Stripping and stockpiling of overburden at approved borrow areas.
- vii) Loosening and/or stockpiling of borrow material at approved borrow areas.
- viii) Hauling of all materials.
- ix) Pumping and transporting of water.
- x) Mixing of concrete for water retaining structures where strength and reinforced concrete is specified and the volume of a particular cast exceeds 5 Cu m.
- xi) Handling and laying of pipes with an individual mass exceeding 350 kg per pipe length.
- xii) Compaction of fill and in-situ material
- xiii) Construction of controlled road layers and maintenance of haul roads.
- xiv) Execution of major road crossings where time is of the essence.
- xv) Site clearance that requires breaking up of concrete and other permanent structures.
- xvi) Placing of bedding and backfill in trenches with collapsing sides
- xvii) Any operation as may be specified by the Engineer.

#### **PC 4 MATERIALS**

The requirements of the applicable SABS specification and/or Project Specification shall apply except where superseded by this Particular Specification.

#### **PC 5 PLANT**

Where plant is to be used, as authorised by this Particular Specification, the requirements of the applicable SABS 1200 Specification and/or Project Specification shall apply except where superseded by this Particular Specification.

#### **PC 6 CONSTRUCTION**

The requirements of the applicable SABS 1200 Specification and/or Project Specification shall apply.

#### **PC 7 TOLERANCES**

The requirements of the applicable SABS 1200 Specification and/or Project Specification shall apply.

#### **PC 8 TESTING**

The requirements of the applicable SABS 1200 Specification and/or Project Specification shall apply.

#### **PC 9 MEASUREMENT AND PAYMENT**

The requirements of the applicable SABS 1200 Specification and/or Project Specification shall apply except where superseded by this Particular Specification.

#### **PC 10 MEN, WOMAN AND YOUTHS**

The labour force shall be equally represented by men, woman and youth (under 25 years).  
The labour officer shall promote this contract requirement with the project steering committee.  
Non-compliance of this requirement will only be acceptable if endorsed (with reason) by the PSC.

**PC 11 LABOUR LIAISON OFFICER (CLO)**

Only persons approved by the Steering Committee will be employed on the site. The contractor is to employ a single liaison officer, approved by the Steering Committee, to act as a go-between between the contractor and local labourers. All negotiations and complaints will be via the liaison officer.

**PC 12 PENALTY FOR NON-COMPLIANCE**

Should the Contractor during the execution of the Work reserved for labour intensive execution:

- a) use unspecified plant; or
- b) contravene the requirements of Particular Specification PA

then the Contractor shall pay to the Employer the penalty as set out hereunder and the Employer may without prejudice to any other method of recovery deduct the amount of such penalty from any monies in the hands due or which may become due to the Contractor.

- a) R1 000.00 per occurrence; plus
- b) 15% of the value of work so executed calculated as the product of the quantity (calculated by the Engineer) and the applicable tendered rate.



**HARRY GWALA DISTRICT MUNICIPALITY**

**NCAKUBANE WATER SUPPLY SCHEME PHASE 3B**

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW CONTRACT: HGDM/696/HGDM/2020**

**PTV : CORROSION PROTECTION**

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PTV : Corrosion Protection

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**PTV CORROSION PROTECTION**

**PTV 1 SCOPE**

This section includes the corrosion protection and materials required for this Contract.

**PTV 2 GENERAL**

**PTV 2.1** The Contractor shall ensure that he has available the latest editions of all the relevant National Specifications and Codes of Practice and the manufacturer's data sheets for materials to be used.

**PTV 2.2** All paints in a paint system shall be purchased from the same manufacturer.

**PTV 2.3** The Contractor shall submit in the Appendices to the document, details of the paints he intends using and shall only proceed with purchase of the paints upon receipt of written approval from the Engineer. Manufacturer's data sheets or legible copies thereof for each product shall be attached to the Appendices.

**PTV 2.4** Materials and procedures shall comply with the appropriate SABS Specifications and Codes of Practice when relevant.

**PTV 2.5** Strict attention shall be paid to fettling of surfaces by the Fabricator (see Clause PTV 4) prior to coating. Surface preparation requirements, the need for strict cleanliness and adherence to specification requirements especially with regard to overcoating times are emphasised.

**PTV 2.6** Areas which are inaccessible after assembly shall be prepared and fully coated with the specified system and to the specified requirements before assembly. The coating shall be fully hard dry before assembly.

**PTV 2.7** Mating surfaces shall be coated with primer or first coat only. The coating shall be uniform in thickness and shall not interfere with the mechanical tolerances. After assembly the outside surface of the joint shall be fully coated.

**PTV 2.8** The painting sub-contractor shall provide evidence of his competence to apply the specified materials in the specified manner and to apply the necessary Quality Control procedures. The Engineer, at his discretion, may demand a Quality Audit of the Contractor's facilities by a technically competent and independent organisation (See Clause PTV 10).

**PTV 2.9** The Contractor shall provide a Quality Plan to show the stages at which Quality Control will be carried out. Further details are given in Clause PTV 10. The Quality Plan is subject to approval by the Engineer, who may require it to be revised if considered inadequate.

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**PTV 2.10** The Engineer will require a Program of Work so that Quality Surveillance inspection can be planned and executed at the appropriate time according to the Contractor's program (see Clause PTV 10).

**PTV 2.11** The Contractor shall provide to material suppliers the specified descriptions of materials to be used and shall receive from them a written assurance that the materials to be supplied comply with the requirements specified.

**PTV 3 DESIGN**

**PTV 3.1 General**

All items shall be designed to minimise corrosion in exposed environments, under immersion conditions and in interior corrosive situations such as in chlorination rooms. The following notes may be used as guidelines.

**PTV 3.2 Water Retention Areas**

Avoid water retention areas wherever possible. For example, angle or U section steel should be used with the toes pointing downwards. The concrete base of steel columns should be sloped away from the steel and the sloping edge should be painted to avoid water ingress at the steel/concrete interface.

**PTV 3.3 Crevices**

Crevices give rise to accelerated corrosion by forming an oxygen concentration cell. Crevices may be avoided by using

- (i) continuous welding, not space welding
- (ii) mastics or sealants to seal unavoidable crevices such as bolted connections
- (iii) insertion rubber or suitable plastic between mating surfaces (See also Clause PTV 2.7).

**PTV 3.4 Bimetallic Couples**

Electrical contact between dissimilar metals gives rise to a corrosion cell when an electrolyte such as water is present. Junctions between dissimilar metals shall be insulated.

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**PTV 3.5 Accessibility**

Whenever possible, the surfaces of corrodible materials such as mild steel shall be accessible for maintenance. The use of back to back angles, partially open box sections or inaccessible stiffeners shall be avoided.

**PTV 3.6 Differential Aeration**

Posts buried in soil are subject to accelerated corrosion due to differential aeration. Additional protection shall be given to that part which is buried and up to at least 100 mm above ground.

**PTV 3.7 Sharp Edges, Weld Spatter and Weld Slag**

The designer shall specify that all sharp edges shall be ground to a radius not less than 2 mm and that all weld spatter and weld slag shall be removed by the Fabricator (see Clause PTV 5).

**PTV 3.8 Hot Dip Galvanising**

The design of articles to be galvanised shall be referred to the galvaniser (see Clause PTV 8).

**PTV 4 COATING MATERIALS**

**PTV 4.1** No variation in materials tendered and approved by the Engineer shall be permitted without the approval of the Engineer in writing.

**PTV 4.2** Correct material selection shall be confirmed by the material supplier (see Clause PTV 12.1).

**PTV 4.3** All coating materials shall be delivered in the manufacturer's original sealed containers, clearly marked with the following:

- (i) Manufacturer's name.
- (ii) Product Brand and Reference Number.
- (iii) Batch Number which may incorporate the date of manufacture.
- (iv) Date of manufacture, unless already incorporated in the batch number.

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- (v) Abbreviated instructions for storage and use of the material, which shall include mixing ratios of components of multi-component materials, minimum temperature of application and method of application.
- (vi) The SABS mark where applicable.

**PTV 4.4** All coating materials shall be kept in an approved store, which shall be dry, enclosed and where the temperature is unlikely to exceed 40°C or drop below 0°C.

**PTV 4.5** Usage of materials shall be on a first in, first out basis and no materials may be used which have exceeded the shelf life recommended by the manufacturer.

**PTV 5 FETTLING OR DRESSING BY THE FABRICATOR**

Before any surface preparation or painting is commenced, dressing shall be carried out to avoid projections, sharp edges, weld slag and spatter that will interfere with the corrosion protection. This included the following:

**PTV 5.1** Remove all weld flux and weld spatter. Flux is best removed by washing with clean water whilst weld spatter is normally removed by grinding to a smooth surface.

**PTV 5.2** Sharp edges shall be ground to a radius not less than 2 mm.

**PTV 5.3** Welds shall be continuous and shall have a smooth contour. Rough welds shall be ground where necessary to achieve the required smooth profile. Discontinuous welds shall not be permitted except by written approval of the Engineer. Undercuts are not permitted and shall be rewelded and ground where necessary.

**PTV 5.4** Articles for hot dip galvanising shall not contain overlap joints. Closed sections shall be suitably vented. See Clause PTV 8 (Hot Dip Galvanising).

**PTV 6 SURFACE PREPARATION FOR PAINTING**

**PTV 6.1 Mild Steel**

Oil and grease contamination, when present, shall be removed by degreasing before blast cleaning.

Mild steel shall be blast cleaned in accordance with Section 4.3 of SABS 064 Code of Practice for "The preparation of steel surfaces for coating".

An additional requirement is that water soluble salts present in the steel after blast cleaning shall not exceed the values given in Table 1. Should these values be exceeded, the steel

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shall be cleaned by washing with clean potable water or by water shrouded or water injected blast cleaning until the soluble salts are within the limits specified in Table 1. The steel shall then be allowed to dry, after which it shall be flash blast cleaned to achieve the required degree of cleanliness.

**PTV 6.2 Cast Iron and Cast Alloys**

All cast surfaces shall be blast cleaned with new iron slag, copper slag, or platinum slag abrasives designed for blast cleaning. The abrasive shall not be recycled or re-used. Cast iron shall be blast cleaned until all sand particles, residual burst on sand and casting skin have been completely removed. This blast cleaning shall be carried out by the Foundry prior to despatch to the galvaniser or painting contractor, when relevant. Conventional cleaning of castings is inadequate for galvanising.

**PTV 6.3 Galvanised Steel Surfaces**

Galvanised steel surfaces shall be thoroughly degreased prior to painting, using either a water risible solvent degreaser used in accordance with the manufacturer's instructions, or a mild acid-detergent degreasing solution. In both cases care shall be taken to avoid entrapment of cleaning agent in recesses or other retention areas and in both cases the surfaces shall be thoroughly washed until a "water break free" surface is achieved. If necessary, the process shall be repeated until a "water break free" surface is obtained.

A water break free surface is one which, when wetted all over with potable water, maintains a continuously wet surface and the water does not break up into islands of unwetted surface.

**TABLE 1 - STANDARDS FOR BLAST CLEANING REQUIRED**

Property	Above Water	Immersed Surface	Tape Wrapping
Cleanliness to SIS 06 5900 (min)	Sa2½	Sa3	Sa2
Residual dust and debris	0,5%	0,3%	1%
Oil grease and perspiration	Nil	Nil	Nil
Surface Profile min (micrometers)	25 50	50 10	50 100
Water soluble iron salts - maximum At any point	500 mg/m <sup>2</sup>	100 mg/m <sup>2</sup>	500 mg/m <sup>2</sup>
Average of any 250 cm	100 mg/m <sup>2</sup>	100 mg/m <sup>2</sup>	100 mg/m <sup>2</sup>

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After degreasing, the surface shall be lightly abraded by one of the following methods:

- (i) On small areas by the use of abrasive paper not coarser than 120 grade, or by using non-metallic abrasive pads.
- (ii) On large areas by "sweep blast cleaning", using a nozzle pressure not greater than 300 kPa and a very fine abrasive. Cracking, flaking, or any form of delamination of the zinc coating due to excessive blast cleaning shall not be permitted. Removal of zinc by blast cleaning shall not exceed 10 micrometers.

Finally, all dust and debris shall be removed by vacuum cleaning, or by washing, and the surface shall be allowed to dry before coating.

#### **PTV 6.4 Aluminium**

Generally, aluminium surfaces will be anodised or powder coated and will require no further treatment. Where painting is required, the aluminium surface shall be thoroughly degreased, then rinsed with clean potable water. If the surface is not "water break free", repeat the degreasing process until a water break free surface is obtained. Allow to dry completely, then apply a thin coat (8 to 13 micrometers dry film thickness) of wash primer complying with SABS 723, mixed and applied in accordance with the manufacturer's instructions.

**NOTE:** Wash primer is an adhesion promoter and does not replace the primer specified in the paint system.

#### **PTV 6.5 Stainless Steel**

Components fabricated from stainless steel shall not be contaminated with iron or mild steel. Sheared edges, welds or surfaces subjected to any form of heat treatment shall be pickled and passivated. Stainless steel surfaces shall not be scratched or stressed.

When it is required to paint stainless steel, the surface shall be blast cleaned with non-metallic abrasive such as iron slag, copper slag or platinum slag. The use of steel shot, steel grit or cast iron grit is strictly prohibited. Any contamination with iron or mild steel is prohibited.

Where blasting is impractical, the surface shall be cleaned with detergent solution and roughened manually by using non metallic abrasive pads, followed by washing with clean potable water to a "water break free" surface. If a "water break free" surface is not obtained, detergent cleaning shall be repeated until the surface is "water break free". Allow the surface to dry before coating.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



**PTV 6.6 Painted Surfaces**

- (i) Fully painted surfaces to be repaired

Bare areas shall be cleaned with abrasive paper not coarser than 220 mesh to bright metal surface. The surrounding paint, which must be intact, shall be feathered for a distance of 20 mm beyond the damaged areas. Dust and debris shall be removed by the use of a clean rag dampened with water or clean solvent that will not attack the coating. The damaged area shall be allowed to dry, after which spot repair shall be carried out with all the coats previously applied and shall overlap the undamaged area by 20 mm.

The requirements of the spot repair shall be not less than that specified for the undamaged coating.

When additional coats are required over the whole surface, the whole surface shall be abraded to a uniform matt finish, dust and debris removed, and the surface allowed to dry. All further coats shall then be applied as specified to give a uniform finish. Note that abrasion of the coating is not required for vinyl systems.

- (ii) Fully painted surfaces to be overcoated

Where additional coats are required over the whole surface, the surface shall be degreased and abraded to a uniform matt finish. The surface shall be washed to remove all contamination and then allowed to dry. Further coats shall then be applied as specified to give the required coating thickness and specified finish.

- (iii) Primed surfaces

Shop applied primers shall be thoroughly sanded with fine abrasive paper to achieve a uniform matt surface, then scrubbed with a solution of suitable water based detergent-degreaser using a bristle brush, followed by clean water rinses to remove all grease and water soluble matter. The surface shall be allowed to dry completely before application of the specified coating system over the whole surface.

**PTV 6.7 Plastic Surfaces such as uPVC and Polyester GRP**

Sand the surface thoroughly with fine abrasive paper to achieve a uniform matt finish. Remove all debris, oil and grease by scrubbing with a solution of a suitable water based detergent such as Shell Teepol Lenxex. Allow to react for 15 to 30 minutes, then rinse off

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



very thoroughly with clean potable water to remove all residues. Allow to dry completely before painting.

**PTV 7 APPLICATION OF PAINTS**

**PTV 7.1 Environmental Conditions**

Paint shall not be applied in dusty conditions, nor when the steel surface temperature is less than 3°C above dew point, or higher than that advised by the paint manufacturer, nor when humidity is greater than 85%, nor when the ambient temperature is less than the minimum or greater than the maximum specified by the manufacturer of the coating material.

**PTV 7.2 Mixing**

All coating materials shall be very thoroughly mixed until completely homogeneous. In the case of two-pack materials, each component containing pigments shall be thoroughly mixed. The two components shall then be mixed together in the proportions supplied by the manufacturer until the mixture is completely homogeneous. In the case of solvent based epoxy materials, it is recommended that the mixed material be allowed to stand for an induction period of 20 to 30 minutes before use.

For two pack materials, the use of part of the contents (split packs) is strictly forbidden.

**PTV 7.3 Method of Application**

Application shall be by brush, roller, spray, airless spray, or other suitable equipment as appropriate for the surface to be coated and in accordance with the recommendations of the manufacturer. Application equipment shall be maintained in clean condition and in good working order. The use of equipment not maintained in good condition may lead to rejection of the coating.

**NOTE:** Zinc silicate primers shall be applied by conventional spray, using a continuously agitated pressure pot, unless otherwise recommended in writing by the manufacturer.

**PTV 7.4 Overcoating**

Overcoating times shall be not less than the minimum nor greater than the maximum specified by the manufacturer relevant to the ambient temperature. Strict adherence to overcoating times is particularly important for coatings which are subsequently immersed.

The Contractor shall be held responsible for blistering of paint coatings on immersion, when shown to be caused by solvent retention.

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All coats shall be clean and free from dust, oil, moisture, perspiration before overcoating. Operators handling blast cleaned or partially painted surfaces shall wear clean gloves to avoid contamination of the surface.

**PTV 7.5 Manufacturer's Instructions**

Recommendations supplied by the manufacturer in the form of the latest edition of printed data sheets, or given in writing on the manufacturer's letterhead, shall be followed. Verbal information by the manufacturer's representative will not be accepted unless confirmed in writing by the company.

**PTV 7.6 Handling**

Coated components shall not be handled earlier than the hard dry time recommended by the manufacturer, relevant to the ambient temperature. Coated components shall be handled with broad band slings and suitable packing to minimise damage to the coating. All damage caused in handling, transportation, and erection, shall be repaired to the satisfaction of the Engineer at no extra cost.

**METAL COATINGS AND CORROSION RESISTANT METALS**

**PTV 8 HOT DIP GALVANIZING**

**PTV 8.1 Design and Fabrication**

Components for hot dip galvanising shall be designed and fabricated in accordance with the recommendations of SABS Code of Practice Project No. 341/50490 (not published at the time of preparation of this specification), except that the use of lead plugs is not permitted.

It is recommended that the manufacturer consults the galvaniser before design and fabrication to ensure that the fabrication will be suitable for galvanising.

The main requirements are as follows:

- (i) Overlap joints shall be avoided wherever possible. If essential, such overlap joints shall be thoroughly degreased before assembly and shall be vented by drilling holes through one or both overlapping materials.
- (ii) Closed sections shall be suitably vented. If the inside of a closed section is not to be galvanised, a snorkel vent tube of suitable length and bore shall be attached.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



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- (iii) Gussets and internal baffles in tanks shall be cropped to allow free flow of zinc and air.
- (iv) Joints shall be continuously welded, using balanced welding techniques to avoid stresses. Welds shall be free from cavities, undercutting, weld slag and spatter.
- (v) Symmetrical design shall be used whenever possible and the use of thin gauge steel adjacent to heavy sections shall be avoided.
- (vi) Openings and flanges of manholes and bosses shall finish flush on the inside to ensure complete drainage.
- (vii) Castings shall be designed to be of as uniform section as possible and shall be blast cleaned in accordance with Clause PTV 6.2 before despatch to the galvaniser.

**PTV 8.2 The Hot Dip Galvanising Process**

- (i) Hot dip galvanising shall comply with SABS 763 for fabricated articles, SABS 934 for pregalvanised sheet, or SABS 935 for wire.
- (ii) Mating surface on fabricated or cast iron components shall be wiped or centrifuged on removal from the galvanising bath to remove blobs, runs or excess metal that may impair the air/gas/water tightness of the joint.
- (iii) Bolts, nuts and washers used for fixing shall be hot dip galvanised to SABS 763. Electroplated fasteners will not be accepted unless otherwise agreed by the Engineer in writing.

**PTV 8.3 Repair Of Galvanised Articles**

Welding, flame cutting, or other heat processes shall not be carried out on galvanised articles unless permission is granted by the Engineer in writing.

If such permission is given, or if mechanical damage has occurred, repairs shall be carried out as follows:

- (i) All scale, spatter and flux shall be removed by grinding and washing with clean water. Edges shall be ground to a radius not less than 2 mm.
- (ii) The preferred repair process is to blast clean the bare steel and apply zinc by the thermal spray process in accordance with SABS 1391 Part 1, Grade Zn 150. On completion of metal spraying, burnish the surface by means of a mechanical wire

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



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brush to give a uniform appearance. Such burnishing shall remove not more than 10 micrometers of zinc.

- (iii) Where small areas are to be repaired, clean the surface thoroughly with fine abrasive paper, remove all debris with a damp cloth and allow to dry. Apply an approved one pack epoxy ester based zinc rich primer containing not less than 90% by mass of zinc in the dry film. A sufficient number of coats (usually 3 or 4) shall be applied such that the repair coating thickness is not less than the average zinc thickness specified in SABS 763, 934 or 935, as appropriate. The repair shall extend not less than 5 mm beyond the damaged area.

On completion of the repair and when the zinc primer is completely dry, one coat of alkyd resin based aluminium paint may be applied to obtain a uniform appearance.

**NOTE:** Repair of galvanised surfaces by application of aluminium paint alone IS NOT PERMITTED.

**PTV 8.4 Storage of Galvanised Components**

Galvanised components shall be stored to avoid the formation of "white rust" or other forms of storage staining.

Components shall be separated and supported on wooden battens to ensure adequate ventilation of all surfaces and in such a manner to avoid "ponding" by rainwater.

If storage staining does occur, remove the stains by scrubbing with detergent solution and bristle brush or nylon pad. The use of steel wool or other metallic abrasive is not permitted. Rinse thoroughly and allow to dry. If the residual zinc thickness complies with the requirements of the appropriate grade in the relevant specification, no further action is required unless instructed by the Engineer.

If the zinc thickness is below specification, the article shall be regalvanised or repaired in accordance with Clause PTV 8.3 as instructed by the Engineer.

**PTV 9 STAINLESS STEEL FABRICATIONS**

**PTV 9.1 Grade and Welding Techniques**

The grade of stainless steel to be used shall be as specified in the appropriate section of the mechanical specification or drawings. Where welding is necessary, the appropriate "L" grade (low carbon content) shall be used. Plate shall be supplied as No 1 Finish in accordance with BS 1449 Part 4.

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Welding procedures shall be only those recommended by the stainless steel manufacturer or by the South African Stainless Steel Development Association. Only welders coded to BS 4870 Part 1 or to ASME IX, 1983 shall be employed.

Welds shall be smooth and free from blowholes, undercuts, sharp projections and similar visual defects.

Fabrication of stainless steel components shall be carried out in clean work places where there is no contamination by mild steel. Grinding and polishing equipment shall be dedicated and shall not be contaminated with iron or mild steel.

Stainless steel shall be suitably handled to avoid scratching the surface.

### **PTV 9.2 Pickling and Passivation**

Cut edges, welds and heat treated surfaces shall be pickled and passivated to remove all discolouration. Proprietary pickling and passivating pastes (as supplied by Duva Chemicals (Pty) Ltd., or other approved supplier) shall be used in accordance with the manufacturer's recommendations. Care shall be taken not to exceed the maximum contact time recommended.

The safety precautions given in PTV 10.2 shall be strictly observed.

After passivation, surfaces shall be very thoroughly washed with clean potable water to remove all traces of acid. The surface shall be allowed to dry, then polished where necessary, using polishing compounds recommended by the stainless steel manufacturer or the South African Stainless Steel Development Association.

SAFETY PRECAUTIONS as specified in Clause PTV 10.1(ii) shall be strictly observed.

## **PTV 10 CORROSION RESISTANT STEEL 3CR12**

### **PTV 10.1 Welding Techniques**

- (i) Welds shall be full penetration welds, using 309 austenitic electrodes or filler wire, or as recommended by the manufacturers (Middelburg Steel & Alloys (Pty) Ltd).
- (ii) Welders shall be suitably coded for welding similar thickness of austenitic stainless steel, in accordance with BS 4870 Part 1 or ASME IX, 1983.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2





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- (iii) Welding procedures shall comply with the recommendations of the manufacturers of 3CR12 (Middelburg Steel & Alloys (Pty) Ltd).
- (iv) Welds shall be smooth and free from blow holes, undercuts, sharp projections and similar visual defects.

**PTV 10.2 Pickling and Passivation**

- (i) After completion of welding, both weld and heat affected zones shall be cleaned, pickled and passivated. Any heat scale on the steel shall be pickled and passivated.
- (ii) The procedure shall be as follows:
  - (a) Not to paint surfaces.  
  
Grind or wire brush, using dedicated grinders or stainless steel wire brushes to achieve the required smooth profile or remove scale.
  - (b) Pickle with a thixotropic paste containing 15-20% nitric acid and 1-2% hydrofluoric acid, with a contact time of 15 to 10 minutes.
  - (c) Rinse thoroughly with clean water until the pH of the washings is the same as that of the wash water.
  - (d) Repeat the above process, if necessary to remove all discolouration.
  - (e) Passivate with 10% nitric acid solution, or a proprietary passivating paste, for a contact time of 10-15 minutes, keeping the surface wet during this period.
  - (f) Rinse thoroughly with clean potable water until washings are the same pH as the wash water.
  - (g) Operatives shall wear protective aprons, gloves and safety glasses during pickling and passivating operations.
  - (h) Splashes on the skin shall be thoroughly washed with clean water immediately after contract. A weak solution of sodium bicarbonate shall be kept available for neutralisation. Seek medical attention if in doubt.
  - (i) Disposal of effluent shall be in accordance with the requirements of the local authority in whose area the work is being carried out. Generally, the effluent is stored in drums containing an excess of lime (calcium carbonate).

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## PTV 11 ALUMINIUM

### PTV 11.1 Anodising

Aluminium components where specified as anodised shall be natural anodised and sealed in accordance with SABS 999 Grade 25. The corrosion resistance of the coating shall be not less than 8 when tested in accordance with 3.6 of specification SABS 999. Anodising shall be carried out after completion of all welding.

### PTV 11.2 Powder Coating

When specified by the Engineer, aluminium handrails may be coated with polyurethane powder. Such coating shall only be carried out by Contractors with the necessary plant, equipment and experience to pretreat and powder coat aluminium effectively. The coating shall comply with BS6496, 1984.

### PTV 11.3 Fixing

Whenever aluminium components, such as stop log frames, come into contact with concrete or grout, the surface of the aluminium in contact with the concrete shall be coated with two coats of an approved epoxy tar composition.

## PTV 12 QUALITY ASSURANCE REQUIREMENTS

### PTV 12.1 Contractor Qualification

The Tenderer shall state in the Appendix to this document the name of the painting sub-contractor that he proposes to use to carry out the painting or coating. The Engineer may, at his discretion, require a Quality Audit of the painting sub-contractor to ensure that he has the management, facilities, skilled staff, and quality control facilities and staff to carry out quality control during application of coatings to ensure compliance with the specification.

The contractor shall accept full responsibility for the quality of his work and of materials used, irrespective of any quality surveillance that may be carried out by the Engineer or his representative.

The contractor shall obtain confirmation from the material supplier that materials to be used comply with the specification and are suitable for the intended purpose by having the appropriate Appendix completed by the material supplier.

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**PTV 12.2      Quality Control**

The contractor shall have the necessary equipment and staff knowledgeable in test procedures to carry out all the quality control required to ensure compliance with the specification. The contractor will be required to produce a quality plan and a program for carrying out the work. The contractor shall maintain quality control records of all stages of the work, batch numbers of materials used, environmental conditions, all as required by the specification. Quality control shall be inclusive in the contractor's tender price.

**PTV 12.3      Quality Surveillance**

Independent surveillance - The Engineer may employ an independent service provider to perform the quality surveillance on his behalf.

Program - The Contractor shall advise the Engineer timeously, in writing, when and where the following processes will be carried out:

- (i)      Completion of fettling or dressing prior to leaving the fabricator's works.
- (ii)     Blast cleaning and application of the first or primer coat.
- (iii)    After completion of all coats to be applied at the contractor's works.
- (iv)    At the commencement of repairs to be carried out on site.

Failure of the Contractor to advise the Engineer of his program may result in rejection of the work.

**PTV 12.4      Access for Surveillance**

For the purpose of carrying out quality surveillance, the Engineer or his representative shall be granted access to any part of the Contractor's premises relevant to the work being carried out, at any reasonable time. The Contractor shall provide, at his own cost, any equipment or labour necessary to gain access to surfaces which are coated, to be coated or are in the process of being coated.

**PTV 12.5      Samples**

The Engineer or his representative may remove any reasonable samples of materials to be used in the coating application. Rejection of the sample will place a hold on the use of material of the same batch number and may lead to rejection of all that batch of material and the reworking of any components that have already been coated with rejected material.

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**PTV 12.6 Destructive Testing**

The Engineer or his representative may carry out reasonable destructive tests to ascertain compliance with the specification. Areas thus damaged shall be repaired by the contractor to the satisfaction of the Engineer at no additional cost.

**PTV 12.7 Cost of Quality Surveillance**

Cost of Quality Surveillance shall be borne by the Employer, except when surveillance results in rejection of the lot or when notice by the Contractor results in a fruitless strip, in which cases the cost shall be debited against the contractor's account.

**PTV 12.8 Quality Control Records**

Proper and adequate quality control records shall be maintained by the Contractor for all stages of the work. These records shall be available for inspection by the Engineer or his representative at the time of Quality Surveillance. Incomplete, inaccurate or inadequate records shall be regarded as non-compliance with the specification, and the cost of surveillance will be back charged to the contractor.

**PTV 12.9 Data Sheets, Specifications, and Codes of Practice**

The Contractor shall have available the latest issues of manufacturer's data sheets materials to be used, National specifications and Codes of Practice relevant to the work to be carried out, as well as a copy of this specification, all of which shall be available to the Contractors Quality Control Manager.

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**HARRY GWALA DISTRICT MUNICIPALITY**

**NCAKUBANE WATER SUPPLY SCHEME PHASE 3B**

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING  
MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE  
AND REPAIRS AT WTW CONTRACT: HGDM/696/HGDM/2020**

**PU : BUILDING WORK**

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**PU BUILDING WORK**

**PU 1 SCOPE**

This section of the Specification deals specifically with all the building work associated with the Works.

Concrete work, steelwork, cladding, pipe laying, mechanical and electrical equipment, etc. forming part of or to be housed in a building erected in terms of this specification shall conform to the requirements of the relevant standardised or particular specifications referred to in the Project Specification.

**PU 2 INTERPRETATIONS**

The relevant SANS 1200 Standardised Specifications such as Site Clearance, Earthworks, Earthworks (Pipe Trenches), Concrete (Structural), Low Pressure Pipelines, Bedding (Pipes), Sewers and Stormwater drainage shall also apply to the work under this section.

**PU 3 MATERIALS**

All materials used for the Building Works shall, where such mark has been awarded for a specific type of material, bear the SANS mark.

**PU 3.1 Brick and Plasterwork**

**PU 3.1.1 Cement**

Cement shall conform to the requirements of SANS 1200 G-Concrete (structural)

**PU 3.1.2 Sand**

Sand or plaster and mortar shall comply with the requirements of SANS 1090, whereas the aggregates for normal and granolithic floor screeds shall comply with the requirements of BS 1199 and BS 1201 respectively.

**PU 3.1.3 Water**

Water shall conform to the requirements of SANS 1200 G-Concrete (structural).

**PU 3.1.4 Cement Mortar**

Unless otherwise described, cement mortar shall be composed of six parts by volume of sand to one part by volume of cement. The materials are to be mixed dry until the mixture is of a

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uniform colour and then clean water is to be added gradually through a fine hose and the mixture turned over until the ingredients are thoroughly incorporated.

Cement mortar must be mixed in small quantities and must be used within one hour of mixing, as the use of cement mortar that has commenced to set will not be permitted.

**PU 3.1.5      *Plaster***

Plaster on brick walls shall be mixed one part cement to six parts sand.

Plaster on concrete ceilings, beams, columns etc. shall be mixed one part cement to three parts sand.

Plaster shall be mixed as specified in Clause PU 3.1.4

**PU 3.1.6      *Bricks***

Bricks shall be of the best quality sound hardburnt pressed bricks or in the absence of clay bricks, concrete bricks, even in size and shape and equal to a sample submitted to and approved by the Engineer prior to commencement of work.

Clay bricks shall conform with the requirements of SANS 227 and concrete bricks to SANS 987.

**PU 3.1.7      *Wall Ties***

Wall ties shall be the galvanised, crimped, single-wire type with a 3,5 mm diameter, and shall comply with the requirements of SANS 28.

**PU 3.1.8      *Damp Proof Courses***

Damp proof courses, unless otherwise described, shall be an asphaltic damp proof course with a base of fibre felt, and complying with the requirements of SANS 248 Horizontal Damp Proof Courses, and with a mass of 3,25 kg/m<sup>2</sup> or a plastic damp proof course of 15 micron thickness as Type B, complying with the requirements of SANS952.

**PU 3.2        *Fascias, Barge Boards and Window Sills***

**PU 3.2.1      *Fascias and Barge Boards***

Asbestos cement fascias and barge boards, where specified, shall be 12 mm pressed sheets, 200 or 225 mm wide, free from cracks, twists, blemishes or other defects and complying with the requirements of SANS 685.

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**PU 3.2.2 Window Sills**

Internal fibre reinforced cement sills (NUTEC) shall be single lengths cut between reveals, fitted with fixing lugs and solidly bedded in 3:1 cement mortar with a slight projection beyond the finished wall face below. Sills shall be pressed reinforced cement of approved manufacture 152 x 15 mm thick set level.

**PU 3.3 Paintwork**

**PU 3.3.1 Primers**

Plastered surfaces must be cleaned down and have one coat alkali resisting primer of an approved brand applied in strict accordance with the manufacturer's instructions, before any undercoats are applied.

Galvanised metal surfaces must be treated with one coat Metal Etch Primer complying with the requirements of SANS 723.

Steel surfaces and doors and steel door frames, before being built in, must have all loose primer together with all rust spots, dirt, etc. removed and be treated with one coat red oxide zinc chromate primer complying with the requirements of SANS 909.

Wood surfaces to receive paint finish must be cleaned down, all knots treated with knotting and be primed with Type 1 Wood Primer externally and Type III Wood Primer internally, both complying with the requirements of SANS 678.

**PU 3.3.2** Emulsion paint for interior use must be Grade I Emulsion paint complying with the requirements of SANS 663. Emulsion paint for exterior use must be of the Synthetic Polymer Base Type complying with the requirements of SANS 634.

**PU 3.3.3** High Gloss Enamel Paint shall be used on all surfaces other than specified above. High Gloss enamel paint must be Grade I paint complying with the requirements of SANS 630 for decorative High Gloss Enamel Paints with a Non-Aqueous Solvent Base, for interior and exterior use.

Undercoats for paints, except Emulsion paints, must be Type I undercoat Paint complying with the requirements of SANS 681.

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**PU 3.4 Doors, Windows and Glazing**

**PU 3.4.1 Solid Hardwood Doors**

Unless indicated otherwise on the drawings, all doors shall be solid hardwood doors, manufactured from hardwood complying to SANS 1099.

**PU 3.4.2 Wooden Door Frames**

All wooden door frames shall be of solid hardwood, complying to SANS 1099. Frames shall be fitted with suitable tie bars and braces at bottom and lugs for building in, three to each jamb of frames without fanlights and four to each jamb of frames with fanlights. All doors shall be provided with locks to the requirements of SANS 4 and each lock shall be provided with a duplicate key.

**PU 3.4.3 Pressed Steel Door Frames**

Pressed steel door frames shall comply with SANS 1129 and shall be manufactured from 1,6 mm thick mild-steel sheeting, pressed to the required shapes, properly mitred, welded and reinforced, with all welding neatly cleaned off.

Frames shall be of the widths required to suit the thickness of the walls into which they are built and shall be fitted with suitable tie bars and braces at the bottom. Three lugs to be built into the brickwork shall be provided on each jamb.

Rebates in frames and transom for doors shall be of the widths required to suit thicknesses of the doors and shall be fitted with a pair of approved steel butt hinges set flush into recesses in the frames. 4,5 mm thick reinforcing plates shall be welded to the backs of the frames at hinge positions.

**PU 3.4.4 3CR12 Door Frames**

The same conditions as specified in clause PU3.4.3 shall apply for 3CR12 Door Frames except that 1,6 mm thick 3CR12 sheetings shall be used.

**PU 3.4.5 Windows**

Steel windows must be of approved manufacture and design, constructed of rolled mild steel sections, properly mitred and welded at angles with welding cleaned off smooth on all faces and complying with the requirements of SANS 727. Window types and sized shall be as specified on the drawings.

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**PU 3.4.6 Aluminium Window Frames**

Standard aluminium window frames shall be manufactured from aluminium extruded section with anodised finish.

**PU 3.4.7 Winblock Window Systems**

Precast concrete window systems shall be winblock window systems as supplied by Winblock Transvaal, Tel: (011) 444 6996/444 4887 or similar approved.

Standard Winblock surrounds shall be supplied as indicated on the drawings. The surrounds shall be manufactured from unreinforced low permeability, 30 MPa concrete and shall conform to the specification of Wintec in all respects.

Where direct glazing is specified, the glazing shall be fixed to the winblock surround in accordance with the instructions of the manufacturer.

Where opening windows are specified top-hung Winvents shall be supplied with factory glazing. The frame shall be manufactured from aluminium extruded sections with anodised finish. Weather seals the wool pile. Friction stays to be manufactured from stainless steel and handles from glass reinforced nylon (GRP)

**PU 3.4.8 Fixed Louvre Windows**

Fixed louvre windows shall be standard louvres to the sizes indicated on the drawings as manufactured by HH Robertson (Africa) Pty Ltd or similar approved and shall have a dark blue chromodek finish

Fixed louver windows shall be provided with a vermin proof screen manufactured from Mentis Type 362 Flatex screen as manufactured by Andrew. Mentis (Pty) Limited or similar approved welded to a 75 x 50 x 20 x 2,5 lipped angle frame, sized to fit into the wall opening as indicated on the drawings. The frame shall be provided with four lugs and fixed to the masinary work with four 8 mm x 50 mm expansion bolts.

**PU 3.4.9 Glazing**

Sheeting glass for glazing, unless otherwise specified, must be flat drawn clear glass of the thickness indicated below and comply to SABS 0400, Part N. For safety glazing refer to NN3.1.

For panes not exceeding 0,65 m<sup>2</sup> : 3 mm  
For panes exceeding 0,65 m<sup>2</sup> and not exceeding 1,5 m<sup>2</sup> : 4 mm  
Where obscured glass is specified, 4 mm thick .

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Specific pattern glass shall be used.

**PU 3.5 Tiling**

**PU 3.5.1 Adhesive and Grouts**

(a) Wall adhesive

Wall adhesive shall be a grey, cement-based thin bed, wall tile powder adhesive for fixing tiles to walls.

(b) Floor adhesive

Floor adhesive shall be a grey, cement-based thick bed, floor tile powder adhesive for fixing heavy tiles to floors or walls.

(c) Bonding agent

Bonding agent shall be a latex modified for use with adhesives and grouts to improve water resistance.

**PU 3.5.2 Tiles**

Tiles shall be of first grade quality, white in colour, and of minimum thickness of 5 mm and shall be glazed ceramic tiles (unless specified to the contrary).

**PU 3.6 Floor Finishes**

**PU 3.6.1 Vinyl Floor Tiles and Accessories**

Vinyl floor tiles shall be semi-flexible vinyl floor tiles, 300 mm x 300 mm x 2,5 mm thick to the colours specified. The colour scheme shall be approved by the Engineer before any tiles are ordered - irrespective whether colours have already been specified on the drawings.

Skirtings shall match the colour of the floor tiles and shall reach 100 mm up against the wall.

**PU 3.6.2 Epoxy Floor Coatings**

**PU 3.6.2.1 Self Levelling Coatings**

Self levelling and self smoothing epoxy coatings shall be solvent free, epoxy overlay systems in general 4 – 6 mm thick. However the epoxy coating shall be applied to the thickness specified strictly in accordance with the manufacturers instructions. Before application the concrete shall be prepared and primed in accordance with the manufacturers instructions.

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**PU 3.7 Electrical Connection**

Electrical wiring and fittings are to comply with the requirements laid down by :

- (i) The latest issue of the "Standard Regulations for wiring of premises" issued by the South African Institute of Electrical Engineers.
- (ii) The Factories, Machinery and Building Works Act of 1941.
- (iii) The local authorities By-laws and any special requirements of the Local Supply Authority.

**PU 3.8 Sanitary Equipment**

**PU 3.8.1 Pedestal Water Closet Pans**

Pedestal water closed pans shall be of wash-down type approximately 450 mm high, of white glazed fireclay or vitreous china, complying with the requirements of the relevant SANS specification.

Pans shall be bedded on the floors in 3:1 cement mortar. Pans shall be fitted with approved wooden seats with double flap of size and shape required to fit the pans and each attached to pan with two non-ferrous metal fixing bolts.

**PU 3.8.2 Flushing Cisterns**

Closed coupled vitreous china cisterns, no less than 12 mm thick in any part, shall be provided complying with the relevant SANS specification and shall have a capacity of not more than 9 litres and shall be of the valveless symphonic type of approved manufacture.

**PU 3.8.3 Hand Wash Basins**

Hand wash basins shall be of the bracket type of white vitreous china, complying with the requirements of the relevant SANS specification and having overflow, fitted with chromium plated grid.

Unless otherwise specified, basins shall be size 585 x 430 mm each fitted with 38 mm plug and chromium-plated chain, and with 12 mm chromium-plated brass easy clean pattern screw down pillar taps.

Basins shall be fixed on concealed wall hangers fixed to walls with 6mm brass bolts, 150 mm long.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



**PU 4 PLANT**

Plant, equipment, tools, scaffolding, etc. utilised in building work shall be of suitable capacity, condition and design to ensure the satisfactory and timeous completion of the Works within the specified period and in terms of these specifications and good building practices.

Only registered artisans (e.g. plumbers, electricians, etc) shall be employed on any work where this is compulsory building practice.

**PU 5 CONSTRUCTION**

**PU 5.1.1 Normal Brick Walls**

Brickwork, wherever practicable, and not otherwise described must be built in Stretcher bond. Half brick walls, walls in two skins and cavity walls must have separate skins built in stretcher bond. No false headers are to be used and none but whole bricks except where legitimately required to form bond. The bricks are to be well wetted (saturated in hot weather) with water before being laid and the course of bricks last laid is to be well wetted before bedding fresh bricks upon it. All perpends and angles are to be kept plumb. The brickwork is to have the joints flushed up at every course solid throughout the whole width of the course, and each course is to be laid on a solid bed of mortar. Pointing is to be done as the work proceeds.

The joints of all walls to be plastered or tiled are to be raked out 15 mm as the work proceeds to form a key for plaster or screed. All walls are to be built up in regular and horizontal courses and carried out so that no part built is more than 1,2 m higher than any adjoining walls. Mortar beds generally are not to exceed 12 mm thickness.

**PU 5.1.2 Face Brick Walls**

In all face brickwork the bond must be set out on the first level course of brickwork, at floor level internally and two courses below ground level externally. The bond, if necessary, is to be broken in the centre of panels under windows or to piers between windows. All perpends must be kept true and all courses must be built to gauge rods. Facings must be carefully protected from damage, mortar droppings, paint splashes, etc. during the whole period of the Contract, and facing on completion will not be allowed.

**PU5.1.3 Cavity Walls**

Cavity walls are to be built with two brick skins with a cavity between the skins and the two skins tied together with wire ties, four to the metre square, carefully laid and in no case to fall inwards towards the inner skin of the wall.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Care must be taken to keep the cavity free of mortar droppings or other matter by movable boards or other means, and temporary openings must be left at plinth level through which any such droppings, etc. can be removed, and the openings made good on completion.

At door, windows and other openings, the cavities shall be stopped 102,5 mm back from heads, jambs and sills of openings.

**PU 5.1.4 Reinforced Brick Lintols**

Brick lintols are to be built of normal, sound, well burnt, good quality building bricks, similar to the facings where exposed properly bonded longitudinally and bedded and pointed in cement mortar as described. Special care must be taken to ensure solid bedding, particularly where the reinforcement occurs.

The lintols are to be reinforced with straight continuous mild steel rods of the size and number scheduled. The rods must each extend 300 mm on each side of the opening and are to be evenly spaced across its thickness in the first horizontal joint above the soffit.

Brick lintols in cavity walls must have all rods placed below the solid sections of the walls, excepting for those specifically scheduled to occur below the cavity.

Cavity walls must be built solid for the number of courses scheduled above the lintols soffit. This solid section must extend the full width of the opening, plus 300 mm on each side. Combined brick and concrete lintols may have the reinforcement divided proportionately between brick and the concrete skins. Where two or more openings are less than 600 mm apart, the lintol shall be continuous over all such opening and such openings and dividing piers, plus 300 mm bearing at each extreme end as before, shall have such height and reinforcement as scheduled for widest opening spanned.

Span in mm	Min Height of Lintols above soffit course, in brick courses	Reinforcement per half-brick thickness of wall above for solid walls		Additional reinforcement for cavity, placed below cavity	
		No of rods	Dia mm	No of rods	Dia mm
600	2	1	6	1	6
900	3	2	6	2	6

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1200	3	3	6	1	6
1500-1800	4	2	10	1	10
2100-2400	5	3	10	1	10

**PU 5.1.5 Damp Proof Courses**

The sheeting is to be cut into strips of the required width and laid on all foundation walls to the full thickness of the walls and without any longitudinal joints. At ends, angles and intersections the sheeting must be lapped 150 mm and sealed. In cavity walls the sheeting must be laid across the full width of the wall, including the cavity, and must be stepped up one course in the cavity, over a cement triangular fillet, so that the sheeting under the inner skin of the wall is higher than that under the outer skin of the wall.

Under all window sills exposed to the weather, the sheeting must be laid on the brickwork in the first joint immediately below the sill and turned up with an easy bend and tucked into window frame.

Over reinforced brick lintols exposed to the weather, the sheeting must be laid to form damp proof course as detailed above for solid walls and cavity walls.

**PU 5.1.6 Reinforcing in Brick Walls**

Reinforcing (brickforce) of an approved manufacture shall be placed on every fifth course in all brick walls. In halfbrick and cavity walls 80 mm wide reinforcing mesh shall be used and 150 mm wide mesh in the case of the one-brick walls.

Except where otherwise described, all external plaster is to be finished with a wooden float and all internal plaster is to be finished with steel trowel, all to perfectly true and even surfaces, free from tool marks and other defects on completion.

All finished surfaces are to be protected from injury. All joints in brickwork are to be well raked out all surfaces, brickwork and concrete, to be plastered must be brushed down to remove all dirt and dust and be thoroughly wetted directly before plastering. Concrete surfaces must be roughened or hacked as necessary to give a proper key for plaster. The surfaces must then be sloshed with a course cement grout before plastering commenced. Plaster must be returned into reveals and soffit of openings and all angles and edges must be true and straight. All plaster surfaces must be free from blemish and any cracks, blisters, or other defects must be cut out and made good and the whole left perfect at completion.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Plaster on walls must not be less than 12 mm or more than 20 mm in thickness, and plaster on concrete work must be not less than 10 mm or more than 15 mm in thickness, except where specifically otherwise described.

**PU 5.1.8 Slip Joints**

Slip joints shall be provided between brickwork and concrete slabs and beams by levelling up and steel trowelling smooth the bearing surfaces of brickwork with 3:1 mortar and covering the bearing surface before concrete is cast with 2 layers of 500 µm (five hundred micron) black general purpose sheeting membrane.

The ends and sides of beams and edges of concrete slabs shall be separated from the brickwork with 12 mm polystyrene placed vertically against the brickwork before the concrete is cast.

**PU 5.1.9 Beam Filling**

Unless otherwise specified, beam filling shall be half brick, built in cement mortar, cut in between roof timbers and carried hard up to underside of roof covering and flushed up in mortar with a groove formed between covering and mortar to the satisfaction of the Engineer.

**PU 5.1.10 Securing of Roofs**

Roof plates shall be fixed to walls with bands of 1,6 mm thick galvanised hoop iron, 32 mm wide, built six (6) courses deep into brickwork or embedded 300 mm deep into concrete, and not exceeding 1,5 metre centres, and well lapped and spiked to plates and to roof trusses where adjacent, otherwise taken up to and lapped round the nearest purlin and well spiked thereto. A layer of brickforce shall be provided at each alternate course above the building in of the hoop iron to fix the roofs.

**PU 5.2 Rain-Water Goods**

All gutters, downpipes and flashings shall be 0,6 mm thick galvanised sheet iron. Rates for sheet iron eaves gutter and rainwater pipes shall include for short lengths and for lapped, riveted and soldered joints. Eaves gutters are to be screwed or welded to fascia boards or roof timbers;/beams with 38 X 3 mm galvanised steel gutter brackets at approximately 900 mm centres, or as otherwise described. Rainwater pipes are to be fixed with sheet iron ears to and including 25 C 76 X 150 mm wrought and chamfered hardwood blocks, plugged to brickwork or concrete and oiled, or with 38 X 14 gauge galvanised hoop iron straps built into walls not more than 2 metres apart, bent around pipe and bolted at back.

Flashings shall be properly cut, lapped and shaped to render a waterproof finish. Flashings turned up against walls must be finished with cover flashings bent to shape, dressed over the

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underflashing and with top edge wedged into joint of brickwork and pointed or secured by other approved means.

Fibre-cement fascias and barge boards shall be secured with screws or bolts. Where joints occur in the length they are to be covered with two channels 40 mm girth with web to suit thickness of plates formed from 0,5 mm thick galvanised sheet iron cut to shape, bent as required and with the webs riveted together back to back. Tongues 15 mm wide by 15 mm long must be left projecting at both ends of flanges and clamped down over edges of fascias or barge board when in position.

**PU 5.3 Paintwork**

All surfaces not being painted, such as face brickwork, sills, floors and stained woodwork, must be covered up and protected against paint and distemper spots before any painting is commenced. All floors must be swept clean and walls dusted down before any paintwork is commenced and no sweeping or dusting must be done while painting is in progress.

All plastered wall; ceiling and similar surfaces must be perfectly dry and in a fit state to receive the finishings, before the work is put in hand.

All coats of paints, etc must be thoroughly dry before subsequent coats are applied, and rubbed down where necessary.

All work must be finished to colours approved by the Engineer.

The tints of undercoats must approximate those of the finishing colour and in order to indicate the number of coats applied and to avoid misses when applying a succeeding coat a slight difference shall be made in the tint of each coat.

The Contractor must provide all necessary dust sheets, covers, etc and shall exercise all necessary care to prevent marking the surfaces of joinery, walls, floors, glass and electrical fitting, etc. and must keep all parts of the works perfectly clean and free at all times from spotting, accumulation of rubbish, debris or dirt arising from the painting operations. Any surface disfigured or otherwise damaged must be completely renovated or replaced as necessary, by the Contractor at his own expense. The premises must be left clean and fit for occupation at the completion of the Work.

**PU 5.4 Floor Finishes**

Where a floated concrete floor finish is specified on the drawings, the requirements of SANS 1200G or GA whichever is relevant shall apply.

Granolithic finish to floors, treads and risers of steps, thresholds, landing etc. must be composed of two parts hard stone chippings : half part sand and one part cement, steel

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trowelled to a true and even surface. The granolithic must be laid before the concrete surface bed has matured, otherwise the surface of the concrete must thoroughly cleaned with a wire brush and a coat of neat cement grout applied immediately before the granolithic is laid. The granolithic must be laid in panes not exceeding 6 m<sup>2</sup> in areas, and jointed to lines of panels and lined into smaller square as directed with sunk V-joint. The joints between the panels should coincide with joints in the concrete surface bed, where these occur. No dusting on of colouring pigment will be allowed.

Vinyl floor tiles shall be fixed on to a screed of thickness at least 25 mm. The screed shall have a wood floated finish and shall be smooth with no obstruction greater than 3 mm protruding and with the screeded surface level in such a way that no gap greater than 5 mm would show underneath a 3 m straight-edge or part thereof.

Vinyl tile adhesive shall carry the same product name as the vinyl tiles and adhesives shall be applied as stipulated by the supplier.

The acceptable tolerance of the final tiled floor shall be similar to the specified for the screeded surface underlying the tiles.

#### **PU 5.5 Tiling Work**

The area to be tiled, shall first be plastered as described under plasterwork leaving a wood float finish. The plastered surface shall be left for two weeks to cure before any tiling may start.

Tiles shall only be cut by approved tungsten tile cutters, or for irregular shapes by approved tile saws. The use of nibblers shall not be permitted.

A tiled panel shall be planned beforehand to minimise cuts. An initial perpendicular tiling configuration shall be laid against perpendicular fixed battens. A clear space of 1 to 2 mm shall be left between tiles by inserting positive temporary spacers.

Prior to the application of any adhesive the rendering shall be vacuum cleaned. Adhesive shall be mixed with a bonding agent and not with water. The mixing proportions shall be as specified by the supplier. Adhesives shall be applied within a 15 minute period after mixing, with those adhesives not used during such time to be thrown away.

Adhesives shall be applied in a solid bed, some 6 mm thick and then struck with an approved serrated steel trowel. Adhesives shall not be applied by "the fire point tiling method".

Grouting of the joints shall only start 48 hours after tiled section has been completed. The grout shall also be mixed with the bonding agent as specified by the supplier. The grout shall

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be worked off leaving a neat superficial rut in the joint centre. All tile faces shall be cleaned directly after grouting.

No tiling shall be done over a structural joint. In large tiled panels, a movement joint shall be left every 3 meters in the horizontal and vertical direction as detailed. At a structural joint (contraction or expansion joint) the rendering, adhesives and tiles shall be interrupted over the joint and the joint sealed at the surface.

The permissible deviation on the final surface shall be a maximum gap of 3 mm measured under a 3 m straight edge or part thereof.

**PU 6 TOLERANCES**

Where tolerances are not specified in the clauses above those generally accepted at representing good workmanship in the building trades shall apply.

**PU 7 TESTING**

The Engineer reserves the right to order any tests, whether at place of manufacture or on site, necessary to evaluate the quality of the work and to ensure the finished building conforms to all the specified requirements.

**PU 8 MEASUREMENT AND PAYMENT**

**PU 8.1 Schedule items**

**PU 8.1.1 Brickwork**

Brickwork, if measured as a separate item, shall be measured in square metre of the nett brickwalled area (with the wall width and type of brick-finish, indicated). No additions will be made for small openings such as air bricks, etc. The tendered price square metre of brickwork shall include for the following, if such items are not listed separately:

- (a) Plasterwork as indicated
- (b) Damp proofing
- (c) Brick forcing (every fifth layer)
- (d) Reinforcing of lintols
- (e) Miscellaneous items built into brickwork shown on the drawings such as air bricks.

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**PU 8.1.2 Wall, Ceiling, Roof and Floor Finishes**

Cement plaster on walls and ceilings, roof screeds, floor screeds, paint and any other finish described or specified, shall if measured as a separate item, be measured in square metres of the nett surface area. No deductions shall be made for small openings nor shall additions be made for small protrusions and reveals. No separate payment shall be made for the precesses involved and material supplied for the complete painting of all fixtures and fittings, as specified herein and the costs hereof shall be included in the tendered price for the supply, manufacturing and erection of all such items to be erected.

**PU 8.1.3 Miscellaneous**

- (a) Doors and windows shall be measured per unit of door or window complete with door frame, lock keys, glazing, painting, etc. for each type and size of door or window or as a lump sum payment for all doors and windows included in the door and window schedule of the Works.
  
- (b) Other items of building work, fixtures and fittings, shall be measured and paid for in the units of the measurement listed in the Schedule of Quantities.

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**HARRY GWALA DISTRICT MUNICIPALITY**

**NCAKUBANE WATER SUPPLY SCHEME PHASE 3B**

**CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK  
PUMPING MAIN, OPERATOR HOUSES, GUARD HOUSE, BOOSTER  
PUMP HOUSE AND REPAIRS AT WTW CONTRACT:  
HGDM/696/HGDM/2020**

**C3.5      MANAGEMENT**

**SECTION 3.5.1 REFERENCES TO THE SCOPE OF WORKS IN  
TERMS OF OCCUPATIONAL HEALTH AND SAFETY  
ACT AND REGULATIONS: HEALTH AND SAFETY  
SPECIFICATION**

**PROJECT SPECIFIC OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION**

**FOR**

**NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONTRACT N<sup>o</sup> HGDM/696/HGDM/2020  
CONSTRUCTION OF 160mm DIAMETER,1.8KM LONG BULK PUMPING MAIN, OPERATOR  
HOUSES, GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW**

**MANAGED ON BEHALF OF**



**HARRY GWALA DISTRICT MUNICIPALITY  
(THE “CLIENT”)**

**HARRY GWALA DISTRICT MUNICIPALITY  
NCAKUBANA WATER SUPPLY SCHEME - PHASE 3B  
CONSTRUCTION OF 160mm DIAMETER, 1.8KM LONG BULK PUMPING MAIN, OPERATOR HOUSES,  
GUARD HOUSE, BOOSTER PUMP HOUSE AND REPAIRS AT WTW  
CONTRACT: HGDM/696/HGDM/2020**

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**KEY ROLE PLAYERS**

**CLIENT**

Principal Agent:

Civil Engineer

Quantity Surveyor

Land Surveyor

Mechanical Engineer

Environmental Control Officer

Health and Safety Agent

**PRINCIPAL CONTRACTOR**

Contracts Manager

Site Agent

H&S Officer

Other:



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**1. LIST OF ABBREVIATIONS**

AIA	Approved Inspection Authority
BoQ	Bill of Quantities
CC	Compensation Commissioner
CR	Construction Regulations
DMR	Driven Machinery Regulations
DoL	Department of Labour
FEMA	Federated Employers Mutual Association
GAR	General Administration Regulations
GSR	General Safety Regulations
HCSR	Hazardous Chemical Substances Regulations
HIRA	Hazard Identification Risk Assessment
H&S	Health and Safety
ER	Engineer's Representative
LI	Labour Intensive
OH	Occupational Health
OHSA	Occupational Health and Safety Act No. 85 of 1993 (as amended)
OHSS	Occupational Health and Safety Specification
PSHSS	Project Specific Health and Safety Specification
PC	Principal Contractor
PPE	Personal Protective Equipment
SANS	South African National Standards (Authority)
MSDS	Material Safety Data Sheet
SMME	Small, Micro, Medium Enterprise
SWP	Safe Work Procedure

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## **2. DEFINITIONS**

The definitions used will be those set out in the Construction Regulations, Gazette No 37305 of 7 February 2014 which are hereunder further emphasised with the following additions:

**Client:** Harry Gwala District Municipality

**Construction Site:**

Means a work place where construction work is being performed

**Construction Supervisor:**

Means a competent person responsible for supervising construction activities on a construction site

**Designer:** Means a competent person appointed by the Client as Agent to design, supervise and monitor construction on their behalf.

**Fall Risk:** Means any potential exposure to falling either from, off or into

**Hazard:** Source of or exposure to danger

**Hazard Identification and Risk Assessment (HIRA) and Risk Control:**

Means a documented plan, which identifies hazards, assesses the risks and details the control measures and safe working procedures which are to be used to mitigate and control the occurrence of hazards and risks during construction or operation phases.

**Health and Safety Agent:**

Means any competent person who acts as a representative for the Client in managing the projects health and safety and who is registered with the South African Council for the Project and Construction Management Profession (SACPCMP).

**Health and Safety Plan:**

Means a site, activity or project specific documented plan in accordance with the Clients Health and Safety Specification.

**Induction Training:**

Means once off introductory training on general health and safety issues given to all employees and visitors to the site before commencement of work on site.

**Risk:** Means the probability or likelihood that a hazard can result in injury or damage.

**Regulation/s:**

Shall mean the relevant regulation/s promulgated in terms of the Occupational Health and Safety Act, No. 85 of 1993.

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**Temporary Works:**

Means any falsework, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work

**The Act:** Means, unless the context indicates otherwise, the Occupational Health and Safety Act, No. 85 of 1993 and Regulations promulgated thereunder, as amended.

### **3. KEY REFERENCES**

The following key references apply to the specifications:

- Occupational Health and Safety Act No. 85 of 1993 and Regulations (as amended)
- Compensation for Injury and Occupational Diseases Act No. 100 of 1993 (as amended)
- SANS Code 1921-6
- SANS Code 1200

### **4. INTRODUCTION**

Harry Gwala District Municipality is responsible for the provision of adequate and reliable potable water and sanitation services within the district and takes cognizance that its current scope of works pose inherent risks to the health and safety of its agents and members of the public.

Each year fatalities, serious injuries and poor attitudes of Contractors mar the reputation of the Construction Industry. Harry Gwala District Municipality has a responsibility to limit its risk by ensuring a zero tolerance and better practice approach to Contractors and those affiliated to a particular project. Thus a high premium is placed on the health and safety (H&S) of Harry Gwala District Municipality stakeholders, which include its employees, professional service providers, public and its physical assets. The responsibilities that the Harry Gwala District Municipality and relevant stakeholders have toward its employees are captured in, but not limited to this document. The responsibilities stem from both moral, civil and a variety of legal obligations. The Principal Contractor is to take due cognisance of the above statement.

Harry Gwala District Municipality, as the Client and where there is an appointed H&S Agent on its behalf, shall provide a project specific Health & Safety Specification (PSHSS) for the project and provide the Principal Contractor/s making a bid or appointed to perform construction work for the project, or parts thereof.

#### **4.1 Purpose of the Project Specific Health and Safety Specification (PSHSS)**

The PSHSS is a performance specification to ensure that the Client and any bodies that enter into formal agreements with the Client viz. Agents, Professional Service Consultants (Engineers, Quantity Surveyors and Land Surveyors), Principal Contractors and Contractors achieve an acceptable level of OHS performance. No advice, approval of any document required by the PSHSS, such as hazard identification and risk assessments, or any other form of communication from the Client shall be construed as acceptance by the Client of any obligation that absolves the Principal Contractor from achieving the required level of performance and compliance with legal requirements. Furthermore, there is no acceptance of liability by the Client, which may result from

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the Principal Contractor failing to comply with the PSHSS, i.e. the Principal Contractor remains responsible for achieving the required performance levels.

A Mandatory Agreement in terms of Section 37.2 of the OHS Act will be signed between parties prior to any works commencing.

The PSHSS highlights the aspects to be implemented over and above the minimum requirements of current legislation. Requirements may be changed should new risks or issues are identified that could not have been foreseen during the design phase of the project, or during the construction phase. Any new legislation or standards (legislated, or determined by Harry Gwala District Municipality) that are promulgated or accepted during the contract will automatically be applied.

Environmental management shall receive due attention as per the requirements of the Environmental Control Officer (ECO), but will be managed by the ECO directly.

#### **4.2 Implementation of the Project Specific Occupational Health and Safety Specifications (PSHSS)**

The project specific H&S specification (PSHSS) forms an integral part of the Contract, and PCs are required to make it an integral part of their Contracts with Contractors and Suppliers. A PSHSS will be available for each level of Contract and Contractor, and must be complied with.

This specification must be read in conjunction with the OHS Act, Regulations (as amended) and any other standards relating to work being done, and ensure compliance thereto. The information relative to the scope of the project, the works etc. are detailed in the tender, are to be considered when developing the H&S plan and associated documentation.

The OHS Act S.37.2 Mandatory Agreement must be fully completed by the PC, supplied by the Client. These documents shall be deemed to form part of the returnable Contract Documents.

No work may commence without written approval of the H&S plan by the H&S Agent, or the responsible person in the Harry Gwala District Municipality.

Should there be design changes, or change in the scope of works, an amended PSHSS may be issued. Where amended PSHSSs are issued, the PC will be required to ensure a resubmission of an amended H&S plan for approval. Further to this, the PC must ensure that similar information must be provided as it applies to the works to all their Contractors, within 5 working days following notification thereof. The H&S Agent will visit the project as deemed necessary by the Designer and the H&S Agent to ensure compliance and limit risk. All activities on the site and all appropriate documentation will be monitored and reported on to the Client and the Designer.

Non-conformances will be issued and penalties or work stoppage will be issued where appropriate. Communication between the H&S Agent and the PC will be through the Designer (or Client's responsible person) as determined at the commencement of the project.

#### **4.3 Requirements at Tender Stage**

Tenderers are required to submit a pre-tender H&S plan with their Tender submission.

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The documentation submitted will be used to assess the competence of the tenderer, as required in the CRs, therefore the information submitted needs to be complete and as close as possible to the final product.

Adequate pricing for H&S is required, and the appropriate section in the BoQ is to be completed. Failure to do so could result in the Tender being regarded as non-responsive.

The PC shall ensure adequate information is submitted as supporting documentation with his completed Tender. Such information will be assessed against the criteria listed and a score provided to the Bid Award Committee (BAC) for consideration. Failure to provide such information could render the tender application non-responsive.

A project specific H&S Plan in response to this PSHSS will be subject to approval by the H&S Agent. This must include all supporting documentation as required to verify the H&S system:

- A declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Occupational Health and Safety Act and its Regulations;
- A valid Letter of Good Standing;
- Detailed technical method statements for approval by the Designer and appropriate risk assessments and safe work procedures for approval by the H&S Agent or Client:
  - Site establishment including:
    - Clearing and grubbing;
    - Exposure of services, power, telecommunication etc.;
    - Arrangements for hoarding, traffic accommodation;
  - Excavating
  - An emergency plan indicating how and where emergencies will be handled
  - Working at heights
  - Appointments of the following: Construction Supervisor; Construction Health and Safety Officer; Risk Assessor: Fall Protection Plan Developer; First Aider.
  - An organogram of the site relationships showing at least the above appointments

Further method statements are to be submitted prior to, and during the project where changes or new work is required, and the approval of the Designer/Client is required before work on that aspect or activity can commence. The H&S Officer is to be included in production planning sessions/meetings to ensure that the appropriate risk assessments, safe work procedures and communication required are available and completed timeously. Penalties will be applied should this not be adhered to, and deemed a serious offence.

## **5. GENERAL REQUIREMENTS**

### **5.1 Summary of Risks identified during Design**

The intention of the summary of findings from the design risk assessment is to highlight the residual risks identified during the design phase. The summary of risks provided is to point the contractor towards some risks he may not be aware of during tendering stage and while developing his formal risk assessments for the project.

The design risks and the management thereof should be included in the Principal Contractors (PC) risk assessments. Where there are other Contractors appointed to do work, the PC is to ensure that Contractors include such information in their risk assessments.

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The Contractor is herein advised that no other residual risks remain which the designers judged as significant and unusual other than those risks that a competent Contractor can reasonably be expected to know or deduce from the documents prepared for this project and supplied to them.

## 5.2 Specified Hazardous Chemical Substances

The following lists of products or substances are those which have been identified as likely to be used on the project. This list is not inclusive and other products may be considered. Where the PC is likely to supply the product as the product has not been specified, material safety data sheets (MSDSs) need to be considered prior to all selections.

<b>PRODUCTS or SUBSTANCES</b>	<b>POTENTIAL HEALTH OR OTHER RISKS</b>
Cement	<ul style="list-style-type: none"> <li>• Hand mixing may occur, 50kg bags are an ergonomic risk from handling.</li> <li>• Pumping of concrete may produce extensive vibration, extended hours of work, and potential eye, skin and respiratory irritant from dust exposure, chromates.</li> </ul>
Cement/Silica dust	Caused by cutting, grinding, sanding of any concrete/granite/tiled surface/masonry resulting in occupational respiratory health illness or disease
Petrol/diesel/lubricants	Potentially a fuel bowzer on site. Fire, spillage, fumes
Adhesives	Used as a bonding agent and may result in contact Dermatitis and occupational respiratory illness or disease from prolonged exposure
Plaster/mortar/screeds	Contact with products may result in Dermatitis and occupational respiratory illness or disease from prolonged exposure
Sealants/joint fillers	Contact with products may result in Dermatitis and occupational respiratory illness or disease from prolonged exposure
Welding fumes	Inhalation of fumes may result in occupational respiratory illness or disease from prolonged exposure
Lime	The product is classified an irritant, irritating the respiratory system, skin and risk of serious damage to eyes. In contrast to the powder itself, the product, when diluted with water, can produce severe skin damage in humans, ( <i>alkaline burns</i> ), especially if prolonged skin contacts takes place.
Paints	Contact with different paints may result in Dermatitis and occupational respiratory illness or disease from prolonged exposure



## **6. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT**

### **6.1 Structure and Organization of H&S Responsibilities**

#### **6.1.1 Notification of Commencement of Construction Work**

The Client shall notify the Provincial Director of the Department of Labour (DoL) in writing, in the form of the Annexure 1 in the CRs for all projects requiring a work permit in terms of CR 3.

The PC who intends to carry out any construction work other than work noted in CR 3 shall notify the Provincial Director in writing in the form of the Annexure 2. This shall occur after the award of the contract, but before commencement of construction work. Proof of submission and/or receipt must be provided and kept in the H&S file. Work will not commence without the Notification being correctly completed and signed by the Client and proof of receipt by the Department of labour received. The Notification shall only be signed by the Client following the approval in writing by the H&S Agent, or the Client.

Where changes to the conditions given in the submission are required (i.e. Contractors, completion dates, increase in workers), a revised Annexure 1/2 must be submitted to the Department of Labour. The completion date is to include the defect and liability period. A copy of the notification form and any further submissions/correspondence must be kept in the H&S file.

#### **6.1.2 Health and Safety Plan Framework**

The H&S aspects related to the project outlined in the previous sections are to be taken into account when drawing up the H&S Plan. The PC is required to demonstrate competence by providing an H&S system that will address the requirements of the project.

The current legislative requirements, SANS codes and any other standards that may guide practice are to be taken into consideration. The following aspects must be addressed in the H&S Plan as they play a role in reducing the overall risk of a particular activity, or section of the project. The H&S Agent may from time to time request additions or systems as they relate to the works or legislative requirements at the time.

The PC is to prepare a site layout drawing to indicate at least the following:

- The positions of site offices of all Contractors, toilets, drinking water and worker rest areas;
- Indicate the positions of emergency personnel and equipment (fire, first aiders, first aid posts);
- Protection of plant and pedestrians, indicate parking, and
- Storage areas (materials and equipment, waste etc.)
- Access and egress to site for deliveries and intended temporary traffic management
- Emergency assembly point

Such layouts are to be updated regularly throughout the project.

#### **6.1.3 Appointment of Competent Site Personnel**

The CEO (OHSA S16.1) of the PC will take overall responsibility for the appointment of competent site staff for the duration of the project. Should the CEO not be personally involved in the project, the H&S responsibilities are to be delegated to the Contract Manager (OHSA 16.2). Knowledge and training in H&S is required, and certificates indicating H&S training as well as experience to be included in CVs.

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All other legal appointments are to be made with relevance to the type of work required and kept current with the project programme. The construction team is to ensure the appointed H&S Officer is kept up to date with all planned activities, to ensure all H&S requirements are met.

All construction/technical method statements are to be generated by senior site personnel, and the appropriate risk assessments developed therefrom in conjunction with the H&S Officer.

The Occupational Health and Safety Plan shall include the following, but is not limited to the following key appointments:

#### **6.1.4 Construction Supervision**

Competent supervisors will be appointed to manage part or all of the works and have training and/or experience in the area of responsibility. All site supervisors must show evidence of appropriate training in H&S, and an understanding or training in areas of responsibility (i.e. risk assessments, method statements etc.).

Curriculum Vitae (CVs) are to be submitted for approval by the Designer, and/or Client. The Supervisor will be held responsible for the safety of working teams and subordinates, housekeeping and stacking and storage of materials.

#### **6.1.5 Construction Health and Safety Officer**

The PC will employ at least one competent, full-time or part time H&S Officer for the duration of the contract depending on the nature of the hazards on site and subsequent risks. The H&S Officer's CV is to be submitted for approval by the H&S Agent or the Client, at time of tender. The PC is to ensure adequate resources are provided in order to undertake all responsibilities (i.e. mobile phone, computer and internet access, vehicle etc.) Qualifications shall include at least Grade 12, SAMTRAC/NEBOSH/Diploma in H&S qualifications or similar together with additional appropriate short courses (ie. Fall Protection Developer, Risk Assessor, Basic Firefighting and First Aider Level 1) with exposure to civil engineering and building that is appropriate given the level of project complexity and registration with SACPCMP. An in-depth knowledge of legislative requirements and the application thereof is required. The site supervisor may not act as the H&S Officer.

The H&S Officer/s will be held responsible for all H&S on the project.

- Senior site staff and supervision, Contractors are to follow systems, instructions etc. given by the H&S Officer at all times;
- No new workers or Contractors may commence work without approval or following the H&S plan as submitted, and
- No inductions of Contractor staff until the H&S documentation is approved by the H&S Officer.
- The H&S Officer/s may not be removed or replaced without the approval of the H&S Agent, nor may the site be left unattended for more than 1 day without adequate, competent cover.

A monthly report of all H&S activities and incidents is required by the end of the first week of each month, or at a date agreed to by the H&S Agent/Client and the H&S Officer. An example of the monthly report is attached as an *Annexure D*.

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The H&S Officer will be responsible for collating the H&S documentation at the close out of the project in electronic format. A list of the typical aspects that should be provided is available as *Annexure B* to this document. The PC is to ensure that all Contractors documentation follows the same requirements and closed out H&S documentation must be completed and be available with the close out of the main contract.

Failure to do so will be considered a serious offence and penalties applied.

#### **6.1.6 Traffic Safety**

The H&S Officer will be responsible for ensuring that daily traffic management is adequately managed and additional care must be taken where workers and public interface.

No worker may be transported in, or on the rear of construction vehicles (bakkies included), or with plant and materials to, on, or from site. The number of passengers in any vehicle is limited to what is stated on the license disc. Vehicles used to transport workers to, from, or on site, shall have secure seats and be covered. No canopies may be used.

Tenderers must indicate in their OHS plans what type of transport is envisaged and how this will be managed.

Penalties will be issued for non-compliances noted.

#### **6.1.7 Health and Safety Representatives and H&S meetings**

H&S Representatives representing workers and Contractors are to be appointed following the startup of the project, irrespective of the number of workers on site. The appointed H&S Representatives are to be actively involved with H&S and will assist the H&S Officer and site management in meeting legislative duties.

The H&S Officer shall further ensure that H&S is discussed at all internal production or progress meetings. Issues arising from the H&S Agent audits are to be discussed, as well as all H&S related issues.

Minutes are to be kept for all H&S interventions and meetings. Failure to do so will be deemed to be a moderate offence.

#### **6.1.8 Appointment of Competent Contractors**

The Principal Contractor is to ensure compliance with the Clients minimum standards and all legislative requirements. The same H&S standards required of the PC are to be applied to all Contractors. An index of all Contractors and Suppliers is to be on file and kept updated at all times. The PC is to ensure there is sufficient funding for H&S compliance by each Contractor.

The following minimum aspects are applicable to any Contractor appointed:

- The H&S Officer is to ensure a Contractors appointment and approval of H&S documentation at least seven (7) working days prior to commencing work.
- No Contractor may work under the PCs Compensation registration number. If required the PC may assist SMMEs with their registration with the Compensation Commissioner. However, such Contractors will not be able to commence work until proof of registration or Letter of Good Standing has been received.
- No work may commence without Mandatary agreements between parties in place.

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The following aspects are applicable to Suppliers or short-term works (surveying, repairs, servicing, deliveries etc). Cognisance is to be taken of the level of risk involved and the H&S Officer is to ensure the level of H&S documentation is appropriate:

- Mandatary agreements in place
- Letter of Good Standing
- Method statements and risk assessments
- Available information relative to:
  - Load testing and registers for cranes or lifting devices
  - Medical certificates of fitness
  - Material Safety data sheets (MSDSs)

Failure to provide written approval of H&S documentation will be considered a serious offense, and could result in aspects of, or all the activities being stopped and penalties implemented.

## **7. GENERAL RISK MANAGEMENT**

### **7.1 Health Risks and Medical Surveillance**

The appropriate MSDSs are to be obtained for all products and used to develop the H&S documentation as they relate to the works. Many of the processes may be labour intensive and ergonomic risks are to be noted. All workers (including Contractors) are to be included in the medical surveillance programme.

Workers will be exposed to noise, dust, and physical risks from extended periods of work of a repetitive nature, materials specified and the general nature of the works.

All workers (including those of Contractors) are required to be in possession of a medical certificate of fitness prior to commencing work.

Full medical records are not to be placed in the H&S file. Given the potential health risks the following aspects are to be included in each medical surveillance intervention:

- Full medical, surgical and occupational history;
- Full physical examination of all systems; and
- Referral if required for the management of identified health issues that may affect the worker.

Specific testing for existing conditions and limitations relative to exposure could include, but are not limited to:

- Audiometry (hearing tests); and
- Any other tests identified as relevant from chemical or specifically identified risks of exposure

Failure to do so will be considered a serious offence.

### **7.2 Noise Risks**

All plant from plant hire companies (suppliers) or that of the PC is to be compliant with the Noise Induced Hearing Loss Regulations. Plant identified that has not been tested and marked for noise emissions will result in having to be tested at the Contractors or PCs expense. Failure to do so within a reasonable time period will result in such plant being removed from site.

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Audiometric testing of all workers is noted as required in the medical surveillance programme for all permanent workers prior to work commencing. Temporary labour working in identified noise areas will require testing if the noise levels are indicated on plant or through processes as greater than 85dB. Audiometry records are to be available in the H&S file.

Suitable SANS approved hearing protective equipment shall be issued and worn where noise levels are identified as equal to or greater than 85 dB.

Failure to do so will be considered a serious offence.

### **7.3 Emergency Procedures**

A simple emergency plan and procedure that is appropriate to the risks is required prior to commencement on site. It is advised that the system should be simple and easy for any worker to follow. The plan may be adapted should new information or risks are identified.

The procedure shall detail the response plan in relation to the works, and include at least (*but are not limited to*) the following key elements:

- Appointment of a competent emergency response co-ordinator
  - Site Camp Fire;
  - Public injury, Motor vehicle accidents;
  - Falls from heights;
  - Serious injury to workers (medical or work-related); and
  - Any other major risks identified during risk assessments

The emergency plan is to ensure the inclusion of local service providers where possible. Such arrangements should be made with these persons prior to the commencement of the project. The general principals of emergency management are to be applied as it applies to the hierarchy of control and management.

### **7.4 First Aiders and First Aid Equipment**

At least 1 first aider will be trained to Level 3. First aiders shall be available and accessible on site at all times, and be able to work as a team when responding to any emergency on the project.

Contractors are expected to ensure compliance and provide/manage their own first aiders and equipment. The number of First aiders will be determined by the complexity and exposed risks of the project, not numbers of workers

Appropriately stocked first aid kits are to be available at all times and to assure continual availability and access on site.

### **7.5 Fires and Emergency Management**

The emergency plan is to include the risk of fire on site and related to any specific activities where gas, welding, cutting etc. occur.

Fire extinguishers will be appropriate for the risk and in sufficient numbers to deal with the type of fires that could occur. All mobile plant is to have fire extinguishers. Hot work permits are required for any such activities.

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## **7.6 Incident Management and Compensation Claims**

All incidents and accidents are to be investigated. All serious incidents involving any form of disabling injury or fatality are to be reported to the Designer /Client /H&S Agent immediately. This shall be confirmed in writing following the incident. Full details are to be included in each site meeting or when the Client visits site. A summary of incidents is to be included in the monthly report.

Failure to comply with emergency provisions will be considered a serious offence, and the operation or project may be stopped if deemed inadequate for the work at the time of assessment or site inspection.

## **7.7 Personal Protective Equipment (PPE) and Clothing**

The PC is to provide a procedure as an addendum to indicate how PPE is managed within the Company.

The wearing of the identified SANS approved PPE at all times is non-negotiable. The PC shall ensure that all workers (Including Contractors) are issued with and shall wear:

- Hard hats;
- Protective footwear;
- Overalls that ensure worker visibility;
- Eye protection;
- Hearing protection;
- Reflective jackets (no bibs)
- Respiratory protection (minimum of FF2), and
- Any other necessary PPE identified from MSDSs and/or risk assessments.

Adequate quantities of PPE shall be available. This shall include necessary PPE for visitors. The procedure for managing PPE is to be in a formal procedure submitted with the H&S plan for approval.

Any person (*including Client, Designers etc.*) found on site without the necessary PPE will be removed from site until the PPE is supplied and worn.

Failure to comply will result in penalties being applied.

## **7.8 Occupational Health and Safety Signage**

On-site H&S signage is required. Signage shall be posted up at fixed or temporary working areas, or other potential risk areas/operations. These signs shall be in accordance with the requirements of the General Safety Regulations or SANS requirements as amended. Signage is to be noted on the site drawings indicating where fixed/temporary signage is required.

Temporary signage is to include (*but not be limited to*) the following:

- 'Report to site office' / 'Warning: Construction Site – Keep out' or similar;
- 'Site office' (if relevant);
- 'hard hat area' or other PPE requirements noted;
- First aid box positions (*including vehicles*); and
- Fire extinguishers.

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Signs shall be posted at areas of work on site indicating that a construction site is being entered and that persons should take note of H&S requirements.

Failure to comply will result in penalties being applied.

### **7.9 Induction of Employees and Visitors, General H&S Training**

A simple, formal induction programme is to be submitted as an addendum for approval with the H&S plan. Inductions must be carried out for all workers and visitors (*including Client, Designers*) to the site.

Pre-task training is required to ensure workers are familiar with the risks and H&S measures of the work or tasks to be done. Such training is to be done at least daily. A record of inductions and pre-task training is to be kept in the H&S file.

Any person found on site without proof of induction will be removed from site until the proof is supplied and, a penalty issued per non-compliance.

### **7.10 Management of Plant and Equipment**

Close control of plant and equipment is required, including that of Contractors.

Daily monitoring of all plant and equipment is required prior to commencing work. Full lists of hired and own plant are to be available at the H&S Agent's/Client audit. All daily inspection records are to be kept in the H&S file or Contractors where plant and equipment is brought onto site. Registers are not to be more than 1 week behind.

Only competent, medically fit plant operators are to be used. Medical certificates of fitness are required for all operators. Any plant or slings used to lift plant or material require annual load testing by an AIA, and all certificates must have the testers LMI/E number. Operators are to be adequately trained and certified to operate mobile cranes or crane trucks. Certificates and registers are to be placed in the H&S file.

Failure to do so will be considered a serious offence.

### **7.11 Excavations**

A procedure for managing excavations is to be provided as an addendum to the H&S plan describing how excavations are to be managed.

Excavation method statements are to be approved by the Designer and associated risk assessments are required. Designs by competent persons are required where ground conditions are deemed to require shoring.

A competent person is to be appointed for managing all excavations. A permit system is to be available and used for all excavations. All equipment and ground conditions are to be checked daily and prior to work commencing.

Excavations should preferably not be open beyond what can be closed daily. Where excavations need to remain open, all excavations are to be properly protected. Adequate stakes with 1m high demarcation and berms/spoil are required to be a safe distance from the edge of the angle of repose. Danger tape may not be used to demarcate excavations. Cognisance is required of

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the surrounding area and increased levels of protection are required where work is in the vicinity of members of the public.

Work will be stopped and penalties applied to any work in excavations that is not compliant.

### **7.12 Working at heights**

A Fall Protection Plan (FPP) is to be available and supplied as an addendum to the H&S plan. The FPP must be appropriate for the project. Method statements, appropriate risk assessments, safe work procedures and training are to be available prior to work commencing.

Construction drawings shall be required for all temporary structures as they relate to the project. The drawings shall be accompanied by full calculations, design loads and any relevant test results as required by the SANS code, and ensure adequate allowance for the development of appropriate documentation and training. All drawings are to be checked and signed by a competent structural engineer (registered with ECSA).

The focus for working at height shall include fall restraint systems where possible except during assembling or dismantling top components or where it is not deemed safe. The relevant SANS codes are to be applied as they apply to the works and the project, such as:

- SANS 10085
- SANS 50355
- SANS 50361
- SANS 50355

Should part of the works be contracted out, competent Contractors are to be appointed and submit documentation according to the project requirements. The PC is to note if such work is to be contracted to specialists in the H&S Plan. The plan is to be developed by and work managed by a competent person for the duration of the project. The following aspects must be included:

- The public are to be protected at all times by way of hoarding, barricading or fencing
- Notices to be posted
- Restrictions or stoppage when weather conditions are deemed hazardous
- Permit system for working at heights
- Prevention of falling tools or equipment
- Link to emergency plan regarding rescue
- All workers are to be in possession of valid certificates of fitness that extend for the duration of the works. Note the requirements in the section relating to medical surveillance.
- Registers and all relevant documentation are to be placed in the H&S file.

Work will be stopped and penalties applied to any work at heights that is not compliant.

### **7.13 Cranes and lifting equipment**

Should any form of lifting device or crane (fixed or mobile) be used during the project for deliveries, moving of supplies or equipment, the appropriate documentation must be made available. Method statements, risk assessments, safe work procedures and training are to be available prior to work commencing. A procedure for managing loads and lifting must be made available as an addendum to the H&S Plan.



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**7.14 Temporary Works (Scaffolding, support work, formwork)**

Temporary works must be properly designed and signed off by a competent person who has sufficient experience in the design of the type of temporary work in question to be able to assess the design. The appropriate competent persons are to be appointed to manage and monitor such works to the satisfaction of the Engineer and H&S Agent. Records and registers are to be properly completed and kept in the H&S file. If temporary works are to be erected by a Contractor, this must be notified to the Designer/H&S Agent.

Failure to do so will be considered a serious offence.

**7.15 Auditing**

Frequency of external auditing by the H&S Agent or Client will be as agreed with the Client and Designer but will at least conform to the requirements of the Construction Regulations. The site will be inspected and the documentation audited relative to the activities and H&S plan. The H&S Officer of the PC must accompany the Client, or the H&S Agent, on all audits and inspections. Not all audits will be, or need be announced.

The PC will ensure that all their Contractors are audited at a frequency determined by the H&S Agent or Client. Audit frequency may be increased if Contractors are not performing adequately. Audit results will be acted upon and non-conformances and penalties issued where deemed appropriate. The Client, Designer or H&S Agent may act or require further outcomes if non-compliances are noted or unsafe acts are noted on site.

Internal audits are to include site conditions as well as ensuring H&S files are appropriate, and compliant. Comprehensive audit reports are to be made available, the format of the audit reports are to be acceptable by the H&S Agent.

The PC will be audited using a template as supplied in the tender document. The audit template will be adjusted from time to time relative to the activities on site. A similar process is to be used by the PC when auditing their Contractors on site. Compliance with legislative requirements and the systems provided by the PC to manage the H&S on site will be measured. Full compliance is required. Time limits for corrective actions will be set and must be adhered to.

Failure to address findings or non-conformances will be considered a serious offence.

**7.16 Mechanical installations**

All mechanical installations are to be carried out in conformity with the manufacturer's instructions. Method statements and risk analyses must be compiled for each type of installation. A competent person must be designated to supervise the work.

**7.17 Communication on Site**

All H&S communication during the project between the H&S Agent and the PC will be done through the Engineering Consultant and be in writing, including the issue and responses to non-conformances and H&S audit results.

Failure to address issues timeously will be considered a serious offence.

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### **7.18 Care of Workers on Site (Welfare)**

Adequate toilets, clean, safe drinking water and decent shelter will be afforded workers at all times. Toilets will be within reasonable distance of workers, or placed with each working team in safe, with reasonable privacy. Hand washing facilities will be provided. Arrangements made where existing facilities are shared with existing users must be made in writing and placed in the H&S file.

Failure to ensure compliance will be considered a serious offence.

### **7.19 Discipline, Alcohol and Substance Abuse**

All employees (management included) are to follow instructions given in the interest of H&S. A disciplinary procedure is to be developed and disciplinary action is to be imposed on those who do not follow such instructions or company rules or policies.

No person is allowed to work or access site if under the influence of alcohol or other substances that could impact on their own or others safety. The PC is to have a drug and alcohol policy available to manage such instances.

These requirements are applicable to any employee of any organization providing services on site. Penalties may also be applied by the Client, OHS Agent or Engineer.

### **7.20 Electrical Equipment**

In addition to the requirements of the Electrical Machinery Regulations and the General Machinery Regulations any electrical distribution board used for construction work shall be fitted with suitable earth leakage protection. Leads must be properly and firmly connected. Plugs and sockets shall be in good and safe condition.

All electrical apparatus, other than electrical hand tools, shall have a physical "lock out" system which will prevent any operation other than that authorized by a supervisor. A "lock out" sign shall be displayed when the apparatus is not in use. Method statements and safe work procedures will be required for all work involving electrical apparatus.

### **7.21 HIV and AIDS Programme**

The PC shall reduce the risk of transfer of HIV between and amongst construction workers and the local community, raise awareness amongst construction workers of the risk of infection with HIV, promote early diagnosis and assist affected individuals to access care and counselling by:-

- making condoms that comply with the requirements of SANS 4074 available for the duration of the contract to all construction workers at points on the site which are readily accessible and suitably protected from the elements
- either by placing and maintaining HIV/AIDS awareness posters of the size not less than an A1 in areas which are highly trafficked by construction workers or providing construction workers with a pamphlet in languages largely understood by the construction workers which reinforces the outcomes of the HIV/AIDS awareness programme
- encouraging voluntary HIV/STI testing
- providing information concerning counselling, support care of those that are affected

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## **7.22 Safety Conflict**

Where any conflict exists between the requirements of this PSHSS, the Site Rules or Statutory Requirements/Regulations the higher standard must apply unless such conflict is brought to the attention of the Client or H&S Agent and a direction provided. The PC is deemed to have allowed for the higher standard.

The PC is legally responsible for ensuring that he conforms to all applicable aspects of the Occupational Health and Safety Act 85/1993 and Regulations (OH&S Act) and other relevant Acts and Regulations. If in dispute with the PSHSS and other legislation the most stringent requirement must apply.

## **8. HEALTH AND SAFETY FILE**

The documentation submitted and approved following the awarding of the contract will be used to form the H&S file. The H&S file is required to be laid out in a logical manner, and documentation filed within the file is to be easily accessible.

The following completed information shall be included (*but not be limited to*) as part of the index:

- The PSHSS;
- The H&S Plan and the approval by Client;
- Appointment by Client;
- Mandatary agreement with Client;
- Notification of construction work;
- A record of all working drawings, calculations and design where applicable;
- Detailed list of Contractors with contact details, appointments, Mandatories etc., H&S specifications issued;
- Record of Competencies (CVs) and appointments;
- Training Records;
- Permits;
- Method statements;
- Risk assessments;
- Safe work procedures;
- Emergency and injury management;
- Material Safety data sheets
- Medical surveillance records;
- Registers; and
- Records of audits, minutes etc.
- Plant lists
- Temporary electrical installations
- Employee records (*who is on site*)

## **9. NON-CONFORMANCES**

Should, at any time, the works, or part of the works, be stopped due to unsafe acts or non-compliance with the Clients or PCs H&S Plan; neither the PC nor any other Contractor shall have a claim for extension of time or any other compensation.

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The following constitute examples of the types of non-conformances that will attract penalties:

<b>Minor: Penalty: R50/count</b>	<b>Medium: Penalty: R500/count and a non-conformance</b>	<b>Severe Penalty: R5000/count, a non-conformance and/or activity stoppage</b>
Non-use of PPE supplied	Toilets not supplied or regularly serviced; lack of drinking water	Contractors working without Health and Safety Plan approval
Non completion of registers for plant and equipment on site	Contractors not audited	Workers transported in contravention of the OHS plan or legal requirements
Lack of H&S signage at work areas	Working without training or the appropriate, approved H&S method statements	Invalid Letters of Good Standing
Tools and equipment identified in poor condition during inspections	Legal non-conformances identified during the previous audit and not addressed within the agreed time frame	Non-compliance with traffic accommodation requirements: layout or physical conditions
	No monthly OHS report at site meeting to report on	Any serious breach of legal requirements
	No certificates of fitness for workers as required	
	Working without approved method statements	

### 9.1 Failure to Comply with Provisions

Failure or refusal on the part of the PC or their Contractors to take the necessary steps to ensure the safety of workers and the general public in accordance with these specifications or as required by statutory authorities or ordered by the Principal Agent (PA), shall be sufficient cause for the PA to apply penalties as follows:

- (i) A penalty as shown in the Table above shall be deducted for each and every occurrence of non-compliance with any of the requirements of the PSHSS.
- (ii) In addition a time-related penalty of R500,00 per hour over and above the fixed penalty may be deducted for non-compliance to rectify any non-conformance within the allowable time after a site instruction to this effect has been given by the PA. The site instruction shall state the agreed time, which shall be the time in hours for reinstatement of the defects. Should the Contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given.

## 10. MEASUREMENT AND PAYMENT

The payment items for Occupational Health & Safety are contained in the Bill of Quantities. The same rules are applicable in respect of the pricing of these items as for every other payment item. Attention is drawn to the Pricing Instructions in this document.

### Item and Unit

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**C.01 Preparation of Contractor's Project Specific Health and Safety Plan. (Lump Sum (L.S))**

The rate for this item must cover all expenses incurred in preparing the Contractor's project specific Health and Safety Plan as required by the Client's project specific Health and Safety Specification in this document.

**C.02 Principal Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations. (Lump Sum (L.S))**

The full amount will be paid in one instalment only when the Client's Agent has verified and approved the following

- (a) The Principal Contractor has notified the Provincial Director of the Department of Labour in writing of the project, Annexure 2 to the Regulations.
- (b) The Principal Contractor has made the required initial Appointments of Employees and Contractors.
- (c) The Client has approved the Principal Contractor's project Health and Safety Plan.
- (d) The Principal Contractor has set up his Health and Safety File.

**C.03 Principal Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations. (Month (Mth))**

The amount shall represent full compensation for that part of the Principal Contractor's general obligations in terms of the Occupational Health and Safety Act and Regulations which are mainly a function of time. Payment will be made when the Client's Agent has verified the Principle Contractor's compliance as part of the audit. This will include the updating and administration of the Health and Safety file.

**C.04 Provision of Personal Protective Equipment (PPE) as listed in the Bill of Quantities. (Number (No))**

The rates for these items shall include for the procurement, delivery, storage, distribution and all other actions required for the supply of PPE to the employees of the Principle Contractor, full or part time, requiring them. Sub-Contractors are responsible for their own costs in this regard. Any items of PPE not included on the list will be paid for only after the PA has agreed to their acquisition.

Items listed will include, among others which may be noted, are: hard hats, reflective vests, high visibility overalls, protective foot wear, fall arrestor harness, gloves, ear muffs, earplugs and dust masks of appropriate type. Normal items such as standard overalls, waterproof clothing, gum boots and standard workshop safety equipment such as welding masks and goggles will not be paid for.

Payment will be based on the issues register for PPE as kept by the Construction Health and Safety Officer, backed up by paid invoices if requested.

**C.05 Provision of a Full/Part Time Construction Health and Safety Officer (Month)**

The Tender sum shall include for the cost of a Construction Health and Safety Officer on a fulltime or part time basis.

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**C.06 Costs of Medical Surveillance (Unit (No))**

This item shall covers all costs in involved in the obtaining of baseline medical examinations of temporary labour, including operators for mobile plant as contemplated in CR 23(d) (ii); for temporary workers and workers exposed to noises at or above the limits given in the Noise-induced Hearing Loss regulations, as stipulated.

Workers in the permanent employ of the Contractor will only be paid for if their certificates require updating.

**C.06 a)** Initial (baseline) medical examinations, including audiometric and lung function testing.

**C.07 Induction Training (Unit (No))**

This item shall cover all costs incurred for the health and safety inductions as set out in Regulation 7 of the Construction regulations and the proof of induction required. Payment will be made on the figures contained in the induction section of the Health and Safety File.

**C.08 Provision of First Aid Boxes. (Unit (No))**

The rate for this item shall cover all costs incurred in the provision and maintaining of first aid boxes.

**C.09 Establishment of noise levels (Unit (No))**

This item shall cover all costs involved in the establishment of noise zones in terms of Regulation 9 of the Noise-induced Hearing Loss Regulations. Where a zone has previously been established for a particular item of plant within the last two years, the test need not be repeated but must be kept valid for the duration of the Contract.

**C.10 Submission of the Health and Safety File. (Lump Sum)**

Expenditure under this item shall be made in accordance with the general conditions of contract.

This amount will be paid only once the Principal Contractor has met all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and has submitted his Health and Safety File complete as envisaged on this specification to the Client's satisfaction. This must be done prior to the issue of a Certificate of Completion

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**ADDITIONAL OHS SPECIFICATION IN ACCORDANCE WITH COVID-19 REGULATIONS**

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GOVERNMENT NOTICE

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DEPARTMENT OF EMPLOYMENT AND LABOUR

No. R...

MAY 2020

**CONSTRUCTION SECTORIAL GUIDELINES IN TERMS OF COVID-19 OCCUPATIONAL  
HEALTH AND SAFETY MEASURES IN WORKPLACES DIRECTIVE ISSUED BY THE  
MINISTER OF EMPLOYMENT AND LABOUR IN TERMS OF REGULATION 10 (8) OF THE  
REGULATIONS ISSUED BY THE MINISTER OF COOPERATIVE GOVERNANCE AND  
TRADITIONAL AFFAIRS IN TERMS OF SECTION 27 (2) OF THE DISASTER MANAGEMENT  
ACT, 2002 (ACT NO. 57 OF 2002)**

Under clause 45 of the Directive Covid-19 Occupational Health and Safety Measures in Workplaces, I, Tibor Szana, appointed as chief inspector in terms of section 27(1) of the Occupational Health and Safety Act, and by virtue of the powers delegated to me by the Minister of Employment and Labour, in terms of section 42(1) of the said Act, hereby release the construction sectorial guidelines

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Tibor Szana

Chief Inspector

Date: \_\_ May 2020



## **CONSTRUCTION SECTORAL GUIDELINES**

### **1. Risk Assessment**

#### **1.1 Identification of exposure levels**

Regulation 6(1) of the Regulations for Hazardous Biological Agents (2001) requires an employer or self-employed person to determine if any person might have been exposed to an HBA. Every employer to develop a risk assessment to give effect to the minimum measures required by the Department of Employment and Labour COVID-19 Direction on Health and Safety in the Workplace COVID-19 (C19 OHS), 2020 taking into account the specific circumstances of the workplace. Employers must furthermore communicate the COVID-19 risk assessment to all workers.

If the employer employs more than 500 employees, that employer must submit a record of its risk assessment together with a written policy concerning the protection of the health and safety of its employees from COVID-19 as contemplated in section 7(1) of OHS Act to its health and safety committee established in terms of section 19 of OHS Act in addition to the Department of Employment and Labour.

Prior to reopening operations, an employer which is permitted to commence operations in accordance with the government risk adjusted strategy Levels, is required to develop a plan for the phased in return of their workers to the workplace, prior to commencing with work. This plan must be retained for inspection whilst corresponding with company risk management procedures.

In addition to the development of the workplace plan, employers are required to conduct a COVID-19 workplace risk assessment to determine the COVID-19 associated risks of transmission. Similar to all workplace risk assessments, the COVID-19 risk assessment will:

- identify health or safety hazards associated with any work which is performed at the workplace (including the risk of transmission of COVID-19);
- determine the risks associated with the identified hazards;
- put into place mitigation and precautionary measures associated with the risks determined;
- monitor and review the control measures put into place determining the effectiveness thereof; and
- review the risk assessment when required to ensure improved and or continued effectiveness.

The employer or self-employed person must keep a record of the risk assessment and consider matters such as:

- the nature and dose of the SARS-CoV-2 virus to which an employee may be exposed and the suspected route of exposure and exposure scenarios;
- where SARS-CoV-2 virus might be present and in what physical form it is likely to be;

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- the nature of the work, process and any reasonable deterioration, or failure of, any control measure;
- what effects the SARS-CoV-2 virus can have on an employee; and
- the period of exposure.

The employer to review the COVID-19 risk assessment:

- when the government risk adjusted strategy levels change in the respective workplace area;
- there is a reason to suspect that the previous assessment is no longer valid;
- change in process or numbers of employees that may lead to transmission risk;
- should any employee within the workplace contract COVID-19, as new risks emerge, or when determined by the employer otherwise.

Anticipated high exposure areas that will need immediate assessment include the following areas:

- Entry points to the workplace
- Change house facilities
- On-site canteen and similar dining areas
- Waiting areas
- Evacuation and gathering places

#### 1.2 Identification of “high contact” activities

Whilst performing the COVID-19 workplace risk assessment, employers are required to identify all activities and areas where “high contact” is probable in relation to the transmission of COVID-19. These activities or areas include although not limited to:

- Labour intensive activities;
- Confined working spaces;
- Mass gatherings or meetings;
- Toolbox talks;
- Canteen areas;
- Open plan workspaces;
- Workshops;
- Common areas within or outside the workplace;

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- Workplace access points;

Following the identification of these “high contact” activities or areas employers are to ensure social distancing measures are implemented as determined by the risk assessment. Minimal contact between workers to be enforced and as far as practicable through supervision, ensure that there is a minimum of one and a half metres between workers while they are working. Employers must ensure that at site access points:

- ad-hoc visitors to sites or offices are to be denied access;
- a strict visitor access control policy to be implemented for all sites or offices, which should include application, pre-screening procedures (including a medical and travel history questionnaire), and authorisation procedures;
- all individuals will be required to wash their hands with a hand sanitiser or soap and water, before and immediately after using a fingerprint reader such as those used for access control;
- introduce staggered start times or multiple access points to reduce congestion;
- have in place safety representatives equipped with the necessary PPE to ensure adequate distancing between workers (2m) is enforced at access points;
- no breathalysers are to be used. Should an individual display suspected intoxication, alternative methods of testing will be considered;
- entrances to offices and sites must have a hand washing facility and all individuals entering and exiting the site must wash their hands - alternatively hand sanitiser must be provided;
- hand washing technique posters shall be displayed near the hand wash area;
- a fever screening process will be implemented at all site access points;
- visitor registers at entry points will be completed by the security guard and not by the visitor;
- security guards will wash their hands every time they use the visitors register and pen;

1.3 Identification of vulnerable workers and special measures for their protection, including protection against unfair discrimination or victimization

Employers are required to identify vulnerable workers at the workplace, in addition to the special measures required for their protection, including protection against unfair discrimination or victimization. A vulnerable person as identified by an Occupational Health Practitioner includes people:

- People 60 years and older
- People with underlying medical conditions, particularly if not well controlled, including people with one of or a combination of the following:
  - chronic lung disease or moderate to severe asthma,

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- diabetes,
- serious heart conditions,
- severe obesity (body mass index [BMI] of 40 or higher),
- chronic kidney disease undergoing dialysis,
- liver disease, and
- those who are immunocompromised. In this regard many conditions can cause a person to be immunocompromised, including cancer treatment, smoking, bone marrow or organ transplantation, immune deficiencies, poorly controlled HIV or AIDS, and prolonged use of corticosteroids and other immune weakening medications.

Special measures required in relation to vulnerable workers include, although is not limited to:

- Working from home;
- Reduced working hours;
- Providing of specialised PPE appropriate to the risk identified in the risk assessment;
- A vulnerable worker can fulfil a different role and responsibility which has a lower risk for COVID-19 transmission;
- Reducing interaction with other people or the use of public transport;

## **2. Engineering controls**

### 2.1 Ventilation

Employers to as far as practical ensure the workplace is well ventilated by natural or mechanical means to reduce the SARS-CoV-2 viral load. Where reasonably practicable workplaces must, have an effective local extraction ventilation system with high-efficiency particulate air HEPA filters, which is regularly cleaned and maintained, and its vents do not feed back in through open windows. Employers are to ensure that filters are cleaned and replaced in accordance with the manufacturer's instructions by a competent person as required by the manufacturer.

### 2.2 Physical barriers

Employers are required to ensure minimal contact between workers and as far as practicable ensure that there is a minimum of one and a half metres between workers.

If it is not practicable to arrange a worker's workstation(s) to be spaced at least one and a half metres apart, the employer should:

- Arrange physical barriers to be placed between workers' working places or erected on workers' desks to form a solid, physical barrier between workers while they are working; or

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- If necessary, supply the worker free of charge with appropriate PPE based on a risk assessment of the working place.

### 2.3 Adaptation of workstations to increase social distance

Every employer must arrange the workplace to ensure minimal contact between workers and as far as practicable ensure that there is a minimum of one and a half metres between workers while they are working, for example, at their workstations. Depending on the circumstances of the workplace or the nature of the sector, the minimum distance may need to be longer. Reducing the number of workers present in the workplace at any time may assist in achieving the required social distancing.

## **3. Administrative controls**

### 3.1 Screening/ reporting of symptoms/ sick leave

The potential for cross contamination is higher at site entry and exit points and where there are high levels of surface contact points such as in welfare areas, site walkways, stairs access etc.

- Biometric access devices should be by-passed / turned-off
- Multiple entry points to be used if practical
- Security guards to record all names rather than having multiple persons signing-in using shared pen or booklet
- Sanitising stations in position at all site entry points
- Regularly clean common contact surfaces in reception, office, access control and delivery areas (e.g. scanners, turnstiles, screens, telephone handsets, desks, particularly during peak flow times)

#### 3.1.1 Interim Screening Process

Employers are required to comply with any guidelines issued by the National Department of Health in consultation with the Department in respect of symptom screening.

Employers must develop a screening procedure in addition to identifying adequate number of screening officers at every workplace. The screening officers must receive training regarding:

- The company approved screening procedure
- How to safely use the PPE
- How to use the specific thermometer at the workplace according to OEM specification (if applicable)

Employers must:

- Provide screening equipment (thermometers) if required

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- Provide prescribed personal protective equipment (PPE) to those assigned to perform the screening.
- Keep record of all COVID-19 screening performed,

*Non-Contact Screening Process (Guideline only)*

All employees will receive a “non-contact” temperature screen prior to being permitted access to the workplace. The screening will be performed by the company identified and trained screening officer.

In the event, there is not a thermal scan thermometer available on site to measure an employee’s temperature, site access will be determined by observation and verbal screening.

All employers are required to put measures in place to ascertain whether any worker or visitor, when arriving at work, has any observable symptoms common with COVID-19. People will be questioned and observed by the screening officer for symptoms consistent with COVID-19 company screening procedure as per annexure A including:

- fever;
- cough;
- sore throat;
- shortness of breath;
- difficulty in breathing;
- body aches;
- redness of eyes;
- loss of smell;
- loss of taste;
- nausea;
- vomiting;
- diarrhoea;
- fatigue;
- weakness or tiredness;

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The screening officer will then question:

- if the employee interacted with a person who has been found Covid-19 positive in the past two weeks
- Travelled from any other province within the past 2 weeks.

Any positive (yes) responses will require individual to be recommended for further medical screening including the completion of the screening questionnaire under Annexure B by an additional screening officer.

If a thermometer is used and employee's temperature is less than 38 degrees, and they DO NOT, exhibit symptoms consistent with the COVID-19 virus, employee may access the jobsite to proceed with work.

If an employee has a temperature of 38 degrees or greater, or DOES exhibit symptoms consistent with COVID-19, or have in the past two weeks interacted with a person who has been found Covid-19 positive, the employee will undergo further screening. This will require a completion of a brief questionnaire (Annexure B). Individuals must be Isolated and or recommended for further medical evaluation based upon the findings.

Should a worker show any positive symptoms related to COVID-19, then the employer must:

- Know where to refer workers for testing if presenting with the above symptoms or notify the National Department of Health through their helpline (0800 029 999) to obtain further directions
- Not permit the worker to enter the workplace or report for work

Should the worker already be at work, then the employer must:

- Assess the risk of transmission, disinfect the area and the worker's workstation, refer those workers who may be at risk for screening and take any other appropriate measure to prevent possible transmission

Should the employee not require hospital admission and is sent home, the employer must:

- ensure that the employee has been informed that he/she undergoes self-isolation at home if appropriate, or at a designated isolation accommodation identified by the National Department of Health;

If a worker has been diagnosed with COVID-19 and isolated in accordance with the Department of Health Guidelines, an employer may only allow a worker to return to work on the following conditions:

- the employee has undergone a medical examination confirming that s/he has been tested negative for COVID-19 after at least 14 days isolation;

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All health and safety precautions must be taken by those conducting temperature screening to ensure their safety and the safety of those being screened. At a minimum:

- Wear appropriate PPE (safety glasses, and FFP1 surgical type mask)
- Follow all social distancing measures.
- Ensure all equipment (e.g. thermometers) used must be cleaned in accordance with manufacturer's instructions between every use.

### 3.3 Minimizing contact

The employer must take measures to minimize contact between workers as well as between workers and members of the public.

The following will apply to all individuals:

- There will be no hand shaking with any person.
- Avoid the unnecessary touching of other individuals.
- When talking, sitting or eating with others, keep a distance of at least 1,5m between yourselves.
- Avoid close contact with anyone who has a fever or cough and request that site or office management follow these procedures and guidelines in terms of dealing with this person.
- Lifts should be avoided, as they are a confined space. Use stairways, ensuring hand sanitizer is used afterwards. Hand rails to be sanitised throughout the day.
- Where tasks require workers to be in close contact, the site shall provide the appropriate PPE for this.
- Wherever possible, work that requires close contact shall be planned to reduce the number of individuals involved in the activity at any one time

Employers must ensure that:

- Meetings where spacing of individuals would be less than 1,5m apart are not to be permitted as far as practicable.
- Toolbox talks shall be limited to a maximum duration of 15 minutes and shall be in groups that allow for a 1,5m spacing between individuals but do not require the speaker to shout.
- Toolbox talks must be held in well ventilated areas.
- The awareness of hand washing and other hygiene behaviours is to be communicated daily.
- Meetings shall be reduced to only those that are essential and shall wherever possible be held via video conference.
- Hold meetings in open areas where possible



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- Wherever possible, meetings and / or briefings shall be held in open areas with good ventilation
- A one-way system on access routes throughout the site where possible. Increasing access points can help establish a one-way system if possible. Where a one-way system is not possible widening pedestrian routes so social distancing can be maintained on main site walkways.

First Aid Responder Guidance:

- COVID-19 infects people through contact with the mucous membranes. First Aid Responders must think of these as being the mouth, nose and eyes. It does not infect through the skin.
- The greatest element of risk for a First Aid Responder is transfer of the virus to the mucous membranes by contact of contaminated hands (including contaminated gloved hands) with the eyes, nose or mouth.
- To minimise hand contamination, avoid touching your face and clean your hands frequently with soap and water or alcohol-based hand sanitiser.
- There is also a significant risk of direct transfer of the virus on to mucous membranes by droplet transmission, that is, by direct impact of larger infectious virus droplets generated from the person's respiratory tract landing directly in your eyes, nose or mouth. This risk is managed by use of appropriate PPE (mask and eye protection) and by providing the ill or injured person with a mask to cover their nose and mouth when coughing or sneezing (respiratory hygiene and cough etiquette).
- First Aid Responders should be familiar with the symptoms of COVID-19.

Key Control Measures for First Aiders

- Standard infection control precautions to be applied when responding to any first aid incident in the workplace. Hand washing with warm water and soap or an alcohol-based hand sanitizer must be performed before and after providing any first aid treatment.
- Any person presenting with symptoms consistent with COVID-19 should be treated as a suspected case.
- In such cases, move individual to a first aid room / isolated room to minimise risk of infection to others.
- Only one First Aid Responder to provide support/ treatment, where practical.
- Additional PPE should be worn by First Aid Responders when responding to all first aid incidents where close contact cannot be avoided. Also have a mask available to give to person if they are displaying symptoms consistent with COVID-19 to limit droplet dispersion.
- If you suspect a person has experienced a cardiac arrest, do not listen or feel for breathing by placing your ear and cheek close to the person's mouth. If you are in any doubt about confirming cardiac arrest, the default position is to start chest compressions only until help arrives.

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- Persons with minor injuries (cuts, abrasions, minor burns) - where practical, a First Aid Responder should avoid close contact and advise the injured party what steps to take in treating their injury.
- No reusable equipment should be returned to service without being cleaned or disinfected appropriately.

#### 3.4 Rotation and shift work

The employer must, as far as practicable, minimize the number of workers at the workplace at any given time to mitigate the impact of COVID-19 through rotation, staggered working hours, shift systems, remote working arrangements or similar measures in order to achieve social distancing.

#### 3.5 Work-at-home strategies

The employer must, as far as practicable, enforce work-at-home strategies and workers who can work from home should work from home particularly where they are Vulnerable Workers. Employers should develop a directive or guidance on working from home to provide clear advice to all workers working from home.

#### 3.6 Communication and information strategies

Where workplace meetings can be held via an online collaboration platform, it is strongly encouraged, although where workplace meetings cannot be conducted virtually, strict protocols should be implemented in respect to in-person meetings including:

- the maximum occupancy of the workplace meeting room should be determined having regard to social distancing principles including a distance of 1,5m apart if possible;
- the layout of workplace meeting rooms should conform with social distancing principles in so far as possible;
- the number of attendees that may attend a workplace meeting should be limited to the prescribed occupancy requirements of the room;
- the number of workplace meetings and the duration of workplace meetings should be reduced;
- attendees should avoid social niceties such as shaking of hands and hugging;
- all attendees should wear a face mask with nose and mouth covered;
- all attendees should wash hands / hand sanitizer before entering and exiting the workplace meeting room;
- doors and windows to be left open during and between workplace meetings to avoid touching handles;
- desks / equipment / seat handles in meeting room should be sanitised immediately before and after meetings;

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- meeting refreshments are permitted where the coffee cups are disposable, beverages are sealed and food is wrapped.

### 3.7 Role of health and safety committees and representatives

The employer must appoint a COVID-19 manager to address employee or workplace representative concerns and to keep them informed. Should an health and safety committee that has been elected already exist in the workplace then the appointed manager must consult with that committee on the nature of the hazards and risks in relation to COVID-19 in that workplace in addition to the measures that need to be taken.

### 3.8 Education and training

Employers must provide workers with information that raises awareness in any form or manner, including where reasonably practicable leaflets and notices placed in conspicuous places in the workplace informing workers of the dangers of the COVID-19 virus, the manner of its transmission, the measures to prevent transmission such as personal hygiene, social distancing, use of masks, cough etiquette and where to go for screening or testing if presenting with the symptoms;

Employers to obtain relevant information, recommendations and topics regarding the COVID-19 pandemic from the World Health Organization's (WHO) website ([www.who.int](http://www.who.int)) for use in the education of employees, and to display the information in prominent areas within every workplace. Such information should also be included in health and safety briefings both on project sites as well as offices. Detailed information on symptoms and protection can be found on the Corona Virus Q&A section of the WHO website (direct link: <https://www.who.int/news-room/q-a-detail/q-a-coronaviruses#>).

Employers are to acknowledge the associated risks of the virus, act accordingly and to put into place extraordinary health and safety measures. Employers are further advised to avoid disinformation in social media and to reference the following sources for official, accurate information and updates:

- The World Health Organisation [[www.who.int](http://www.who.int)] and [Twitter@who]
- The National Institute of Communicable Diseases [[www.nicd.co.za](http://www.nicd.co.za)] and [Twitter@nicd\_sa]
- National Department of Health [[www.health.gov.za](http://www.health.gov.za)] and [Twitter@HealthZA]
- The Presidency [[www.thepresidency.gov.za](http://www.thepresidency.gov.za)] and [Twitter@PresidencyZA]

Every employer should implement a suitable training and awareness campaign in respect of:

- the dangers of COVID-19 disease;
- the manner of its transmission;

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- the measures to prevent transmission such as social distancing, personal hygiene practices, PPE requirements and utilisation (including cloth masks), social etiquette (including cough etiquette, greetings, respiratory hygiene);
- safe transport to and from work; and
- symptom monitoring, screening and confirmatory testing.

### 3.9 Reporting of incidents for regulatory purposes

If a worker has been diagnosed with COVID-19, an employer must-

- inform the Department of Health and the Department of Employment and Labour; and
- inform SAFCEC through the use of the online reporting tool;
- investigate the cause including any control failure and review its risk assessment to ensure that the necessary controls and PPE requirements are in place; and it must give administrative support to any contact-tracing measures implemented by the Department of Health.

### 3.10 Reporting for purposes of public health, contact tracing, screening, testing and surveillance

If an employee has been diagnosed with COVID-19 and isolated in accordance with the Department of Health Guidelines, the worker may only return to work if:

- the worker has undergone a medical examination confirming that s/he has been tested negative for COVID-19 after at least 14 days isolation;
- the worker wears the minimum of a FFP1 surgical mask at all times for the remaining period of 21 days from the date of initial testing;
- the employer ensures that the worker adheres to social distancing, hygiene and cough etiquette;
- the employer closely monitors the worker for symptoms on return to work;

The employer should report all alleged, presumed and confirmed cases of COVID-19 related occupational disease to the Compensation Commissioner in the prescribed format using the relevant documentation as required in terms of the Compensation for Occupational Injuries and Diseases Act 130 of 1993 (COIDA) in order to facilitate procedures for all worker's compensation benefits available to employees, including:

- leave for temporary disability;
- assessment by an occupational medicine specialist in cases of complex disease that may result in permanent disability;
- cover of medical expenses for the treatment and testing, as well as permanent disability assessments; and
- compensation to dependents in case of death.

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#### **4. Healthy and safe work practices**

##### 4.1 Disinfectants, sanitisers and personal hygiene

The employer must ensure that:

- there are adequate facilities for the washing of hands with soap and clean water at all times and no fabric towelling is allowed, only paper towels are provided to dry hands after washing;
- adequate rubbish bins are to be provided for the disposal of paper towels;
- workers are required to wash their hands and sanitize their hands regularly while at work;
- all work surfaces and equipment are disinfected before work begins, regularly during the working period and after work ends;
- common areas and ablution facilities are sanitised more regularly;
- as far as practicable, crockery and eating utensils should be disposable;
- workers are provided with the necessary tools and equipment required to perform their job to avoid sharing of workers' tools and equipment, insofar as it is reasonable and practicable to do so;
- there are sufficient quantities of hand sanitizer (with at least 70% alcohol content) having regard to the number of workers or other persons who access the workplace at the entrance of, and in, the workplace which the workers or other persons are required to use;
- every worker who works away from the workplace, other than at home, should be provided with an adequate supply of hand sanitizer;
- if a worker interacts with the public, the employer should provide the worker with sufficient supplies of hand-sanitizer at that worker's workstation for both the worker and the person with whom the worker is interacting and instructed to sanitize their hands between each interaction with public;
- the workplace is sufficiently ventilated;
- disable biometric systems or make them COVID-19-proof;
- cleaning registers are to be provided in the areas where regular cleaning is required;

All individuals shall wash their hands with soap and water for at least 20 seconds or use approved 70% alcohol based sanitizer when: -

- entering or leaving a site;
- before eating;
- after eating;

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- after site walks;
- after ablutions;
- after touching hand rails, door handles, paper, envelopes etc; and
- any other interactions that may require hand washing.

Basins with soap and water or alcohol based hand sanitizer must be provided at: -

- site access points;
- offices;
- ablution facilities;
- eating areas; and
- appropriate areas around the site such that a person does not need to walk further than 50m to access these facilities.

Where soap and water are provided for hand washing, so too must paper towels be provided for drying of hands. Workers who work in close contact shall have regular access to hand washing facilities.

Individuals who sneeze must be considerate. Leave the group or room, cover their mouths and nose with a tissue and dispose of the tissue properly; alternatively sneeze into a flexed inside of the elbow.

Avoid touching one's eyes, nose and mouth with unwashed hands.

## **5. PPE**

The type of PPE to be used within the workplace will vary according to the work activity, medical risk factors in relation to Vulnerable Workers etc. The employer should determine the PPE required following the information provided from the risk assessment. Employers must ensure that:

- Workers who work in close contact with one another shall wear appropriate PPE;
- Workers shall be trained on how to wear, remove and - where appropriate - dispose of their PPE properly;
- Designated bins for the adequate disposal of masks shall be provided;
- Safety and supervisory personal shall ensure no close contact work is carried out by workers who are using defective or inadequate PPE.

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### 5.1 Masks

The main benefit of everyone wearing a cloth mask is to reduce the amount of virus droplets being coughed up by those with the infection and transmitted to others and to surfaces that others may touch. Since some persons with the virus may not have symptoms or may not know they have it, the Department of Health requires that all persons wear cloth masks when in a public place.

To ensure that N95 masks, surgical masks and other medical masks are secured for those workers who have the highest health risk such as health care workers, persons with respiratory symptoms or those caring for COVID-19 patients at home, employers should ensure all other workers do not use medical grade masks without good cause.

Employers must ensure provision of cloth masks to every worker in their workplace. This is in the interests of health and safety of workers in the workplace and as a support to the public health measures. These masks should be provided free of charge and an employer may not require a worker to pay the employer or any other person for a cloth mask or make a deduction from the worker's remuneration.

Every employer should provide each worker with a minimum of two cloth masks, as recommended by the National Department of Health, for the worker to wear while at work and while commuting to and from work. The number of cloth masks that should be provided to a worker may increase having regard to the worker's conditions of work, in particular, where these may result in the mask becoming wet or soiled and in accordance with any sectoral guidelines.

An employer should make appropriate arrangements for the washing, drying, ironing and disposal of cloth masks in accordance with the Department of Employment and Labour Directive or, if not reasonably practicable, provide facilities for the worker to wash and dry the cloth masks at the workplace.

Every employer should ensure that workers are informed, instructed, trained and instructed as to the correct use of both PPE as well as cloth masks.

In respect of cloth masks, training should explain:

- hands should be washed before and after donning or removing the cloth mask;
- that cloth masks should cover the nose and mouth completely;
- cloth masks should not be lowered when speaking, coughing or sneezing;
- cloth masks should never be touched except to put on and remove cloth masks should be washed with warm soapy water and iron when dry. Ironing assists with decontamination;
- cloth masks should be changed when wet or visibly soiled;

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5.2 and 5.3 and 5.4 Gloves and Facial Shields and Other PPE

The employer must provide any other PPE to the employees guided by the workplace risk assessment that was performed. PPE remains the last resort and the employer must ensure that adequate training is provided for all types of PPE.

**6. Provision of safe transport for employees**

6.1 Personal hygiene

Employers should train workers who rely on public transport or who utilise employer arranged on transport on the safety protocols to be followed. Employers to ensure:

- Where transport is provided, occupancy of the vehicle should be reduced in line with government policy in the taxi industry;
- Transport vehicles should be sanitized before and after each trip;
- A fever screening process will be implemented prior to embarkation.

6.2 Social Distancing

Social distancing at the workplace and in the common areas outside the immediate workplace must be enforced and managed by the employer through supervision. Every employer must arrange the workplace to ensure minimal contact between workers and as far as practicable ensure that there is a minimum of one and a half metres between workers while they are working, for example, at their workstations.

Depending on the circumstances of the workplace or the nature of the sector, the minimum distance may need to be longer. Reducing the number of workers present in the workplace at any may assist in achieving the required social distancing. Enforcement of social distancing could furthermore be done through queue control at areas including canteens, coffee shops and lavatories.

At a canteen, workplace coffee shops, and other common areas these measures may include:

- dividing the workforce into groups or staggering break-times to avoid the concentration of workers in common areas such as the canteen;
- closing of common areas to reduce pedestrian traffic;
- staggering start / finish / break times to reduce traffic in common areas;
- changing area layouts to create more space for movement;
- minimising handling of cash and encourage contactless payments only;
- markings on the floor / ground to define queueing quadrants to indicate minimum social distancing requirements;
- providing for outside, well-spaced eating areas;



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- leaving doors open (where appropriate) at busy times to speed up the flow of pedestrian traffic (and to avoid workers touching door handles);
- disabling vending machines;
- Where workplace meetings can be held via an online collaboration platform, it is strongly encourage.

#### 6.3 Arrangements to minimise exposure associated with commuting

Employers are encouraged to arrange transport for their workers for the duration of the lockdown period, whilst furthermore providing employees with training regarding the PPE and hygiene requirements whilst traveling.

#### 6.4 Cloth masks (if commuter)

Employers must ensure that all commuters are always required to have a cloth mask on whilst in transit.

#### 6.5 PPE (driver/conductor of employer-provided transport)

Employers should ensure that safe transport arrangements are made, including:

- sanitisers for workers;
- cloth masks for taxi drivers;
- social distancing and capacity ar

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**ANNEXURE A**

**H&S AGENT AUDIT SHEET  
 EXAMPLE OCCUPATIONAL HEALTH AND SAFETY AUDIT DOCUMENT**

<b>PROJECT NAME:</b>	
<b>CONTRACT NUMBER:</b>	
<b>HEALTH AND SAFETY AUDIT No:</b>	
<b>CONDUCTED BY :</b>	
<b>DATE :</b>	

**EXECUTIVE SUMMARY**

**INTRODUCTION AND OVERVIEW**

**Scoring:**

The audit has a scoring schedule, which will be used to deem compliance to what is available on site, and what the appropriate systems need to be to match them. The contractor should aim for a score of 3 on each aspect included in the audit. A low score could result in part or all of the work being stopped until compliance is reached.

<b>Scoring schedule</b>	
If the answer is " <b>No</b> " the rating will be 0	
If the answer is ' <b>not applicable</b> ' it will be noted as n/a	
If the answer is " <b>Yes</b> " the following ratings are applicable	
1	Requirements partially met and no implementation.
2	Requirements partially met and partially implemented
3	Requirements fully met and partially implemented
4	Requirements fully met and fully implemented
5	Requirements and implementation exceeds expectation

**Key Abbreviations:**

Health and Safety	H&S	Driven Machinery Regulations	DMRs
Occupational Health	OH	Regulations for Hazardous Chemical Substances	RHCSs
Construction Regulations	CRs	Pressure Equipment Regulations	PERs
General Safety Regulations	GSRs	General Administration Regulations	GARs
Explosive Regulations	ERs	South African National Standards	SANS
Noise Induced Hearing Loss Regulations	NIHLs	South African Road Traffic Safety Manual	SARTSM
Facilities Regulations	FRs		
South African Bureau of Standards	SABS		
Occupational Health and Safety Act	OHSA		

Provide a summary of site inspection, significant findings of the site inspection and the audit.

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**CORE LEGAL RECORDS ON SITE:**

This list is not conclusive – to be updated monthly relative to works in progress. However the H&S Officer is to be pro-active and pre-empt requirements with the Construction Supervisor (Site Agent). The content will be linked to the physical conditions, processes and activities noted on site, or programme.

ITEM	Legal /SPEC Ref	RECORDS TO BE KEPT	SCORE	COMMENTS	By whom	Completion Date	Contractor Close out
1.		Updated project <b>H&amp;S Organogram</b>					
2.	OHSA S. 16 (1) and (2)	CEO and subordinate (if required) <ul style="list-style-type: none"> <li>• Proof of Competency provided</li> </ul>					
3.	CR 8 (1) and (2)	Designation of Construction Manager and Subordinate Person(s) <ul style="list-style-type: none"> <li>• Proof of Competency provided</li> </ul>					
4.	OHSA S. 17; GAR 7	<ul style="list-style-type: none"> <li>• H&amp;S Representatives appointed</li> <li>• Monthly inspections completed</li> <li>• Representation from Contractors</li> </ul>					
5.	OHSA S. 18; GAR 5	<ul style="list-style-type: none"> <li>• H&amp;S Committee appointed</li> <li>• Minutes on file</li> <li>• H&amp;S representatives reports discussed</li> <li>• Incidents discussed</li> <li>• Signed by Chair</li> <li>• Evidence of minutes noted</li> </ul>					
6.	GAR 4	Copy of OH&S Act (Act 85 of 1993) available on site					
7.	CR 5(j); 7(c)(iv)	Written proof of registration / <b>Letters of good standing</b>					

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ITEM	Legal /SPEC Ref	RECORDS TO BE KEPT	SCORE	COMMENTS	By whom	Completion Date	Contractor Close out
		available on Site					
8.	OHSA S.37.2	<b>Copy of the Mandatary (S37.2) agreement between the PC and Client</b>					
9.	OHSA S.37.2	<b>Mandatary agreements</b> between PC and contractors					
10.	CR 3(1); 4(1)	<b>Notification to Provincial Director – Annexure 1/2</b> Available on site					
11.	CR 5(1)(m)  7(1)(b)	<ul style="list-style-type: none"> <li>• Copy of Principal Contractor’s Health &amp; Safety Plan Available on request.</li> <li>• Letter of approval from Agent.</li> <li>• Health &amp; Safety File opened and kept on site (including all documentation-required in respect of the OHSA &amp; Regulations)</li> <li>• Available at all times</li> </ul>					
12.	CR 7(1)(b)	<b>Copy of Principal Contractor’s Health &amp; Safety File provided to Contractors</b> <ul style="list-style-type: none"> <li>• Letters of approval for each contractor on file</li> <li>• List of Contractors on site</li> <li>• Verified monthly by Agent</li> </ul>					
13.		<b>Copies of technical method</b>					

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ITEM	Legal /SPEC Ref	RECORDS TO BE KEPT	SCORE	COMMENTS	By whom	Completion Date	Contractor Close out
		<b>statements</b> approved by Designer <ul style="list-style-type: none"> <li>• Register available, signed by Designer</li> </ul>					
14.	CR 9(1)  OHSA CR 9(3)	<b>Risk Assessments:</b> <ul style="list-style-type: none"> <li>• Up to date and available on site for inspection</li> <li>• Review and monitoring programme adhered to</li> <li>• Workers trained in risk assessments</li> </ul>					
15.	CR9(1)(c)	<b>Safe work procedures Procedure</b> <ul style="list-style-type: none"> <li>• List of available SWPs</li> <li>• Workers trained in SWPs</li> <li>• Proof of training verified</li> </ul>					
16.	OHSA S. 13 CR 7(5)(6)	<b>Induction programme available</b> <ul style="list-style-type: none"> <li>• Proof of <b>induction</b> training available</li> </ul>					
17.	CR 6(1)(2)	<b>Structural information from Designer:</b> <ul style="list-style-type: none"> <li>• Geo-science technical report</li> <li>• Design loading of the structure</li> <li>• Methods &amp; sequence of construction</li> <li>• Design risk assessment</li> <li>• Amended H&amp;S Specification</li> </ul>					

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ITEM	Legal /SPEC Ref	RECORDS TO BE KEPT	SCORE	COMMENTS	By whom	Completion Date	Contractor Close out
		<ul style="list-style-type: none"> <li>Temporary Works Design</li> </ul>					
18	CR 12(1)(3)	<b>Temporary Works</b> <ul style="list-style-type: none"> <li>Appointment of temporary works designer</li> <li>Proof of Competency provided</li> <li>Approved temporary works drawings</li> <li>Temporary work inspection register</li> <li>Competencies of erectors of temporary works</li> <li>Construction method statements</li> </ul>					
19	CR 13(1)(2)	<b>Excavations:</b> <ul style="list-style-type: none"> <li>Competent persons appointed</li> <li>CVs available</li> <li>Depth of excavations on site</li> <li>Shoring in use</li> <li>Registers in line with open excavations noted at site inspection</li> </ul>					
20	CR 13(f) GSR 13A	<b>Ladders:</b> <ul style="list-style-type: none"> <li>Competent person appointed</li> <li>Registers kept</li> <li>Registers for ladders noted on site</li> </ul>					
21	CR 16(1)	<b>Scaffolding: SANS 10085</b> <ul style="list-style-type: none"> <li>Competent Erector(s) and</li> </ul>					

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ITEM	Legal /SPEC Ref	RECORDS TO BE KEPT	SCORE	COMMENTS	By whom	Completion Date	Contractor Close out
		Inspector appointed • Proof of Competency provided • Registers in place					
22	CR 23	<b>Construction Vehicles:</b> • Appointment of competent operators • Plant Management: • Registers on file noting daily inspections • Plant and machine lists available • Inadequacies noted on site • Transportation of workers • Registers for sample of vehicles noted on site					
23	CR 24	<b>Temporary Electrical Installations and Machinery</b> • Competent Person appointed • Proof of Competency provided • Updated weekly installation inspection registers in place • Updated daily inspection registers in place					
24	CR 25	<b>Flammable Liquids:</b> • Competent Person appointed for inspections • Proof of Competency provided • Inspection registers in place					

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ITEM	Legal /SPEC Ref	RECORDS TO BE KEPT	SCORE	COMMENTS	By whom	Completion Date	Contractor Close out
25	CR 27, ER 6 GSR 8	<b>Housekeeping, Stacking &amp; Storage Supervisor:</b> <ul style="list-style-type: none"> <li>• Appointed per work area</li> <li>• Proof of Competency provided</li> <li>• Include site conditions</li> <li>• Spoil areas</li> <li>• Register available per area</li> </ul>					
26	GSR 2	<b>PPE:</b> <ul style="list-style-type: none"> <li>• included in Risk Assessment</li> <li>• PPE used and enforced</li> <li>• Records of Issue kept</li> <li>• Training to use (Induction)</li> <li>• Registers for condition checks</li> </ul>					
27	RHCSs CR 7; 23 GSR 4	<b>Hazardous Chemical Use and Storage</b> <ul style="list-style-type: none"> <li>• Competent Person/s appointed</li> <li>• Proof of Competency provided</li> <li>• Risk Assessments include use of HCSs</li> <li>• Register of HCS kept/used on Site</li> <li>• Flammable Store</li> <li>• Bulk diesel storage</li> <li>• Material Safety Data Sheets on file and utilised</li> <li>• Other</li> </ul>					
28	GSR 3	<b>Emergency management:</b> <ul style="list-style-type: none"> <li>• First aiders available through</li> </ul>					



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ITEM	Legal /SPEC Ref	RECORDS TO BE KEPT	SCORE	COMMENTS	By whom	Completion Date	Contractor Close out
		project <ul style="list-style-type: none"> <li>• Level 1</li> <li>• First aid boxes through site</li> <li>• Evacuation procedures</li> <li>• Registers available (noted on site)</li> </ul>					
29	GAR	<b>Incident Management:</b> <ul style="list-style-type: none"> <li>• Emergency co-ordinator appointed</li> <li>• Proof of Competency provided</li> <li>• Emergency plan appropriate</li> <li>• Emergency level included in Risk Assessments</li> <li>• Workers trained</li> <li>• Incident reports available and complete</li> </ul>					
30	CR 1 (g), 7(8)	<b>Medical Surveillance Programme</b> <ul style="list-style-type: none"> <li>• All employee records</li> </ul>					
31	CR 30/ FRs	<b>Welfare Facilities:</b> <ul style="list-style-type: none"> <li>• Toilets available where crews are working/clean</li> <li>• Clean potable water available</li> <li>• Adequate eating facilities</li> </ul>					
32	SANS 1921-6	<b>HIV AND AIDS PROGRAMME</b> <ul style="list-style-type: none"> <li>• HIV and AIDS Policy and plan available</li> <li>• Condoms available</li> <li>• Peer review programme</li> </ul>					

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ITEM	Legal /SPEC Ref	RECORDS TO BE KEPT	SCORE	COMMENTS	By whom	Completion Date	Contractor Close out
		available • Ongoing training of workers					
29.		<b>Other</b>					

RESPONSIBILITY	SIGNATURE	DATE
<b>H&amp;S AGENT SIGNATURE:</b>		
<b>PC SIGNATURE:</b>		
<b>DESIGNER SIGNATURE:</b>		
<b>CLIENT SIGNATURE:</b>		

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**ANNEXURE B**

**CLOSE OUT REQUIREMENTS**

The H&S files for the Principal Contractors and all Contractors require closure and handover to the Client at the completion of the project. The following list is an example of what should be included, but is not exhaustive. The OHS Agent or the Client may require further information at the time of completion and the Principal Contractor is to ensure that all instructions are met. Documentation would include all records from the start of the project. Daily or monthly plant inspection records are not required unless they are related to an accident. All records to be in electronic format and submitted to the OHS agent for approval in adequately formatted lists and folders. Layout should be logical and in the same order as in the site files.

**Health and Safety close out file requirements include:**

- a) Client H&S Specification
- b) Principal Contractor's OHS Plan(s)
- c) Organograms
- d) Legal Appointments
- e) List of all employees employed on a permanent or contractual basis over the duration of the contract
- f) Notification to Department of Labour of commencement of work
- g) Letters of Good Standing for the Project
- h) Full files for all Contractors as well as their close out reports
  - List of Contractors
  - All employees employed on a permanent or contractual basis over the duration of the contract
  - Letters of Approval of Contractors
  - Mandatary Agreements
  - Letters of Good Standing
  - Appointments
- i) Incident Records
- j) Non- Conformance records
- k) Agent's Audits
- l) Method Statements
- m) Risk assessments
- n) Safe work procedures
- o) Medical surveillance certificates of fitness. Medical records are to be kept according to the OH&S Act as amended
- p) All drawings for temporary structures (suspended beams/scaffolds etc)
- q) All operating manuals for any systems that require ongoing maintenance
- r) Copies of test results, policies and procedures for environmental monitoring (silica, noise, dusts etc.)

**Defect and Liability Period**

The H&S files are to be kept 'live' for the defect and liability period by the Principal Contractor, including those of their Contractors. Any work required during the defect and liability period will require an assessment of the H&S file by the OH&S Agent prior to any work commencing.

A copy drawing records for the as-builts are to be placed on file by the Designers once complete.

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ANNEXURE C

NON CONFORMANCES

HEALTH AND SAFETY SITE INSPECTION NON CONFORMANCE NO		
<b>AGENT:</b>	<b>PROJECT:</b>	
<b>Consultant:</b>	<b>Date and time:</b>	
<b>Client</b>	<b>Area:</b>	
<b>Contractor:</b>		
ASPECTS NOTED:	COMMENTS:	COMPLETION REQUIRED BY (DATE):
	•	
	•	
	•	
	•	
	•	
<b>PHOTOGRAPHIC EVIDENCE (if available):</b>		
<b>OTHER:</b>		
The following penalties are to be applied:		
<b>Signature of Designer</b>		
<b>Signature of H&amp;S Officer/Site Agent</b>		
<b>Signature: of H&amp;S Agent</b>		

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**ANNEXURE D:**

**CONTRACTORS MONTHLY HEALTH AND SAFETY REPORT**

(To be submitted by the end of the first week of each month and be available with each audit)

<b>CONTRACT NUMBER:</b>	<b>PROJECT NAME:</b>	<b>CONTRACT DETAILS:</b>
<b>GENERAL ACTIVITIES FOR THE MONTH</b>  (detail each area of work)		
<b>2</b>	<b>NUMBER OF WORKERS</b> (permanent and local, contractors)	
<b>3</b>	<b>TRAINING DONE</b> (supplier, no of people, type)	
<b>4</b>	<b>INCIDENTS / ACCIDENT</b> (list number and details, attach reports)	
<b>6</b>	<b>NON-CONFORMANCES</b> (closed out or active)	
<b>7</b>	<b>CONTRACTORS</b> (list, approval status)	
<b>8</b>	<b>AUDITS COMPLETED</b> (internal and external)	
<b>9</b>	<b>CRITICAL ISSUES</b>	

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<b>10</b>	<b>GENERAL</b>	

**H&S Officer** \_\_\_\_\_ **Signature** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Site Agent** \_\_\_\_\_ **Signature** \_\_\_\_\_ **Date:** \_\_\_\_\_

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**ANNEXURE E  
RISK ASSESSMENT FORMAT**

<b>ACTIVITY</b>		<b>RA No.</b>		<b>Rev No.</b>	
<b>CONTRACT</b>		<b>DATE WRITTEN</b>		<b>REVIEW DATE</b>	
	<b>WRITTEN BY</b>	<b>REVIEWED BY</b>		<b>APPROVED BY</b>	
<b>NAME</b>					
<b>SIGNATURE</b>					

RISK REF	ACTIVITY	POTENTIAL HAZARD	RISK	S	H	E	RISK EVALUATION	PURE RISK	CONTROLS MITIGATION	EFFECTIVENESS OF CONTROLS	RESIDUAL RISK	RESIDUAL RISK RANKING
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Severity Criteria				Frequency Criteria			Exposure Criteria			
Weight No	Hazard Description	Environment	Safety/Health	Weight No	Hazard Description	Frequency	Weight No	Hazard Description	Environmental Exposure	Safety/Health Exposure
16	Catastrophic	Irreversible ecological damage	Multiple fatalities due to injury or occupational disease	1	Rare	Less than once every 2 years	1	Minimal	Incident site	A few of the workforce minimal time
8	Major	Reversible ecological damage with potential long term impact	Fatality or number of disabilities/disabling diseases	2	Infrequent	Every 1-5 years	2	Restricted	Localised	A few of the workforce, some of the time/some of the workforce minimal time
4	Moderate	Ecological disturbance, can be rehabilitated	Disabling injury or occupational illness	3	Frequent	Multiple times per year	3	Local	Construction Site Wide	Some of the workforce, some of the time
2	Minor	Short-term ecological impact. Requires intervention	Minor injuries or exposure requiring medical attention	4	Often	Monthly	4	Widespread	Immediate neighbours	Most of the workforce, some of the time/some of the workforce most of the time
1	Insignificant	Low impact, natural rehabilitation	First Aid treatment required	5	Consistent	Weekly/Daily	5	Extensive	Community exposure	Most of the workforce, most of the time

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**ANNEXURE F:**

**TYPICAL BILL OF QUANTITIES FOR OCCUPATIONAL HEALTH AND SAFETY**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	TOTAL
C.01	Preparation of the Contractor's site specific Health and Safety Plan	lump sum			
C.02	Principal Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	lump sum			
C.03	Principal Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	month			
C.04	Provision of Personal Protective Equipment (PPE)				
	(a) Reflective vests	No			
	(b) Hard hats	No			
	(c) Protective foot wear	No			
	(d) Earplugs	No			
	(e) Dust masks	No			
	(f) Gloves				
	(h) Ear Defenders SABS approved	No			
C.05	Provision of a full time Construction Health and Safety Officer	month			
C.06	Cost of medical certificates and medical surveillance				



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	(a) Initial (baseline) medical examinations	prime cost (PC) sum			
	(b) Periodic and exit examinations	prime cost (PC) sum			
	(c) Contractor's charges to allow for handling costs and profit in respect of sub items 13/X.06 (a) and (b)	%			
C.07	Induction training	No			
C.08	Provision of First Aid Boxes to GSR requirements	No			
C.09	Noise monitoring				
	(a) Establishment of noise zones (plant)	No			
	(b) Audiograms (personnel)	No			
C.10	Submission of a Health and Safety File	lump sum			

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**ANNEXURE G**

**HARRY GWALA DISTRICT MUNICIPALITY  
HEALTH AND SAFETY (H&S) PRE-TENDER REPORT**

Tenderers are required to submit a pre-tender H&S plan with their Tender submission.

The following requirements were set in the tender documentation and have been utilized to assess the completeness of the documentation presented with the submission of tenders. These requirements fulfil the requirements of the Client in terms of the Construction Regulations, Regulation 5(1)(h). They are to be read in addition to the Act and Regulations but are not a substitute for them.

The documentation submitted will be used to assess the competence of the tenderer, as required in the CRs, therefore the information submitted needs to be complete and as close as possible to the final product.

The following scores have been used to determine compliance with the pre-tender requirements:  
Scoring as follows:

**Not supplied or not adequate**                      **0**  
**Supplied and complete**                              **1**

If the tenderer has not completed any projects then Items 4 and 5 need not be supplied. A letter to this effect must be attached.

***Tenderers are required to achieve a minimum of 10 out of a total of 17 for their tenders to be considered.***

<b>Legal or Specification Reference</b>	<b>Pre-Tender Requirement H&amp;S</b>	<b>Tenderers Response</b>	<b>Max Score</b>	<b>Actual Score</b>
Construction Regulations (CRs) 7(1)	1. A project specific H&S Plan in line with this project specification which will support the CRs, therefore the information submitted needs to be complete and as close as possible to the final product. See check sheet		<b>1</b>	
CRs 5(1)(g)	2. Adequate pricing for H&S is also required, and the appropriate section in the BoQ is to be completed. Failure to do so could result in the Tender being regarded as non-responsive.		<b>1</b>	
CRs 5(1)(h)	3. A declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the		<b>1</b>	

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	Construction Regulations 2014;			
	4. At least one copy of minutes of previous Occupational Health and Safety Committee meetings;		1	
	5. Incident Investigation Reports for other projects of a similar nature undertaken by the tenderer		1	
CRs 9(1)(b)	6. Detailed technical method statements for approval by the ER and for approval by the H&S Agent:  a. Site establishment; b. Clearing and grubbing; c. Construction of offices and accommodation, and d. Proposed site layouts		1 1 1 1	
CRs 9(1)	7. Appropriate risk assessments:  a. Site establishment; b. Clearing and grubbing; c. Construction of offices and accommodation, and d. Proposed site layout		1 1 1 1	
CR 9(1)	8. Appropriate safe work procedures a. Site establishment; b. Clearing and grubbing; c. Construction of offices and accommodation, and d. Proposed site layouts		1 1 1 1	
	<b>FINAL SCORE</b>		<b>17</b>	

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**ANNEXURE H**

**TENDER STAGE OHS PLAN EVALUATION**

Tenderers will be scored on their response to various facets of the Health and Safety Specification in the Tender Document. Failure to achieve a score of 60 % will render the tender non-responsive				
Proof of the evaluation must be given under the remarks column				
1	<b>General</b>	Is the Specification Project Specific? If not then score is 0.		
	<b>Scoring</b>	Response present and satisfactory	1	
		Not present	0	
<b>OHS Act/regulation</b>	<b>Specification Section</b>	<b>Description</b>	<b>Max Score</b>	<b>Score</b>
8(1)	6.1.4	Construction supervisor	1	
8(6)	6.1.5	Construction Health and Safety Officer	1	
	7.1	Health Risks and Medical Surveillance		
NIHLR	7.2	Noise Risks	1	
	7.3	Emergency Procedures		
GSR 3	7.4	First Aiders and First Aid Equipment	1	
CR 27	7.5	Fires and Emergency Management	1	
GAR 8	7.6	Incident Management and Compensation Claims	1	
GSR 2	7.7	Personal Protective Equipment (PPE) and clothing	1	
GSR 2B	7.8	Occupational Health and Safety Signage	1	
CR 7 (5)(6)	7.9	Induction of Employees and Visitors, General H&S Training	1	
CR 23	7.10	Management of plant and equipment	1	
CR13	7.11	Excavations	1	
CR 10	7.12	Working at Heights	1	
CR 8	7.12	Fall protection plan	1	
CR 22	7.13	Cranes and lifting equipment	1	
CR 12	7.15	Temporary works	1	
CR5(1)(0)	7.18	Auditing	1	
DMR/GMR	7.19	Mechanical installations	1	
OHSA 8(2)(j)	7.20	Communication on Site	1	
CR 30	7.21	Care of Workers on Site (Welfare)	1	
	Additional requirements			
	6.1.3	Declaration of competency	1	
Cr 9 (1)		Method statements (SWPs)		
		a) Site Establishment	1	
CR5(1)(g)		Has pricing for OHS been allowed for?	1	
		<b>TOTAL SCORE</b>	<b>22</b>	
		<b>TOTAL PERCENTAGE</b>		

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If a section is not applicable then it must be deleted from the score sheet and the total score reduced.

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**ANNEXURE I**

**AGREEMENT IN TERMS SECTION 37.2 OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993  
(ACT NO. 85 OF 1993)**

THIS AGREEMENT is made at \_\_\_\_\_ on this the \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_ between HARRY GWALA DISTRICT MUNICIPALITY (*hereinafter called "the Client"*) of the one part, herein represented by \_\_\_\_\_ in his capacity as \_\_\_\_\_ and delegate of the Client in terms of the Client's standard powers of delegation.

and

\_\_\_\_\_ (*hereinafter called "the Mandatary"*) of the other part, herein represented by

\_\_\_\_\_ in his capacity as \_\_\_\_\_

and being duly authorised by virtue of a resolution appended hereto as Annexure A.

WHEREAS the Client is desirous that certain works be constructed, viz **CONTRACT NO.** \_\_\_\_\_, and has accepted a tender by the Mandatary for the construction, completion & maintenance of such works and whereas the Client and the Mandatary have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatary with the provisions of the Occupational Health and Safety Act 1993 (Act 85 of 1993 as updated);

**NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:**

- 1 The Mandatary shall execute the work in accordance with the contract documents pertaining to this contract;
- 2 This Agreement shall hold good from its commencement date, which shall be the date determined in terms of the Form of Offer and Acceptance, or other date decided upon, in the Contract Data, to either;
  - a) The date of the final certificate issued or as contained in this Volume \_\_\_\_\_ of the contract documents pertaining to this Contract, or
  - b) The date of termination of the Contract;
- 3 The Mandatary declares himself to be conversant with the following:
  - a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993 as updated), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act.

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- i. Section 8: General duties of clients to their employees;
  - ii. Section 9: General duties of clients and self-employed persons to persons other than employees;
  - iii. Section 10: General duties of manufacturers and others regarding articles and substances for use at work;
  - iv. Section 37: Acts or omissions by employees or Mandatories, and
  - v. Sub-section 37(2) relating to the purpose and meaning of this Agreement.
- b) The Contractor shall ensure that he familiarises himself with the requirements of the Clients health and safety specification developed for the project, and that he, his employees and any other Contractors employed during the project comply with them. The Contractor shall ensure that all health and safety documentation required as part of the health and safety plan is maintained for the duration of the project.
- 4 In addition to the requirements of conditions of contract (as amended by the Contract Data of the contract documents pertaining to this Contract), the Mandatary agrees to execute all the works forming part of this Contract and to operate and utilize all machinery, plant and equipment in accordance with The Act.
- 5 The Mandatary is responsible for the compliance with the Act by all his Contractors, whether or not selected and/or approved by the Client.
6. The Mandatary warrants that all his own and his Contractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act 1993 as amended, which cover shall remain in force whilst any such workmen are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Client upon signature of the agreement.
7. The Mandatary undertakes to ensure that he and/or subcontractors and/or their respective clients will at all times comply with the following conditions:
  - a) The Mandatary shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The Mandatary shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Client. If the Mandatary obtains such approval and delegates any duty in terms of section 16.2 a copy of such written delegation shall immediately be forwarded to the Client.
  - b) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Mandatary to the Department of Labour as well as to the Client. The Client must further be provided with copies of all written documentation relating to any incident.
  - c) The Client hereby obtains an interest in the issue of any formal enquiry conducted in terms of section 32 of the Occupational Health and Safety Act into any incident involving the Mandatary and/or his employees and/or his Contractors.
  - d) The Mandatary shall conduct such risk assessments, method statements and safe work practices as may be necessary during the course of the contract and shall ensure that all staff are informed of these. Proof of this shall be placed in the project Health and Safety file.

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- e) Adherence to the Contractor's Health and Safety plan must be enforced including the application of penalties for non-conformance as set out in the Client's Health and Safety Specification.



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In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

**SIGNED FOR AND ON BEHALF OF THE CLIENT:-** \_\_\_\_\_

**WITNESS SIGNED:-**        1. \_\_\_\_\_        2. \_\_\_\_\_

**NAME (IN CAPITALS) 1.** \_\_\_\_\_ **2.** \_\_\_\_\_

**SIGNED FOR AND ON BEHALF OF THE MANDATARY:-** \_\_\_\_\_

**WITNESS SIGNED:-**        1. \_\_\_\_\_        2. \_\_\_\_\_

**NAME (IN CAPITALS) 1.** \_\_\_\_\_ **2.** \_\_\_\_\_

**SECTION C3.5.2**  
**REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE**  
**ENVIRONMENTAL MANAGEMENT PLAN**  
**(EMP)**

**HARRY GWALA DISTRICT MUNICIPALITY**

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**Part C4  
SITE INFORMATION**

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**PART C5:  
DRAWINGS**