

DoE Cluster 02

**UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND
SANITATIONAT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE
EASTERN CAPE PROVINCE (ECDOE) – ST MATHEWS HIGH SCHOOL**

BIDDER'S NAME :

EMIS No: 200 200 818

P-No: P900 7299

CONTRACT NO: AW2022/23/18

Closing date and Time:

06th July 2023 at 11:00am



AMATOLA WATER

DoE Cluster 02

**UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND
SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN
THE EASTERN CAPE PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL**

<u>Principal Agent:</u> SERVINET CONSULTING ENGINEERS Factory No 39 Sada WHITTLESEA 5360 TEL: 011-704 0447	<u>Implementing Agent:</u> AMATOLA WATER 6 Lancaster Road Amatola Water House Vincent, East London 5217 TEL: 043 707 3700
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PARTICULARS OF TENDERER

Name of Tenderer	
Postal Address	
Street Address	
Telephone Number	Code: Number:
Cell phone Number	
Facsimile Number	Code: Number:
E-Mail Address	
VAT Registration Number	

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THE TENDER

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AMATOLA WATER

Contract No.: **AW2022/23/18**

UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – ST MATHEWS HIGH SCHOOL.

T1: TENDERING PROCEDURE

T1.1: TENDER NOTICE AND INVITATION TO TENDER

Amatola Water Board is a state-owned, South African water utility established in November 1997 and is mandated to render water services to water sector institutions, to local government and other customers in the Eastern Cape.

Amatola Water is in the secondary procurement process and is hereby, inviting suitably qualified service providers to tender for Appointment of Contractors for the implementation, construction monitoring and supervision and closeout for upgrading and refurbishment of bulk water supply and sanitation, of projects managed for the Eastern Cape Department of Education (ECDOE), including outstanding projects which have started but needs to be completed.

The DoE Rollout Recovery Plan Programme is clustered into five (5) clusters which comprise of 19 schools and have been split amongst 5 PSP's for ease of management and control. This bid is one of the 19 bids under the programme, that have gone out to tender and will be considered in totality for the purpose of allocating work to the successful bidders. The objective criteria will be applicable in this bid as the intention of Amatola Water is to spread the work opportunities to a number of Contractors/Bidders. Therefore, only one school will be awarded to a bidder in cases where a bidder scores the highest number of points in more than one school. In such cases, the school with the highest value will be allocated to the successful bidder.

This bid is for the following school/s:

- Mathews High School

Each bidder must have all required professional personnel in their team, as a Single Entity or Joint Venture/Consortium.

The duration of the contract is 8 calendar months, which excludes Sundays and special non-working days. If the project is concluded before the 8th month period, disbursement fees will be pro-rated accordingly but if the project exceeds the allowed 8 months period, for reasons beyond our control, the current disbursement fees will be kept the same for the extended period.

An open competitive bidding process is to be followed. A bid invitation will be published in the regional newspaper and on Amatola Water website, CIDB Website and National Treasury Website (e-tender).

Only tenderers who are registered with the CIDB or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading of 5ME/6ME or higher and those who satisfy the criteria stated in the tender data, will be eligible to tender.

A bid invitation will be published in the regional newspaper and on Amatola Water website, CIDB Website and National Treasury Website (e-tender). Tender documents shall be available from the Amatola Water Website (www.amatolawater.co.za) and National Treasury Website from Wednesday, 14th June 2023 at 09:00am.

The tender closing date will be 24 days (3 weeks and 3 days) after the publication date, on the 06th July 2023.

The closing date will be scheduled as follows:

BIDNUMBER	Bid Description and Scope of Works	CIDB Grading	CLOSING DATE, TIME AND VENUE.
AW2022/23/18	UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – ST MATHEWS HIGH SCHOOL	6CE OR HIGHER	06th July 2023 at 11H00 AMATOLA WATER'S TENDER BOX, 6 LANCASTER ROAD, VINCENT, EAST LONDON

COMPULSORY CLARIFICATION MEETING

A separate compulsory clarification meeting will be held at Phandulwazi Agricultural High School, ADM, Alice. (-32.652679; 26.923732) on the 22nd June 2023 on Thursday at 11:00am for Phandulwazi Agricultural High School & St Matthews High School

Any bidder who arrives more than 15 minutes after the proposed meeting time, shall not be allowed to enter and participate in the clarification meeting.

NB: There will be separate attendance registers for each bid and each bidder may only represent one company per bid as there will be a roll-call conducted at the end of the briefing sessions.

The closing dates will be scheduled as follows:

The Bid documents are to be deposited in Amatola Water's Tender Box, **6 Lancaster Road, Vincent, East London**. The bid submissions will be opened by Amatola Water officials shortly after the closing time. Tender offer results will be published onto Amatola Water Website from the closing date.

The original completed bid documents and all supporting documents (in a separate file), must be submitted in a sealed envelope or parcel endorsed with the Bid Number and Bid Description as detailed in the Tender Data. The sealed envelope must be deposited in the Bid/Tender Box located in the reception area of **Amatola Water, 6 Lancaster Rd, Vincent, East London**, prior to the time and date indicated in the bid notice and the Tender Data. The bid submissions will be opened in public shortly the closing time.

No telephonic enquiries relating to this tender will be entertained. All enquiries regarding this tender must be in writing only and must be directed to: Ms N. Ndlamla - E-mail: nndlamla@amatolawater.co.za.

The requirement of submissions is detailed in the Submission Data (Ref: T1.2 Tender Data) only tenderers who satisfy the eligibility criteria as established for the tender (Ref: T 1.2 Tender Data) to submit tenders.

Telegraphic, telephonic, telex, facsimile, e-mail and late tenders will not be accepted. Tenderers have to submit its tenders using only the tender documentation issued.

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

Issued by:

**Acting Chief Executive
Amatola Water**



AMATOLA WATER

Bid Number.: AW2022/23/18

UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL.

T1.2 TENDER DATA

The conditions of tender are the **Standard Conditions of Tender** as contained in of Board Notice 423 of 2019 in Government Gazette No 42622 of 08 August 2019, Construction Industry Development Board (CIDB) Standard for Uniformity in Engineering and Construction Work Contracts. (see www.cidb.org.za), and the variations to the Standard Conditions of Tender as per the project tender documentation.

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

The additional conditions of tender are:

Clause number	Tender Data
C.1.1.1	The employer is AMATOLA WATER

Clause number	Tender Data
C.1.2	The tender document issued by the Employer comprises of: • Part T1: Tendering procedures; • Part T2: Returnable documents; • Part C1: Agreements and Contract Data; • Part C2: Pricing data; • Part C3: Scope of work; • Part C4: Site Information; and • Appendices
C.1.4	The Employer's Agent is: Name: Servinet Consulting Engineers Address: Factory No 39 Sada, WHITTLESEA, 5360 Contact person: S. Khoza Tel: 011-704 0447 email: siyabonga@servinetconsulting.co.za
C.2.1.1	Only tenderers who are registered with the CIDB or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading of 6CE or higher and those who satisfy the criteria stated in the tender data, will be eligible to tender.

C.2.1.1

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

A. Construction Industry Development Board (CIDB) Registration

Only those tenderers who are registered (as "Active") with the CIDB (at time of tender closing), in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, specified levels from 3CE or higher will be permitted to tender as stipulated on the Table under Item No. 1.

B. Joint Ventures are eligible to submit a tender offer provided that:

1. Every member of the joint venture is registered (as "Active") with the CIDB (at the time of tender closing).
2. The lead partner has a contractor grading designation in the CE class of construction work and has a grading designation of not lower than one level below the required grading designation.
3. The value of work to be undertaken by each partner must be within their CIDB grading limit.
4. The combined contractor grading designation calculated in accordance with the Construction Industry Development Board Regulations (2016) is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a CE class of construction work or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations.
5. Tenders submitted by joint ventures of two or more firms must be accompanied by the document of formation of the joint venture, authenticated by a notary public or other official deputed to witness sworn statements, in which it defines precisely the conditions under which the joint venture will function, its period of duration, the persons authorized to represent and obligate it, the participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning.
6. The Tenderer, if a Joint Venture, must submit a signed JV Agreement with the tender specific to the tendered Contract and showing clearly the percentage contribution of each partner to the Joint Venture. The value of work to be undertaken by each partner must be within their CIDB grading limit.

C. National Treasury Central Supplier Database Registration

Only Tenderers who are to be registered on the National Treasury Central Supplier (CSD) Database and have provided proof of their registration will be eligible to submit a tender offer. Proof of registration must be in the form of the Tenderers CSD registration number. Tenderers who are not registered are not precluded from submitting bids, but must be registered prior to Contract Award..

In the case of Joint Venture partnerships this requirement will apply individually to each party to the Joint Venture.

Tenderers who wish to register as service providers on the CSD can register online at <https://secure.csd.gov.za/Account/Register>.

For further enquiries contact the Supply Chain Management Unit on Tel: 043 707 3700.

Clause number	Tender Data
	D. Attendance of Compulsory Site Briefing Only Tenderers who have attended the compulsory site briefing will be eligible to submit a tender offer
C.2.1.4	Once the tender has been awarded the tenderer will need to be registered on the Amatola Water database as a service provider. In the case of joint venture partnerships this requirement will apply individually to each party of the joint venture.
C.2.10	All Tenderers that are registered for Value Added Tax (VAT) with the South African Revenue Service (SARS) must include VAT in their tender offer.
C.2.11	Add the following to the Clause: “In the event of a mistake having been made on the Bill of Quantities, it shall be crossed out in non-erasable ink and be accompanied by a full signature of each signatory to the Tender at each and every price alteration.” “If correction fluid has been used on any specific item price, such item will not be considered. Corrections in terms of price may not be made by means of correction fluid such as Tippex or similar product. No correction fluid may be used in a Bill of Quantities where prices are calculated to arrive at a total amount. If correction fluid has been used, the tender as a whole will be classified non-responsive and not be considered. The Employer will reject and classify the tender non-responsive if corrections are not made in accordance with the above.”
C.2.12	No alternative bid offers will be considered. The scope and design are as per the documentation in the Contract Data.
C.2.13.3	Parts of each tender offer communicated on paper shall be submitted as an original, plus 1 copy of all returnables.
C.2.13.5	The employer’s address for delivery of tender offers and identification details to be shown on each tender offer package are as indicated on the Tender Notice.
C.2.13.6	A two-envelope procedure will not be followed.

Clause number	Tender Data
C.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
C.2.14	The tenderer is required to provide all the data or information as requested below: All the documents and schedules as listed under T2.1: List of Compulsory Returnable Documents. Should a Tenderer not provide all of the above-mentioned data or information, the Tenderer could be considered non-responsive. Satisfy the Employer and Employer's Agent as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, by furnishing details in Part T2.1: – List of Compulsory Returnable Documents. Accept that the Employer is restricted in accordance with clause 5(1) (c) of the Construction Regulations, 2014, to only appoint a contractor who he is satisfied has the necessary competencies and resources to carry out the work safely. Accept that submitting inferior and inadequate information relating to health and safety (as required in clause F2.23) shall be regarded as justifiable and compelling reasons not to award a contract to a Tenderer.
C.2.15.1	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
C.2.16	The tender offer validity period is 90 days after the closing date.
C.2.23	The tenderer is required to submit with their tender: 1) An original valid Tax Clearance Certificate/PIN issued by the South African Revenue Services; and 2) Proof that the tenderer of any of its directors' municipal rates and taxes or municipal charges are not in arrears more than three (3) months. 3) Evidence of registration and proof of good standing with a compensation insurer who is approved by the Department of Labour in terms of Section 80 of the Compensation for Occupational Injuries and Diseases Act (Act No 130 of 1993) (COID). The Tenderer is required to disclose all inspections, investigations and their outcomes conducted by the Department of Labour into the conduct of the Tenderer at a time during the 36 months preceding the date of this Tender.
C.2.24	Add the following new Clause: "Additional conditions of bid Amatola Water reserves the right to cancel whole or any part the tender and or to alter the scope of the tender where applicable."

Clause number	Tender Data
C.3.4	The Bid documents are to be deposited in Amatola Water's Tender Box, 6 Lancaster Road, Vincent, East London . The bid submissions will be opened by Amatola Water officials shortly after the closing time. Tender offer results will be published onto Amatola Water Website from the closing date.
C.3.11.1	Bid Conditions: • The 2022 Preferential Procurement Policy Framework Act 2000 (PPPFA) principles shall apply, whereby submissions will be evaluated according to the provisions of the Act. • Points for Specific Goals will be scored in accordance with the SBD 6.1 Form. Failure to claim points on SBD 6.1 will lead in non-awarding of points for specific goals. • Amatola Water does not bind itself to accept the lowest or any tender and reserves the right to accept any tender or portion of a tender. 1. Tenders which are late, incomplete, unsigned or submitted electronically will not be accepted. 2. All tenders are to remain valid for a period of 90 days from the closing date of the submission. 3. A Tax Compliance status PIN (an original valid SARS certificate) must be submitted with the tender document in order to be considered. 4. Failure to provide supplementary information specified and completion of the returnable schedules will result in the tender being regarded as non-responsive. 5. Tender Forms (Form C1.1: Form of Offer and Acceptance) that are incomplete or incorrectly completed will result in the disqualification of the tender. 6. SBD 4 – Bidders Disclosure must be fully completed and signed.
C3.13	Tender offers will only be accepted if: a) the tenderer's tax matters have been declared by the South African Revenue Service to be in order; b) the Tenderer submits an original valid Tax Clearance Certificate issued by the South African Revenue Services c) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation; d) the tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; e) the tenderer has not: i) abused the Employer's Supply Chain Management System; or

Clause number	Tender Data
	ii) failed to perform on any previous contract and has been given a written notice to this effect; and f) has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process. g) the Tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer. h) the Employer is reasonably satisfied that the Tenderer has in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely. i) the Tenderer has not failed to perform on any previous contracts and has not been given a written notice to this effect. j) the Tenderer has a Bank Rating of at least C.
C.3.13(b)	Acceptance of tender offer: The 80/20 preference points system as prescribed in the Preferential Procurement Regulations, 2022 Pertaining to the Preferential Procurement Policy Framework Act, (ACT No 5 of 2000) (PPPFA) will be applied to evaluate all bids. The lowest acceptable bid will score 80 points for price and a maximum of 20 points will be awarded depending on the Specific Goals. Bids received will be evaluated in three (3) phases, namely Determine Completeness of tender offer, Capability requirements and compliance assessment and Price and Specific goals. STEP 1: DETERMINE COMPLETENESS OF TENDER OFFER 1. Tender submissions will be screened to identify schedules and requested documents that are incomplete or have not been submitted. 2. Tender offers will be tested for compliance with all the requirements of the as-amended Standard Conditions of Tender including the following: • Eligibility • Pricing the tender offer • Alterations to documents • Alternative tenders offer • Submitting a tender offer • SBD 4 – Bidder's Disclosure 3. Tender offers will be declared non-responsive should they fail to comply with any one of the requirements of the above. 4. Non-responsive Tender Offers will not be further evaluated.

Clause number	Tender Data												
C.3.13(b) cont'd	STEP 2: CAPABILITY REQUIREMENTS AND COMPLIANCE ASSESSMENT A Compliance Assessment will be undertaken on the shortlisted tenderers. The compliance assessment will be based on the information submitted in the Returnable Schedules and will assess the likely risk of the Tenderer not being able to successfully perform the work under this contract and meet all his/her contractual obligations. If the assessment indicates that, there is an unacceptably high risk of the Works not being successfully completed, the bid will be rejected. The overall assessment will consider all of the following: Civil Engineering Works:												
	<table><tr><th>Criteria</th><th>Description of requirements</th><th>Compliant</th><th>Non-Compliant</th></tr><tr><td>Tendering Entity's Relevant Experience</td><td>Number of contracts of a similar nature successfully completed by Tendering Entity. Minimum Qualifying Requirements on Tenderer's Experience: At least one construction contract within the last 10 years which entails Civil work for construction of the relevant stipulated Scope of Works At least one Practical Completion Certificate/s to be attached (Reference letters will not be acceptable)..Penal</td><td></td><td></td></tr><tr><td>Key Staff's Relevant Roles and Experience</td><td>Key Staff's relevant roles and experience: Minimum Qualifying Requirements on Key Staff: Construction Manager (Site Agent) and Construction Supervisor (Main Foreman) to both have at least 5 years' experience in the same roles and areas of expertise as proposed for this Contract. Construction Manager (Site Agent) to have a degree or national diploma in the Civil Engineering discipline, professionally registered with ECSA (Pr Techni Eng or Pr Tech Eng or Pr Eng) or SACPCMP (Pr CPM or Pr CM). The Construction Supervisor (Main Foreman) must have previously supervised the Civil works</td><td></td><td></td></tr></table>	Criteria	Description of requirements	Compliant	Non-Compliant	Tendering Entity's Relevant Experience	Number of contracts of a similar nature successfully completed by Tendering Entity. Minimum Qualifying Requirements on Tenderer's Experience: At least one construction contract within the last 10 years which entails Civil work for construction of the relevant stipulated Scope of Works At least one Practical Completion Certificate/s to be attached (Reference letters will not be acceptable)..Penal			Key Staff's Relevant Roles and Experience	Key Staff's relevant roles and experience: Minimum Qualifying Requirements on Key Staff: Construction Manager (Site Agent) and Construction Supervisor (Main Foreman) to both have at least 5 years' experience in the same roles and areas of expertise as proposed for this Contract. Construction Manager (Site Agent) to have a degree or national diploma in the Civil Engineering discipline, professionally registered with ECSA (Pr Techni Eng or Pr Tech Eng or Pr Eng) or SACPCMP (Pr CPM or Pr CM). The Construction Supervisor (Main Foreman) must have previously supervised the Civil works		
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Clause number	Tender Data														
	for the construction of the relevant Scope of Works. Provide CVs and certified qualifications of the above Key Staff. The CVs must demonstrate the above minimum qualifying experience required and the CV's should be declared as true by the tenderer and will be used to evaluate the capability of the key personnel. NOTE: If the above proposed individuals are not available at time of award, it is a CONDITION OF AWARD requirement that equally-qualifying or better key staff are made available for the execution of this Contract.														
STEP 3: PRICE AND PREFERENCE In terms of the Preferential Procurement Policy Framework Act (PPPFA) the 80/20 scoring system will be applicable to this tender. The maximum points for this tender are allocated as follows: <table><tr><th></th><th>POINTS</th></tr><tr><td>PRICE</td><td>80</td></tr><tr><td>SPECIFIC GOALS</td><td>20</td></tr><tr><td>Total points for Price and SPECIFIC GOALS</td><td>100</td></tr></table> PRICE EVALUATION (80) The price points out of 80 will be allocated to the Price Tendered or evaluated price. <table><tr><th>Adjudication Criteria</th><th>Points</th></tr><tr><td>Price Evaluation $Ps = 80 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$</td><td>80</td></tr></table> Where: Ps Pt Pmin = Points scored for price of Bid under consideration = Rand value of Bid under consideration = Rand value of lowest acceptable Bid					POINTS	PRICE	80	SPECIFIC GOALS	20	Total points for Price and SPECIFIC GOALS	100	Adjudication Criteria	Points	Price Evaluation $Ps = 80 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$	80
	POINTS														
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SPECIFIC GOALS	20														
Total points for Price and SPECIFIC GOALS	100														
Adjudication Criteria	Points														
Price Evaluation $Ps = 80 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$	80														

Clause number	Tender Data																		
	<u>SPECIFIC GOALS (20)</u> Specific goals for the tender and points claimed are indicated per the table below. <i>Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)</i> <table><tr><th>The specific goals allocated points in terms of this tender</th><th>Number of points allocated (80/20 system) (To be completed by the organ of state)</th><th>Number of points claimed (80/20 system) (To be completed by the tenderer)</th></tr><tr><td>HDI (51% or more black ownership)</td><td>6</td><td></td></tr><tr><td>Black women (51% or more women ownership)</td><td>3</td><td></td></tr><tr><td>Black youth (51% or more youth ownership)</td><td>3</td><td></td></tr><tr><td>People with disability (20% or more disabled people ownership)</td><td>2</td><td></td></tr><tr><td>Locality (Enterprise within the Eastern Cape)</td><td>6</td><td></td></tr></table> - SBD 6.1 must be fully completed and signed by the bidders in order to claim the above points, failure to claim points will result in non-awarding of points.	The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (80/20 system) (To be completed by the tenderer)	HDI (51% or more black ownership)	6		Black women (51% or more women ownership)	3		Black youth (51% or more youth ownership)	3		People with disability (20% or more disabled people ownership)	2		Locality (Enterprise within the Eastern Cape)	6	
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Black youth (51% or more youth ownership)	3																		
People with disability (20% or more disabled people ownership)	2																		
Locality (Enterprise within the Eastern Cape)	6																		
C.3.17	The number of paper copies of the signed contract to be provided by the employer is one.																		

T1.3 STANDARD CONDITIONS OF TENDER

CIDB STANDARD CONDITIONS OF TENDER

As published in Annex C of the CIDB Standard for Uniformity in Construction Procurement in Board Notice 423 of 2019 in Government Gazette No 42622 of 8 August 2019.

C.1 GENERAL

C.1.1 ACTIONS

C.1.1.1 The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

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

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

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

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

C.1.2 TENDER DOCUMENTS

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

C.1.3 INTERPRETATION

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

C.1.3.2 These conditions of tender, the tender data and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.

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

- a) **conflict of interest** means any situation in which:
 - i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially;
 - ii) an individual or organization 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 organization which employs that employee.
- b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;

C.1.4 COMMUNICATION AND EMPLOYER'S AGENT

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

C.1.5 CANCELLATION AND RE-INVITATION OF TENDERS

C.1.5.1 An employer may, prior to the award of the tender, cancel a tender if

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

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

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

C.1.6 PROCUREMENT PROCEDURES

C.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to C.3.13, be concluded with the

tenderer who in terms of C.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

C.1.6.2 Competitive negotiation procedure

C.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of C.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

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

Notwithstanding the provisions of C.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

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

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

C.1.6.3 Proposal procedure using the two stage-system

C.1.6.3.1 Option 1

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

C.1.6.3.2 Option 2

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

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

C.2 TENDERER'S OBLIGATIONS

C.2.1 ELIGIBILITY

- C.2.1.1** Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.
- C.2.1.2** Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

C.2.2 COST OF TENDERING

- C.2.2.1** Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.
- C.2.2.2** The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

C.2.3 CHECK DOCUMENTS

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

C.2.4 CONFIDENTIALITY AND COPYRIGHT OF DOCUMENTS

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

C.2.5 REFERENCE DOCUMENTS

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

C.2.6 ACKNOWLEDGE ADDENDA

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

C.2.7 CLARIFICATION MEETING

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

C.2.8 SEEK CLARIFICATION

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

C.2.9 INSURANCE

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

C.2.10 PRICING THE TENDER OFFER

- C.2.10.1** Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable fourteen (14) days before the closing time stated in the tender data.
- C.2.10.2** Show VAT payable by the employer separately as an addition to the tendered total of the prices.
- C.2.10.3** Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.
- C.2.10.4** State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

C.2.11 ALTERATIONS TO DOCUMENTS

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

C.2.12 ALTERNATIVE TENDER OFFERS

- C.2.12.1** Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.
- C.2.12.2** Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.
- C.2.12.3** An alternative tender offer may only be considered in the event that the main tender offer is the winning tender.

C.2.13 SUBMITTING A TENDER OFFER

- C.2.13.1** Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

- C.2.13.2** Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.
- C.2.13.3** Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.
- C.2.13.4** Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.
- C.2.13.5** Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- C.2.13.6** Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- C.2.13.7** Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.
- C.2.13.8** Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.
- C.2.13.9** Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

C.2.14 INFORMATION AND DATA TO BE COMPLETED IN ALL RESPECTS

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

C.2.15 CLOSING TIME

- C.2.15.1** Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.
- C.2.15.2** Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

C.2.16 TENDER OFFER VALIDITY

- C.2.16.1** Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.
- C.2.16.2** If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.
- C.2.16.3** Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period stated in C.2.16 lapses before the employer evaluating tender, the contractor reserves the right to review the price based on Consumer Price Index (CPI).
- C.2.16.4** Where a tender submission is to be substituted, a tenderer must submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".

C.2.17 CLARIFICATION OF TENDER OFFER AFTER SUBMISSION

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

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

C.2.18 PROVIDE OTHER MATERIAL

- C.2.18.1** Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment.

Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

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

C.2.19 INSPECTIONS, TESTS AND ANALYSIS

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

C.2.20 SUBMIT SECURITIES, BONDS, 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.

C.2.21 CHECK FINAL DRAFT

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

C.2.22 RETURN OF OTHER TENDER DOCUMENTS

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

C.2.23 CERTIFICATES

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

C.3 THE EMPLOYER'S UNDERTAKINGS

C.3.1 RESPOND TO REQUESTS FROM THE TENDERER

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

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

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

C.3.2 ISSUE ADDENDA

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three (3) working days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who collected tender documents.

C.3.3 RETURN LATE TENDER OFFERS

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

C.3.4 OPENING OF TENDER SUBMISSIONS

C.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the

tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

C.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only.

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

C.3.5 TWO-ENVELOPE SYSTEM

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

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

C.3.6 NON-DISCLOSURE

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

C.3.7 GROUNDS FOR REJECTION AND DISQUALIFICATION

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

C.3.8 TEST FOR RESPONSIVENESS

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

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

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

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

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

C.3.9 ARITHMETICAL ERRORS, OMISSIONS AND DISCREPANCIES

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

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

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

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

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

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

- a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- 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 bills of quantities apply) to achieve the tendered total of the prices.

C.3.10 CLARIFICATION OF A TENDER OFFER

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract

arising from the tender offer.

C.3.11 EVALUATION OF TENDER OFFERS

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

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

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

The activities associated with evaluating tender offers are as follows:

a) Open and record tender offers received

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

C.3.11.1 General

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

C.3.12 INSURANCE PROVIDED BY THE EMPLOYER

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

C.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.

C.3.14 PREPARE CONTRACT DOCUMENTS

C.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

- a) addenda issued during the tender period,

- b) inclusion of some of the returnable documents, and
 - c) other revisions agreed between the employer and the successful tenderer.
- C.3.14.2** Complete the schedule of deviations attached to the form of offer and acceptance, if any.

C.3.15 COMPLETE ADJUDICATOR'S CONTRACT

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

C.3.16 REGISTRATION OF THE AWARD

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

C.3.17 PROVIDE COPIES OF THE CONTRACTS

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

C.3.18 PROVIDE WRITTEN REASONS FOR ACTIONS TAKEN

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

T1.4 ADDITIONAL CONDITIONS OF TENDER

The Additional Conditions of Tender (ACT) are:

ACT. 1 RISK ANALYSIS

Notwithstanding compliance with regard to CIDB registration or any other requirements of the tender, the employer will perform a risk analysis in respect of the following:

- (a) reasonableness of the financial offer
- (b) reasonableness of unit rates and prices
- (c) reasonableness of commitments
- (d) Audited Financial Statements

The conclusions drawn from this risk analysis will be used by the Bid Evaluation Committee in determining the acceptability of the tender offer in terms of C3.13.

ACT. 2 TENDERER'S DIRECT PARTICIPATION OF LOCAL LABOUR

1. Local Labour

For the purposes of this bid local labour is defined as within the demarcated local wards within the vicinity of a specific school.

The local labour should consist of the following:

- Minimum 30% of the total local labour force should consist out of the employment of women
- Minimum 30% of the total local labour force should consist out of the employment of youth (18-35 years)
- Minimum of 1 number of disabled persons, if required.

The intention is that this Contract should make maximum use of the local labour force that is presently unemployed.

To this end the Contractor shall limit the utilisation on the Contract of non-local employees to that of key personnel only and to employ and train local labour to the extent necessary for the execution and completion of this Contract.

The minimum wages for local labour shall be those prescribed by the South African Forum of Civil Engineering Contractors (SAFCEC).

2. Conditions associated with the granting of preferences

The tenderer, undertakes to:

- engage one or more targeted labour in accordance with the provisions of the SANS 10845-7 in section 3 hereunder;
- accept the sanctions set out in Section 4 below, should such conditions be breached;
- complete the Targeted Labour (CPG) calculation form contained in Section 5 below; and
- complete the Supporting Contract Participation Goal Calculation contained in Section 6 below;
- complete the Supporting Documentation for training in Section 7 below.

3. Variation to the targeted construction procurement specification SANS 10845-7

The variations to SANS 10845-7 are set out below. Should any requirements of the variations of the variations conflict with the requirements of SANS 10845-7 the requirements of the variations shall prevail.

Calculations shall be based as a % of targeted labour costs of the Tender Sum (excluding VAT) and not calculated in accordance with methods 1 or 2 in Annexure A of SANS 10845-7.

4. Sanctions

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal was due to quantitative under runs, the elimination of items, or any other reasons beyond the Contractor's control which may be acceptable to the Employer, it shall be liable to pay to the Employer a financial penalty calculated in the following manner:

$$P = \frac{0.50 \times (D - D_0) \times N_A}{(100)}$$

Where D = tendered Contract Participation Goal percentage
 D_0 = the Contract Participation Goal which the Employer's representative based on the credits passed, certifies as being achieved upon completion of the contract.
 N_A = Net amount (Actual contract expenditure, excluding VAT)
P = Rand value of penalty payable

5. Tender Contract Participation Goal in respect of local labour

I/we hereby tender a Contract Participation Goal of15.....%

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the firm or sole proprietor confirms that he/she understands the conditions under which such preferences are and confirms that the tender satisfies the conditions pertaining to Contract Participation goals for direct participation of local labour.

Signature:

Name:

Duly authorized to sign on behalf of:

Telephone:

Fax:

6. Supporting Contract Participation Goal (CPG) Calculation

Labour Category	Total Estimated Working Days	Estimated Rate	Total Estimated Wage Cost	Percentage Contribution
Male Local Labour				
Female Local Labour				
Youth Local Labour				
Disabled Local Labour				
Total				

Signed on behalf of the tenderer:

***Note: Forms attached as annexure A to be completed and submitted with each payment certificate in order to monitor the CPG on a monthly basis**

ACT. 3 TENDERER'S DIRECT PARTICIPATION OF LOCAL ENTREPRISES

1. Local Enterprises

For the purposes of this bid local enterprises is defined as:

- any local supplier whose business address is located within the various clusters of the Department of Education in the Eastern Cape; or
- any EME within the various clusters of the Department of Education in the Eastern Cape.

The combined input from the local supplier's and EME's shall contribute a minimum of 15% of the contract value (including material).

2. Conditions associated with the construction participation goals (CPG)

The tenderer, undertakes to:

- engage one or more local enterprise in accordance with the provisions of the SANS 10845-7 as varied in section 3 hereunder;
- deliver to the Employer, within 5 working days of being requested in writing to do so, a completed Joint Venture Disclosure Form (Annex D of SANS 10845-6) and a joint venture agreement, should a joint venture be proposed at prime contract level with Targeted Partners to satisfy the Contract Participation Goal undertakings;
- deliver to the Employer, within 5 working days of being requested in writing to do so, a targeted Enterprise Declaration Affidavit in respect of all Targeted Enterprises engaged at prime contract level to satisfy the Contract Participation Goal undertakings;
- accept the sanctions set out in Section 4 below should such conditions be breached;
- complete the Contract Participation Goal commitment form contained in Section 5 below; and
- complete the Supporting Contract Participation Goal Calculation contained in Section 6 below;
- to obtain detailed listing of local enterprises;
- Should no appropriate local enterprises be located within the various clusters of the Department of Education, then enterprises outside of the cluster boundary may be utilized following approval by the Employer's Agent.

3. Variation to the targeted construction procurement specification SANS 10845-7

The variations to SANS 10845-7 are set out below. Should any requirements of the variations conflict with the requirements of SANS 10845-7 the requirements of the variations shall prevail.

Calculations of the contract participation goals shall be based as a % of targeted enterprise costs of the Tender Sum (excluding VAT) and not calculated in accordance with methods 1 or 2 in Annexure B of SANS 10845-7.

4. Sanctions

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal was due to quantitative under runs, the elimination of items, or any other reasons beyond the Contractor's control which may be acceptable to the Employer, it shall be liable to pay to the Employer a financial penalty calculated in the following manner:

$$P = \frac{0.50 \times (D - D_0) \times N_A}{(100)}$$

Where D = tendered Contract Participation Goal percentage
 D_0 = the Contract Participation Goal which the Employer's representative based on the credits passed, certifies as being achieved upon completion of the contract.
 N_A = Net amount (Actual contract expenditure, excluding VAT)
P = Rand value of penalty payable

5. Tender Contract Participation Goal in respect of local enterprises

I/we hereby tender a Contract Participation Goal of ...15.....%

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the firm or sole proprietor confirms that he/she understands the conditions under which such preferences are approved and confirms that the tender satisfies the conditions pertaining to Contract Participation goals for direct participation of local enterprises.

Signature:

Name:

Duly authorized to sign on behalf of:

Telephone:

Fax:

Schedule Item No	Name of EME / Supplier	Item description and services to be provided	Value (Rands)
Total			

*Note: Forms attached as annexure A to be completed and submitted with each payment certificate in order to monitor the CPG on a monthly basis



AMATOLA WATER

Bid Number.: AW2022/23/18

UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL.

T2 RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

T2.1.1 General

The Tender Document must be submitted as a whole. All forms must be properly completed as required, and the document shall not be taken apart or altered in any way whatsoever.

The Tenderer is required to complete each and every Schedule and Form listed below to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer. Failure of a Tenderer to complete the Schedules and Forms to the satisfaction of the Employer will inevitably prejudice the tender and may lead to rejection on the grounds that the tender is not responsive.

T2.1.2 Returnable Schedules, Forms and Certificates

Below is the list of returnable schedules to be completed and returned with the bid.

SCHEDULE	DESCRIPTION
A	Record Of Addenda to Tender Documents
B	Compulsory Enterprise Questionnaire
C	Standard Bidding Documents
D	Certificate of Authority
E	B-BBEE Status Level Verification Certificate
F	Certificate of Authority for Signatory
G	Construction Experience
H	Key Personnel
I	Construction Equipment
J	Proposed Subcontractors
K	Health and Safety Declaration
L	Deviations and Qualifications

T2.2 RETURNABLE SCHEDULES

The returnable schedules, forms, and certificates as listed in T2.1.2 follow:

A. RECORD OF ADDENDA TO TENDER DOCUMENTS

The undersigned confirm that the following communications received from the Employer or his representative before the date of submission of this tender offer, amending the tender documents, have been considered in this tender offer. ***(Addenda can only be issued following approval from the Employer. The Employer's representative is not allowed to issue addenda to bidders without prior approval in terms of the SCM Delegations).***

ADDENDUM NO.	DATE

SIGNATURE:

DATE:

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

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

B. COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: cidb registration number, if any:

Section 4: CSD number:

Section 5: Particulars of sole proprietors and partners in partnerships:

Name*	Identity number*	Personal income tax number*

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

Section 6: Particulars of companies and close corporations

Company registration number:

Close corporation number:

Tax reference number:

Section 7: SBD4 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 8: SBD 6.1 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

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

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

Signed		Date	
Name		Position	
Enterprise name			

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

C. STANDARD BIDDING DOCUMENTS

SBD 4

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. BIDDER'S DECLARATION

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

2.2.1 If so, furnish particulars:

.....

SBD

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract?

YES/NO

2.3.1 If so, furnish particulars:

.....

3 DECLARATION

I, _____ the _____ undersigned,
 (name)..... in submitting the
 accompanying bid, do hereby make the following statements that I certify to be true
 and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the

² Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

- 3.7 Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature Date

.....
Position Name of bidder

SBD 6.1

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

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

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

1. GENERAL CONDITIONS

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

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

1.2 To be completed by the organ of state

(delete whichever is not applicable for this tender).

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

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

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

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

- 1.5** Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 1.6** The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

80/20

or

90/10

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

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{min} = Price of lowest acceptable tender

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

3.2.1. POINTS AWARDED FOR PRICE

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

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

Where

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

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
 - (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
 - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,
 then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

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

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

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

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (80/20 system) (To be completed by the tenderer)
HDI (51% or more black ownership)	6	
Black women (51% or more women ownership)	3	
Black youth (51% or more youth ownership)	3	
People with disability (20% or more disabled people ownership)	2	
Locality (Enterprise within the Eastern Cape)	6	

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

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

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

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

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

D. CERTIFICATE OF AUTHORITY

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

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

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

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

E. B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE

Notes to tenderer:

1. The tenderer shall submit proof of B-BBEE Status Level of Contributor by submitting a copy of a valid B-BBEE Verification Certificate issued in accordance with the Amended Construction Sector Code published in Notice 931 of 2017 of Government Gazette No. 41287 of 1 December 2017.
2. The certificate shall:
 - (i) have been issued by a verification agency accredited by the South African National Accreditation System (SANAS); or
 - (ii) in the case of an Exempted Micro Enterprise (EME) with a total annual revenue of R10 million and less, be in the form of a sworn affidavit or a certificate issued by the Companies and Intellectual Property Commission (CIPC), in respect of their ownership and annual turnover, for the year ending not earlier than 12 (twelve) months prior to the tender closing date;
 - (iii) in the case of a Qualifying Small Enterprise (QSE) with a total annual revenue of more than R10 million but less than 50 million, be in the form of a sworn affidavit or a certificate issued by the Companies and Intellectual Property Commission (CIPC), in respect of their ownership and annual turnover, for the year ending not earlier than 12 (twelve) months prior to the tender closing date; and
 - (iv) have a date of issue not earlier than 12 (twelve) months prior to the tender closing date.
3. A consortium or joint venture (including unincorporated consortia and joint ventures) must submit a consolidated B-BBEE Status Level Verification Certificate. In addition, the consolidated B-BBEE Status Level Verification Certificate for unincorporated joint ventures shall only be applicable to this project (Tender No. to be indicated on the certificate).
4. An enterprise will qualify as an Exempted Micro Enterprise (EME) if it has a total annual revenue of R10 million or less, and is deemed to have the following B-BBEE Status in accordance with their black ownership levels:
 - (i) if less than 30% Black Owned then **“Level Five Contributor”**;
 - (ii) if at least 30% Black Owned but less than 51% Black Owned then **“Level Four Contributor”**;
 - (iii) if at least 51% Black Owned but less than 100% Black Owned, then **“Level Two Contributor”**; and
 - (iv) if 100% Black Owned then **“Level One Contributor”**.
5. Tenderers are advised that any misrepresentation in the affidavits is a criminal offence.

F. CERTIFICATE OF AUTHORITY FOR SIGNATORY

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

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

I/We, the undersigned, being the Member(s) (Cooperative), Sole Owner (Sole Proprietor), Member(s) (Close Corporation), Partners (Partnership), Representative (Company) or Lead Partner (Joint Venture / Consortium), in the enterprise trading as:

.....

hereby authorise Mr/Mrs/Ms

acting in the capacity of

whose signature is

to sign all documents in connection with this bid and any contract resulting therefrom on behalf of the enterprise.

NAME	ADDRESS	SIGNATURE	DATE

Note:

The following document must be attached to this form according to the status of the enterprise, in the form of a resolution authorising the signatory to sign all documents in connection with this bid and any contract resulting therefrom on behalf of the enterprise, and **such resolution shall include a specimen signature of the signatory.**

Cooperative:	'Resolution of the Members'
Close Corporation:	'Resolution of the Members'
Company:	'Resolution of the Board' signed by the chairperson
Joint Venture / Consortium:	'Resolution/agreement passed/reached' signed by the authorised representatives of the enterprises

Failure to complete, sign and date this form or failure to provide the certificate(s) in the form of a resolution as described above shall result in the tender being considered non-responsive and rejected in terms of clause C.3.8 of the Conditions of Tender.

G. CONSTRUCTION EXPERIENCE

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

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

Attach additional pages if more space is required

SIGNATURE:

DATE:

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

H. KEY PERSONNEL

MANAGEMENT

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

The Tenderer shall attach the curriculum vitae of the listed key management personnel to the page included below for this purpose.

DESIGNATION	NAME	PROJECT TYPE	VALUE OF WORK	YEAR COMPLETED
CONSTRUCTION MANAGER (SITE AGENT).				
CONSTRUCTION SUPERVISOR (MAIN FOREMAN)				

--	--	--	--	--

Attach additional pages if more space is required

SIGNATURE:

DATE:

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

SIGNATURE:

DATE:

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

CURRICULUM VITAE OF KEY PERSONNEL - MANAGEMENT

Refer to H1.

Curriculum Vitae and Qualifications of key management personnel to be attached to this page.

I. CONSTRUCTION EQUIPMENT

The following are lists of major construction equipment that I / we presently own or will acquire for this contract if my / our tender is accepted.

(a) Details of major construction equipment owned by me / us:

DESCRIPTION (type, size and capacity)	QUANTITY	YEAR OF MANUFACTURE

Attach additional pages if more space is required

(b) Details of major construction equipment that will be acquired:

DESCRIPTION (type, size and capacity)	QUANTITY	HOW ACQUIRED	
		HIRE / BUY	SOURCE

Attach additional pages if more space is required

SIGNATURE:

DATE:

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

J. PROPOSED SUBCONTRACTORS

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

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

NAME OF SUBCONTRACTOR	CSD NUMBER	DESIGNATED GROUP AND OWNERSHIP %	B-BBEE LEVEL	NATURE OF WORK	PERCENTAGE TO BE SUBCONTRACTED

Attach additional pages if more space is required.

NB: The subcontractors listed above will not contribute to the achievements of the objectives specified in Section C3.3 Part G of this tender document.

SIGNATURE:

DATE:

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

K. HEALTH AND SAFETY DECLARATION

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

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

Declaration by Tenderer

1. I, the undersigned, hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No. 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No. 181 of 1993), and the OHSA 1993 Construction Regulations 2014.
2. I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specification.
3. I propose to achieve compliance with the Regulations by one of the following:
 - (a) From my own competent resources as detailed in 4(a) hereafter: ***Yes / No**
 - (b) From my own resources or still to be appointed, and trained until competency is achieved, as detailed in 4(b) hereafter: ***Yes / No**
 - (c) From outside sources by appointment of competent specialist subcontractors as detailed in 4(c) hereafter: ***Yes / No**

(* = delete whatever is not applicable)

4. Details of resources I propose:

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

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

NAME OF COMPETENT PERSONS	POSITION TO BE FILLED BY COMPETENT PERSONS

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

(i) By whom will training be provided?

(ii) When will training be undertaken?

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

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

Name of proposed subcontractor:

Qualifications or details of competency of the subcontractor:

5. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable, sufficiently documented and coherent site-specific Health and Safety Plan in accordance with Regulation 7(1)(a) of the Construction Regulations, which plan shall be subject to approval by the Employer.
6. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Health and Safety Specification as well as the OHSA 1993 Construction Regulations 2014 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Employer's Agent, Construction Health and Safety Agent, visitors, and officials and inspectors of the Department of Labour.
7. I hereby confirm that adequate provision has been made in my tendered rates and prices in the schedule of quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2014, and that I will be liable for any penalties that may be applied in terms of the said Regulations (Regulation 33) as a result of contravening or failing to comply with the provisions of the Act and the Regulations.
8. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2014, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.

SIGNATURE:

DATE:

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

L. DEVIATIONS AND QUALIFICATIONS

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

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

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

Attach additional pages if more space is required

SIGNATURE:

DATE:

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



AMATOLA WATER

Bid Number.: AW2022/23/18

**UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION
AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE
PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL**

The Contract

Bid Number.: AW2022/23/18- **DoE Cluster 02**

**UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION
AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE
PROVINCE (ECDOE) – ST MATHEWS HIGH SCHOOL.**

Based on

**GCC 3rd edition (2015): General Conditions of Contract
(GCC)**

C 1 AGREEMENTS AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE

C1.1.1: OFFER

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

UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL.

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

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

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

Amount in Words.....

.....

.....

R..... (in figures).

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

Signature: *(of person authorised to sign the tender)*

Name: *(of signatory in capitals)*

Capacity: *(of signatory)*

Name of Tenderer: *(organisation)*

Address:

.....

Telephone number: **E-mail:**

Witness:

Signature:

Name: *(in capitals)*

Date:

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

C1.1.2: ACCEPTANCE

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

The terms of the contract are contained in

- Part C1 Agreements and Contract Data (which includes this Agreement)
- Part C2 Pricing Data
- Part C3 Scope of Work
- Part C4 Site Information

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

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

The Tenderer shall within two weeks after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's Agent (whose details are given in the 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 at, or just after, the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

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

Signature:

Name: *(in capitals)*

Capacity:

Name of Employer: *(organisation)*

Address:

.....

Witness: Signature: **Name:** *(in capitals)*

Date:

C1.1.3: SCHEDULE OF DEVIATIONS

The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Tender Data and the Conditions of Tender.

A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreement reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

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.

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

- 1 **Subject:**
 Details:

- 2 **Subject:**
 Details:

- 3 **Subject:**
 Details:

- 4 **Subject:**
 Details:

- 5 **Subject:**
 Details:

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

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

FOR THE TENDERER:

Signature:

Name:

Capacity:

Tenderer: *(Name and address of organisation)*

.....

Witness:

Signature:

Name:

Date:

FOR THE EMPLOYER:

Signature:

Name:

Capacity:

Employer: *(Name and address of organisation)*

.....

Witness:

Signature:

Name:

Date:



AMATOLA WATER

Bid Number.: AW2022/23/18

UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL

C1.2 CONTRACT DATA

C1.2.1: CONDITIONS OF CONTRACT

C1.2.1.1 General Conditions of Contract

This Contract will be based on the 'General Conditions of Contract for Construction Works, Third Edition (2015)', issued by the South African Institution of Civil Engineering (abbreviated title: 'GCC 2015').

It is agreed that the only variations from the GCC 2015 are those set out hereafter under "C1.2.1.2 SPECIAL CONDITIONS OF CONTRACT".

C1.2.1.2 Special Conditions of Contract (SCC)

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

The clauses of the Special Conditions of Contract hereafter are numbered "SCC" followed in each case by the number of the applicable clause or subclause in the GCC 2015, and the applicable heading, or (where a new special condition that has no relation to the existing clauses is introduced) by a number that follows after the last clause number in the GCC 2015, and an appropriate heading.

CLAUSE	DESCRIPTION/WORDING
SCC 3.2.3	The Employer's Agent shall obtain the specific approval of the Employer before carrying out any of his functions or duties according to the following Clauses of the General Conditions of Contract: 1 Clause 5.11.1: Suspension of the Works 2 Clause 5.12: Extension of Time for Practical Completion
SCC 3.2.4	The Employer's Agent has been appointed as Agent on this contract, in terms of Clause 5 of the Construction Regulations, 2014 as promulgated in terms of Section 43 of the Occupational Health and Safety Act, 1993. Occupational Health, Safety & Wellness Sub Directorate – Public Health and the duly appointed H&S Officials has been appointed as Client Agents on this contract, in terms of Clause 5 of the Construction Regulations, 2014 as promulgated in terms of Section 43 of the Occupational Health and Safety Act, 1993. The Principal Contractor shall perform a preliminary assessment of the project generated H&S plan and submit such to Occupational Health, Safety & Wellness Sub Directorate – Public Health for legal compliance reassessment & verification / approval prior to any works commencing. The duly appointed H&S Officials will be responsible for further monitoring and the auditing of the approved H&S plan for legal compliance.
SCC 4.1.3	<u>Add the following new clauses at the end of clause 4.1.2:</u> “The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Amendment Act, 1993 (Act 85 of 1993), hereinafter referred to as 'the Act', that the following arrangements and procedures shall apply between them to ensure compliance by the Contractor with the provisions of the Act: (i) 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 of the Act. (ii) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations on the Contractor will be fully complied with. (iii) The Contractor accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from himself being obliged to comply with any of the aforesaid duties, obligations and prohibitions, with the exception of such duties, obligations and prohibitions expressly assigned to the Employer in terms of the Act and its associated Regulations. (iv) The Contractor agrees that any duly authorised officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to monitor that the Contractor has conformed to his undertakings as described in paragraphs (i) and (ii) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or any appropriate records or safety plans held by the Contractor. (v) The Contractor shall be obliged to report forthwith to the Employer and Employer's Agent 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 Contract, and shall, on written demand, provide full details in writing, to the Employer and Employer's Agent, of such investigation, complaint or criminal charge
SCC 4.3.1	<u>Add the following</u> to the clause: For conventional construction works the Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) shall apply and the minimum employment conditions which will apply shall

	be guided by the latest Sectorial Determination: Civil Engineering Sector published from time to time. Compliance with the National Environmental Management Act (NEMA), Act 107 of 1998. Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) as per Government Notice R63 of 25 January 2002, shall apply to works described in the Scope of Work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.” “The Contractor shall comply with the Occupational Health and Safety Specification prepared by the Employer in terms of the Construction Regulations, 2014 promulgated in terms of Section 43 of the Occupational Health and Safety Act (Act No. 85 of 1993). Without limiting the Contractor’s obligations in terms of the Contract, the Contractor shall before commencement of the Works or any part thereof, be in the possession of an approved Health and Safety Plan.”
SCC 4.3.3	Add the following at the end of Clause 4.3: "4.3.3 The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Amendment Act, 1993 (Act 85 of 1993), hereinafter referred to as 'the Act', that the following arrangements and procedures shall apply between them to ensure compliance by the Contractor with the provisions of the Act: (i) 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 of the Act. (ii) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations on the Contractor will be fully complied with. The Contractor accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from himself being obliged to comply with any of the aforesaid duties, obligations and prohibitions, with the exception of such duties, obligations and prohibitions expressly assigned to the Employer in terms of the Act and its associated Regulations. (iii) The Contractor agrees that any duly authorised officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to monitor that the Contractor has conformed to his undertakings as described in paragraphs (i) and (ii) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or any appropriate records or safety plans held by the Contractor. (iv) The Contractor shall be obliged to report forthwith to the Employer and Employer’s Agent 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 Contract, and shall, on written demand, provide full details in writing, to the Employer and Employer’s Agent, of such investigation, complaint or criminal charge. 4.3.4 The Contractor shall furthermore, in compliance with Constructional Regulations 2014 to the Act: (i) Acquaint himself with the requirements of the Employer’s health and safety specification as laid down in regulation 5(1)(b) of the Construction Regulation 2014 and prepare a suitably and sufficiently documented health and safety plan as contemplated in regulation 7(1)(a) of the Construction Regulation 2014 for

	approval by the Employer or his assigned agent. The Contractor's health and safety plan and risk assessment shall be submitted to the Employer for approval within seven (7) days after the Commencement Date and shall be implemented and maintained from the Commencement of the Works. The Employer, or his assigned agent, reserves the right to conduct periodic audits, as contemplated in the Construction Regulations 2014, to ensure that the Contractor is compliant in respect of his obligations. Failure by the Contractor to comply with the requirements of these Regulations shall entitle the Employer's Agent, at the request of the Employer or his agent, to suspend all or any part of the Works, with no recourse whatsoever by the Contractor for any damages incurred as a result of such suspension, until such time that the Employer or his agents are satisfied that the issues in which the Contractor has been in default have been rectified."
SCC 5.3.3	Add the following to Clause 5.3.3 after the last sentence: "The Contractor shall not commence working until they have an approved project specific health and safety plan in terms of the Occupational Health and Safety Act 1993: Construction Regulations 2014 and complied with the initial requirements thereof."
SCC 5.4.1	Between the wording "... Site," and "the location" In the third line, add the following: "subject to the Contractor having an approved project specific health and safety plan in terms of the Occupational Health and Safety Act 1993: Construction Regulations 2014 and complied with the initial requirements thereof,"
SCC 5.12.5	Add the following to Clause 5.12 5.12.5 Critical Path Provision A delay in so far as extension of time is concerned, will be regarded as a delay only if, on a claim by the Contractor in accordance with the General Conditions of Contract, the Employer's Agent rules that all progress on an item or items of work on the critical path of the approved programme for the execution of the Works by the Contractor, has been brought to a halt. Delays on normal working days only, based on a working week, of five normal working days, will be taken into account for the extension of time.
SCC 6.2.2	Replace the entire contents of Clause 6.2.2 with the following: "If the Contractor fails in his obligations to provide the stated security within the period stated in Clause 5.3.2, or if the Performance Guarantee shall differ from the pro-forma provided under Clause C1.3: Performance Guarantee of the Contract Data, the Employer may terminate the Contract in terms of Clause 9.2."
SCC 6.2.3	Replace the entire contents of Clause 6.2.3 with the following: "The Contractor shall ensure that the Performance Guarantee remains valid and enforceable until the issue of the Certificate of Completion."
SCC 8.6.8	Add Clause 8.6.8: "In the event of any claim arising under the policies held in terms of this Clause, the Contractor shall forthwith take all necessary steps to lodge his claim on the joint behalf of himself and the Employer, and to secure settlement of such claim, and he shall submit to the Employer's Agent copies of all claims and associated documents. The claim submitted by the Contractor shall cover the cost of repairing and making good as required by Clauses 8.2.2.1 and 8.2.2.3."

SCC 8.6.9	Add Clause 8.6.9: "With regard to the Compensation for Occupational Injuries and Diseases Act (Act no. 130 of 1993), where applicable, the Contractor shall before commencement of the Works deliver to the Employer a letter, either (a) from his insurance company certifying that the Contractor has effected insurance with the company for the full extent of his potential liability in respect of all workmen employed by him on the contract and undertaking to notify the Employer of the expiry date of the policy at least one calendar month before such date, or from the Compensation Commissioner certifying that the Contractor has complied with the requirements of the above-mentioned Act and is at present in good standing with the Compensation Fund."
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C1.2.2: DATA PROVIDED BY THE EMPLOYER

The following amendments and additions to the Clauses are the contract specific data applicable to this Contract:

Clause	Description / Wording
1.1.1.13	The Defects Liability Period is twelve (12) calendar months measured from the date of the Certificate of Completion.
1.1.1.14	The time for achieving Practical Completion is 8 calendar months , calculated from the Commencement Date, including special non-working days.
1.1.1.15	The Employer is: Amatola Water
1.1.1.16	The Employer's Agent is Servinet Consulting Engineers, also referred to in the Contract as " Servinet" or "ISA" or "Engineer".
1.1.1.26	The Pricing Strategy is: Re-measurable Contract
1.2.1.2	The Employer's address for receipt of communications is: Telephone: (0)43 707 3700 Facsimile: (0)43 707 3701 Address (Postal): Private Bag X3 VINCENT 5217 Address (Physical): 6 Lancaster Road Vincent

	EAST LONDON 5247
1.2.1.2	The Employer's Agent's address for receipt of communications and notices is: Address (Physical): Factory No 39 Sada Industrial Park Whittlesea Telephone: +27 0
5.1.1 and 5.8.1	The non-working days are Sundays The special non-working days are: 1 Public holidays 2 The year-end break commencing and ending on dates as specified by SAFCEC.
5.3.1	The documentation required before commencement with Works execution are: • Health and Safety Plan (Refer to Clause 4.3) • Initial programme (Refer to Clause 5.6) • Insurance (Refer to Clause 8.6) • Security (Refer to Clause 6.2) • Letter of Good Standing from the Compensation Commissioner (if not insured with a Licensed Compensation Insurer) • Cash flow Projection • Quality Management Plan
5.3.2	The Contractor is required, within 7 days of the Commencement Date, to submit the documents listed below to the Employer's Agent for his approval. Health and Safety Plan The Contractor shall deliver his health and safety plan, in terms of Clause 7(1) (d) of the Construction Regulations 2014. Initial Programme The Contractor shall deliver his Initial Programme of work in terms of Clause 5.6 Insurance Submit copies of receipts of registration, or payment for the premiums for the following insurances, as required by the new Clause 8.6 in this Contact Data. (a) Proof of registration with the Department of Labour as an employer, in terms of the Compensation for Occupational Injuries and Diseases Act 1993, as amended

	(b) Common Law Liability Insurance for the duration of the Contract Period and with a minimum Limit of Indemnity of not less than R1 000 000 for any one accident; (c) Insurance on an All Risks basis for construction plant, equipment and other things (except those intended to incorporation into the works) brought onto the site to the full value of such construction plant, equipment and other things; (d) Motor Vehicle Liability Insurance, comprising a minimum of Balance of Third Party motor risks, including Passenger Liability, subject to a minimum limit of R2,5 million; (e) Where the Contract involves manufacturing and/or fabrication of the works or part thereof at premises other than the site, the Contractor shall satisfy the employer that all materials and equipment for incorporation in the works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such works during manufacture or fabrication, then such interest shall be noted by endorsement to the Contractor's Policies of Insurance. (f) Imported equipment or component parts or materials to be supplied in terms of this Contract which require any process of assembly or finishing in South Africa prior to delivery to the site are to be insured by the Contractor up to the commencement of transit to site of the assembled or finished equipment, component parts or materials, unless special arrangements are made with the Employer. These insurances shall be maintained in force for the duration of the Contract, including any Defects Liability Period and in respect of Sub-Contractors, the Contractor shall be deemed to have complied with the provisions of the requirements relating to insurance by ensuring that the Sub-Contractors have affected such insurance. Security Submit a Guarantee of an Insurance Company or Bank to be jointly and severally bound with the Contractor for an amount equal to ten per cent (10%) of the Contract Price if required. The wording of the Guarantee shall be identical to the pro forma provided in Part C1.3 of this tender document.
5.4.2	The access and possession of Site shall not be exclusive to the Contractor but as set out in the Site Information.
5.5.1	The Works shall be completed within 8 months .
5.6.1	The Contractor shall deliver his Works programme within seven (7) days after the Commencement Date.
5.8.1	Delete the words "between sunset and sunrise" in the first line and replace with "outside normal working hours". Normal working hours shall be those as stated in the applicable Sectoral Determination applicable to a 6 (six) day week, Monday to Friday from 07:00 to 17:00, and Saturday from 07:00 to 13:00. Non-working days are Sundays. Special non-working days are all applicable gazetted public holidays, election day of the local government elections and national elections (when applicable) and the year-end break.

	For the purposes of this Contract the year-end break shall be as declared by SAFCEC.
5.12.2.2	Add the following to Clause 5.12.2.2: The time period specified as the time for completion includes allowances for delays and days on which it is expected that work, on the critical path items of the Works, would be prevented due to normal weather conditions such as wind, rainfall or the subsequent waterlogged condition. Based on average weather conditions of wind, rain and sunshine the allowances are actual and consequential delays shall be as follows: • 3 working days per month for the months of May to October • 2 working days per month for the months of November to April If the Contractor has been prevented by these weather conditions from working on the critical path items of the works, then he must notify the Employer's Agent in writing. The submission shall be made within five calendar days of the resumption of work. The Employer's Agent shall upon considering all the relevant factors determine the extension of time to be granted on the basis that an extension of time to the contract will only be granted if the total number of days upon which work on the critical items was prevented, exceeds the total number of days calculated in terms of the above allowance and considering the official contract period as a whole. The tendered sums of the appropriate time-related items shall be increased to take account of the extensions of time granted.
5.12.3	Replace the entire sub-clause with the following: "If extension of time is granted for whatever reason, the Contractor shall be paid for such actual delays incurred within the extension period granted, at the rate tendered in the Bill of Quantities for extension of time. For the evaluation of delays, the Contractual Law Society protocol will be followed."
5.12.2.4	In the event of any disruption which is entirely beyond the Contractor's control, no compensation will be allowed.
5.13.1	The penalty for failing to complete the Works is R 10 000 per day. Deductions for penalties imposed in terms of not achieving the Contract Participation Goal as stipulated under C3.3
5.16.3	The latent defect period is 10 years.
6.2.1	Replace the wording "as selected" in Clause 6.2.1 with "as stated". The security to be provided by the Contractor shall be: • a Performance Guarantee of ten per cent (10%) of the Contract Sum, plus • Retention Money amounting to five per cent (5%) of the Contract Price. Retention monies due shall be subjected to Clauses 6.10.1.3 and 6.10.3. A mandatory 10% retention of interim payments (up to a ceiling of 5% of the Contract Value) in line with National Treasury's Directive is applicable. Half of this is released upon issue of the Certificate of Completion. The remainder is released upon expiry of the Defects Liability Period.

	The Performance Guarantee shall be from an approved Insurance Company or Bank to be jointly and severally bound with the Contractor, in accordance with the provisions of the Performance Guarantee. A Retention Money Guarantee is not permitted. The wording of the Performance Guarantee shall be identical to the pro-forma provided under Clause C1.3: Performance Guarantee of the Contract Data The time to deliver the Performance Guarantee is within seven (7) days after the Commencement Date.
6.3.3	Replace sub clause 6.3.3 with the following: "Any increase in the quantity of work scheduled for a particular order and which would result in over-expenditure for that particular order shall be subject to the prior approval by the Employer's Agent."
6.7.2	Replace sub clause 6.7.2 with the following: "The Employer's Agent shall ascertain and determine the value of the Works but, when required to do so by the Employer's Agent, the Contractor shall measure the work executed and shall deliver to the Employer's Agent a supporting statement with his statement in terms of Clause 6.10.1, showing the said measurements and all other particulars required by the Employer's Agent, and in the format required by the Employer's Agent."
6.8.2	Contract Price Adjustment shall not be applied on this Contract.
6.8.3	Price adjustments for variations in the costs of special materials are not allowed.
6.10.1.5	The percentage advance on materials on site not yet built into the Permanent Works is 80%.
6.10.4	Replace the wording "28 days" in the seventh line with "within 30 days of the Employer receiving payment by the relevant funding institution(s) who is/are funding this contract or within 30 days". Insert "whichever occurs last" at the end of the second last sentence.
8.6.1.1.2:	The value of Plant and materials supplied by the Employer to be included in the insurance sum is NIL .
8.6.1.1.3:	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is 15% of the Contract Price.
8.6.1.2	A Coupon Policy for Special Risks Insurance issued by the South African Special Risks Insurance Association is required.
8.6.1.3:	The limit of indemnity for liability insurance is: Project < R5m, limit R2m Project > R5m, limit R5m Add to Clause 8.6.1.3:

	"The minimum amount of insurance required in terms of this Clause shall be per event, the number of events being unlimited."
8.6.1.5	Amend Clause 8.6.1.5 to read: "Insurance of all materials stored off Site, and intended for incorporation in the Permanent Works, including their delivery to the Site and off-loading on Site, to the value of such materials for which payment is made in terms of Clause 6.10.1.1 hereof."
8.6.5	Add to Clause 8.6.5: "The Employer shall approve (or disapprove) the terms of the insurances within fourteen (14) days from the date of receipt of the policies provided in terms of Clause 8.6.5."
8.6.6	Add to Clause 8.6.6: "The policies and the proof of payment of premiums and continuity of the policies shall be produced within seven (7) days."
9.1.4	Replace the contents of Clause 9.1.4 with the following: "Up to the time of termination of the Contract by either party in terms of this Clause, or until the Contractor gives notice in terms of this Clause to terminate the Contract and the Contractor is precluded from exercising his right to terminate the Contract because the Employer agrees to bear any resultant additional costs provided for in Clause 9.1.2.2 hereof, the Contractor: a) will be entitled to an extension of calendar time for working days lost as may be approved by the Employer's Agent, and b) will be reimbursed the cost of delays per working day, where the number of working days will be determined pro rata the effect the delays have on the progress of the work as agreed with the Employer's Agent. Payment in full and final settlement will be made at the rates tendered for the payment items specially provided in the Bill of Quantities Where the circumstances described in Clauses 9.1.1 and 9.1.2 are applicable only to a certain portion of the contract, the Employer's Agent will decide after consulting the Contractor, to what extent the contract as a whole is affected and whether or not a claim in terms of this Clause can be submitted. No payment will be made in terms of this Clause after the Due Completion Date."
10.3.2	Amicable settlement in terms of Clause 10.4 shall be contemplated for all disputes prior to referring any dispute to adjudication or arbitration.
10.4.1	Dispute resolution shall be by amicable settlement.
10.5.1	Dispute resolution shall be by ad-hoc adjudication.
10.5.3	The number of Adjudication Board Members to be appointed is one (1).
10.7.1	The determination of disputes which are unresolved in terms of Clause 10.5.3 shall be by arbitration.
10.11	<i>Add the following additional clause:</i> Details to be confidential The Contractor shall treat the details of the Works comprised in this Contract as private and confidential (save in so far as may be necessary for the purposes hereof) and shall

	not publish or disclose the same or any particulars thereof in any trade or technical paper elsewhere without the prior written consent of the Employer's Agent.
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Part 2: Data provided by the Contractor

The contractor is advised to read the *General Conditions of Contract for Construction Works, Third Edition, 2015* published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, in order to understand the implications of this data which is required to be completed. Copies of these conditions of contract may be obtained from www.saice.org.za.

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

Clause	Data
1.1.1.9	The name of the Contractor is:
1.2.1.2	The address of the Contractor is Address (physical): Address (postal): Telephone: Facsimile: e-mail:
6.5.1.2.3	The percentage allowance to cover overhead charges is %

C1.3 PERFORMANCE GUARANTEE (PRO FORMA)

GUARANTOR DETAILS AND DEFINITIONS

“Guarantor”: means:

.....

Physical
address:

.....

“Employer” means: **AMATOLA WATER**

“Contractor” means:

.....

“Employer’s Agent” means: **SERVINET CONSULTING ENGINEERS**

“Site” means:

.....

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

“Contract Sum” means: The accepted amount inclusive of tax of
R

.....

Amount in
words:

.....

“Guaranteed Sum” means: The maximum aggregate amount of
R

.....

Amount in
words:

.....

“Expiry Date”
means:

.....

CONTRACT DETAILS

Engineer issues: Interim Payment certificates, Final Payment certificate and the certificate 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 Final Taking Over Certificate 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 a 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:
 - 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 the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
10. The Employer shall have the absolute right to arrange his/her affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his/her release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
11. The Guarantor chooses the physical address as stated above for the service of all Notices for all purposes in connection herewith.
12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
13. This Performance Guarantee, with the required demand Notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
14. Where this Performance Guarantee is issued in the Republic of South Africa, the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act notwithstanding that the amount of the claim may exceed the
15. jurisdiction of the Magistrate's Court.

SIGNED AT:

GUARANTOR (1)

SIGNATURE

DATE

CAPACITY

GUARANTOR (2)

SIGNATURE

DATE

CAPACITY

WITNESS (1)

SIGNATURE

WITNESS (2)

SIGNATURE

C1.4 AGREEMENT IN TERMS OF SECTION 37 (2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 OF 1993)

THIS AGREEMENT made between:

(hereinafter referred to as "the Employer") of the one part, herein represented by:

.....
in his capacity as

AND:

(hereinafter referred to as "the Mandatory") of the other part, herein represented by:

.....
in his capacity as

and being duly authorised to act as Mandatory on behalf of the Contractor;

WHEREAS the Employer is desirous that certain works be constructed, viz. (contract No.)

..... (title)

and has accepted a tender by the Mandatory for the construction, completion and defects correction of such works and whereas the Employer and the Mandatory have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatory with the provisions of the Occupational Health and Safety Act 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSESS AS FOLLOWS:

- 1 The Mandatory 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 of a written notice from the Employer or Employer's Agent requiring him to commence the execution of the Works, to either
 - (a) the date of the Final Approval Certificate issued in terms of Clause 5.16.1 of the General Conditions of Contract 2015 (hereinafter referred to as "the GCC"),
 - (b) The date of termination of the Contract in terms of Clauses 9.1, 9.2 or clause 9.3 of the GCC.

- 3 The Mandatory 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), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act:
 - (i) Section 8 : General duties of employers to their employees;
 - (ii) Section 9 : General duties of employers and self-employed persons to persons other than employees;
 - (iii) Section 37 : Acts or omissions by employees or mandatories, and
 - (iv) Subsection 37(2) relating to the purpose and meaning of this Agreement.
 - (b) The procedures and safety rules of the Employer as pertaining to the Mandatory and to all his subcontractors.
- 4 In addition to the requirements of Clause 8.4 of the GCC and all relevant requirements of the above-mentioned Volume 3, the Mandatory agrees to execute all the Works forming part of this Contract and to operate and utilise all machinery, plant and equipment in accordance with the Act.
- 5 The Mandatory is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.
- 6 The Mandatory warrants that all his and his subcontractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 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 Employer upon signature of the agreement.
- 7 The Mandatory undertakes to ensure that he and/or subcontractors and/or their respective employers will at all times comply with the following conditions:
- (a) The Mandatory shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The Mandatory shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Mandatory 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 Employer.
 - (b) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Mandatory to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.
 - (c) The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of section 32 of the Occupational Health and Safety Act into any incident involving the Mandatory and/or his employees and/or his subcontractors.

At _____ for and on behalf of the **EMPLOYER** on

this the _____ day of _____ 20 _____ .

SIGNATURE: _____

CAPACITY: _____

WITNESSES:

SIGNATURES: (1) _____

(2) _____

NAMES: (1) _____

(2) _____

At _____ for and on behalf of the **MANDATORY**

on this the _____ day of _____ 20 _____ .

SIGNATURE: _____

CAPACITY: _____

WITNESSES:

SIGNATURES: (1) _____

(2) _____

NAMES: (1) _____

(2) _____

**CERTIFICATE OF AUTHORITY FOR SIGNATORY TO AGREEMENT IN TERMS OF
OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)**

The signatory for the company that is the Contractor in terms of the above-mentioned Contract and the Mandatary in terms of the above-mentioned Act shall confirm his or her authority thereto by attaching to this page a duly signed and dated copy of the relevant resolution of the Board of Directors.

An example is given below:

"By resolution of the Board of Directors passed at a meeting held on 20.....,
Mr/Ms whose signature
appears below, has been duly authorised to sign the AGREEMENT in terms of THE OCCUPATIONAL
HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993) on behalf of

SIGNED ON BEHALF OF THE COMPANY :

IN HIS/HER CAPACITY AS :

DATE :

SIGNATURE OF SIGNATORY :

WITNESS: 1. 2.

NAME (IN CAPITALS): 1. 2.



AMATOLA WATER

Bid Number.: AW2022/23/18

UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL

C2 PRICING DATA

C2.1 PRICING INSTRUCTION

C2.1.1 PREAMBLE TO THE BILL OF QUANTITIES

- C2.1.1.1 The Conditions of Contract, the Contract Data, the Scope of Work, the Site Information and the Drawings shall be read in conjunction with the Bill of Quantities.
- C2.1.1.2 Measurement and payment shall be in accordance with the relevant provisions of clause 8 of each of the SANS 1200 Standardized Specifications for Civil Engineering Construction or the Particular Specifications referred to in the Scope of Work, subject to the variations and amendments contained therein.
- C2.1.1.3 The Bill of Quantities comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works.

Although the Tenderer is at liberty to insert a rate of his own choosing for each item in the Bill of Quantities, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work carried out and that the Employer's Agent is obliged to base his assessment of the rates to be paid for such additional work on the rates the Contractor inserted in the Bill of Quantities.

Clause 8 of each Standardized Specification, and the measurement and payment clause of each Particular Specification, read together with the relevant clauses of the

Scope of Work, all set out which ancillary or associated activities are included in the rates for the specified operations.

C2.1.1.4 Descriptions in the Bill of Quantities are abbreviated and comply generally but may differ from those in the Standardized Specifications and Scope of Work. No consideration will be given to any claim by the Contractor submitted on such a basis. The Bill of Quantities has been drawn up generally in accordance with the latest issue of Civil Engineering Quantities³. Should any requirement of the measurement and payment clause of the appropriate Standardized or Particular Specifications be contrary to the terms of the Bill of Quantities or, when relevant, to the Civil Engineering Quantities, the requirement of the appropriate Standardized or Particular Specification, as the case may be, shall prevail.

C2.1.1.5 Unless stated to the contrary, items are measured net in accordance with the Drawings without any allowance having been made for waste.

C2.1.1.6 The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the construction of the work described, and shall cover the costs of all general risks, profits, taxes (but excluding Value Added Tax), liabilities and obligations set forth or implied in the documents on which the tender is based.

C2.1.1.7 An amount or rate shall be entered against each item in the Bill of Quantities, whether or not quantities are stated. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.

The Tenderer shall also fill in a rate against the items where the words "rate only" appears in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the tendered rates shall apply should work under these items actually be required.

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

The tendered rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.

C2.1.1.8 The quantities of work, as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Works Assignment and the quantities certified for payment.

Ordering of materials is not to be based on the Bill of Quantities, but only on information issued for construction purposes.

³ The standard system of measurement of civil engineering quantities published by the South African Institution of Civil Engineering.

C2.1.1.9 For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit:	The unit of measurement for each item of work as defined in the Standardized or Particular Specifications
Quantity:	The number of units of work for each item.
Rate: the work	The payment per unit of work at which the Tenderer tenders to do the work
Amount: item	The quantity of an item multiplied by the tendered rate of the (same) item
Sum:	An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units

C2.1.1.10 The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1 000 kg)
m ²	=	square metre	No	=	number
m ² .pass	=	square metre-pass	sum	=	lump sum
ha	=	hectare	MN	=	Meganewton
m ³	=	cubic metre	MN.m	=	Meganewton-metre
m ³ .km	=	cubic metre-kilometre	PC sum	=	Prime Cost sum
ℓ	=	litre	Prov sum	=	Provisional sum
kℓ	=	kilolitre	%	=	per cent
MPa	=	MegaPascal	kW	=	kilowatt
Mℓ	=	Megalitre (1000 kℓ)	kN	=	kilonewton

CORRECTION OF ENTRIES MADE BY TENDERER

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

UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL.

C2.2 BILL OF QUANTITIES

Please note that it is mandatory to submit the complete Priced Bills of Quantities with the Returnable Documents in the following acceptable format:

Filled in, in clearly legible and permanent ink

The final contract price will be dependent on the final construction cost.

SECTION 1 : PRELIMINARY AND GENERAL						
ITEM NO	PAYM ENT REFER S TO	DESCRIPTION	UNIT	QTY	RAT E	AMOU NT
A1	8,3	FIXED CHARGED ITEMS				
1.1.1	8.3.1	Contractual Requirements	Sum	1		
	8.3.2	Establish Facilities on the Site:				
1,2	1200A					
	8.3.2.1	a) Facilities for Contractor				

1.2.1		Offices and storage sheds	Sum	1		
1.2.2		Workshop	Sum	1		
1.2.3		Plant	Sum	1		
1.2.4		Ablution and latrine facilities	Sum	1		
1.2.5		Tools and equipment	Sum	1		
1.2.6		Water supplies, electric power and communications	Sum	1		
1.2.7		Dealing with water (Subclause 5.5)	Sum	1		
1.2.8		Access (Subclause 5.8)	Sum	1		

1.2.9	8.3.3	Other fixed-charged obligations	Sum	1		
1.2.10		Compilation and submission of Health & Safety Plan for approval by the client	Sum	1		
1.2.11		Supply to labour force all protective clothing and equipment necessary for compliance with the Health & Safety Plan	Sum	1		
1.2.12	PSAB. 3	As built drawings	Sum	1		
1.2.13		Provision and erection on Site of the Project Nameboard (1No) complete	Sum	1		
A1	8,4	TIME-RELATED ITEMS				

A1.1	8.4.1	Contractual Requirements	Sum	1		
A1.2	8.4.2	Operate and maintain facilities on the Site for duration of construction, except where otherwise stated.				
	8.4.2.1	Facilities for Engineer :				
A1.3		a) Engineers office (1No.)	Sum	1		
A1.4		B) Nameboard (2No.)	Sum	1		
Carried forward						
Brought Forward						

	8.4.2.2	Facilities for Contractor :				
A1.6		a) Offices and storage sheds	Sum	1		
A1.7		b) Workshops	Sum	1		
A1.8		c) Laboratories	Sum	1		
A1.9		d) Living accommodation	Sum	1		
A1.10		e) Ablution and latrine facilities	Sum	1		
A1.11		f) Tools and equipment	Sum	1		
A1.12		g) Water supplies, electric power and communications	Sum	1		

A1.13		h) Dealing with water (Subclause 5.5)	Sum	1		
A1.15		j) Compliance with Construction Regulations (OHS Act)	Sum	1		
A1.16		k) Compliance with requirements of the Environmental Regulations				
A1.16.1		1. Attend to all matters relating to the implementation and compliance with the environmental regulations for the project except where separately specified.	Sum	1		
A1.16.2		2. Marking out of project work sites.	Sum	1		

A1.16.3		3. Provision of fire fighting equipment.	Sum	1		
A1.16.4		4. Provision of spill control equipment.	Sum	1		
A1.16.5		5. Provision and appointment of an Environmental Control Officer for the site and carrying out of audits at fortnightly intervals and reporting at monthly meetings.	Sum	1		
A1.17	8.4.3	Supervision	Sum	1		
A1.18	8.4.4	Company and head office overhead costs	Sum	1		
A1.19	8.4.5	Other time-related obligations	Sum	1		
A1.20	8.3.4	Remove Contractor's Site	Sum	1		

		establishment on completion				
Carried forward						
Brought Forward						
A2		Compliance with requirements of the Environmental Regulations				
A2.1		1. Providing information and Method Statements as directed by the Project Environmental Control Officer (PECO) or Engineer.	each	1		
A2.2		2. Provision of specific seed mix and application to areas for application as directed by the PECO or Engineer.	kg	2		

A2.3		3. Provision of training to contract staff on environmental compliance.	Sum	1		
A3		DAYWORKS				
A3.1		Labour during normal working hours				
A3.1.1		Supervisor	hr			Rate Only
A.3.1.2		Pipelayer	hr			Rate Only
A3.1.3		Bricklayer	hr			Rate Only
A3.1.4		Unskilled labour	hr			Rate Only
A3.1.5		Skilled labour	hr			Rate Only

A3.2		Plant inclusive of operator, fuel, establishment on and removal from site:				
A3.2.1		TLB	hr			Rate Only
A3.2.2		Tipper Truck	hr			Rate Only
A3.2.3		Wacker	hr			Rate Only
A3.2.4		Water tanker	hr			Rate Only
A3.2.5		Honey Sucker	hr			Rate Only
Carried forward						
Brought Forward						

A3.2.6		Plate compactor	hr			Rate Only
A3.2.7		Pressure test pump	hr			Rate Only
A3.2.8		Excavator	hr			Rate Only
A4		Compliance with SANS 1921 - 6 Part 6 HIV/AIDS Awareness.				
A4.1		Conduct HIV/AIDS Awareness Programme on site for not less than 90% of the workers inclusive of all direct and indirect costs.	Sum	1		
A4.2		Provide and maintain condom dispenser.	No.	1		
A4.3		Provide and maintain HIV/AIDS	No.	1		

		awareness posters.				
A4.4		Provide information regarding the voluntary testing of construction workers, and counselling, support and care.	Sum	1		
TOTAL CARRIED OVER TO SUMMARY						

2		SECTION 2: ELEVATED STEEL WATER TANKS				
2,1	PSPB 12	ELEVATED STEEL WATER TANK				
		as specified in Particular Specification PSPB				
	PSPB 12.1	Supply,delivery and installation of the pressed steel elevated water tank(300				

		kl) to the school:				
2.1.1		Galvanised pressed steel Elevated Water Tank complete with 10m high tower including a booster pump	Sum	1		
	PSPB 12.2	Construction of reinforced concrete tank bases for schools stated as per design drawings:				
2.1.2		Excavate for foundation bases	m3	10		
2.1.3		30 Mpa/19mm stone reinforced concrete to bases	m3	10		
2.1.4		Formwork to concrete bases	m2	24		
2.1.5		High tensile steel bar reinforcement	t	1		

		to structural concrete work				
TOTAL CARRIED FORWARD						
			SECTION 2: ELEVATED STEEL WATER TANKS			
Item	Payme nt Refers	Description	Uni t	Quantit y	Rat e	Amou nt
BROUGHT FORWARD						
	PSPB 12.3	Erection of elavated water tanks at schools stated:				
2.1.6		- Erect the elevated water tank using a Tower Crane	Su m			
	PSPB 12.4	Supply, install and connect all required pipework of the elevated water tank:				

2.1.7		- Supply and install all fittings, valves, bolts and pump switchings	Sum			
		to the elevated water tank				
2.1.8		- Connect new tank system to existing mains	Sum			
2.1.9		- Cleaning sterilizing refilling and testing prior to commissioning	Sum			
TOTAL CARRIED FORWARD TO SUMMARY						

3		SECTION 3: OXIDATION POND CONSTRUCTION				
3,1		EARTHWORKS				

	SAN S 1200 C	SITE CLEARANCE				
3.1.1		Removal of thorn trees to clear the pond areas to be refurbished	D a ys	7		
3.1.2		Clear the area to be developed of all rubbish, debris, vegetation, shrubs, bush and small trees not exceeding 200 mm girth and remove from site.	m 2	831 4		
		Pond 3 - (4184)				
		Pond 4 - (2530)				
		Pond 5 -(800)				
		Pond 6 - (800)				
	SAN S 1200 D	BULK EXCAVATIONS				

3.1.3		Excavate in earth not exceeding 2m deep including trimming sides, levelling and ramming bottoms and deposit in spoil heaps for later re-use or cart away	m 3	702 0		
		Pond 3 - (0)				
		Pond 4 - (5060)				
		Pond 5 -(980)				
		Pond 6 - (980)				
3.1.4	SAN S 1200 D	Excavate in earth of more difficult character:				
3.1.4 A		Extra over exvavations in earth for excavations in soft rock	m 3	350		
3.1.4 B		Extra over exvavations in earth for excavations in hard rock	m 3	350		

	SAN S 1200 D	Carting away of excavated material:				
3.1.5		Carting away surplus excavated material	m 3	702 0		
TOTAL CARRIED FORWARD						
			SECTION 3: OXIDATION POND CONSTRUCTION			
Item	Pay men t Refe rs	Description	U ni t	Qu anti ty	R at e	Am ou nt
BROUGHT FORWARD						
	SAN S 1200 D	Keep Excavation free from water				

3.1.6		Allow for keeping the excavations free from water	S u m	1		
	SAN S 1200 D	Compaction of surfaces				
3.1.7		Scarify in situ material to a depth of 150mm and compact to 93%	m 2	101 62		
		Mod AASHTO density				
		Pond 3 - (5196)				
		Pond 4 - (3078)				
		Pond 5 -(944)				
		Pond 6 - (944)				
	SAN S 1200 D	Tests:				

3.1.8		Allow for Mod AASHTO density tests on filling	N o	50		
TOTAL CARRIED FORWARD						
			SECTION 3: OXIDATION POND CONSTRUCTION			
Item	Pay men t Refe rs	Description	U ni t	Qu anti ty	R at e	Am ou nt
BROUGHT FORWARD						
		Waterproofing				
3.1.9		Geotextiles Africa 400g/m linear backing or Similar Approved 1 or 2 layers as orderd by the Engineer	m 2	101 62		
		Pond 3 - (5196)				
		Pond 4 - (3078)				

		Pond 5 - (944)				
		Pond 6 - (944)				
3.1.10		Geomembrane Aquatane 1mm HDPE Hi - Drilene 1000 OR Similar Approved.	m 2	101 62		
		Pond 3 -(5196)				
		Pond 4 -(3078)				
		Pond 5 -(944)				
		Pond 6 - (944)				
		CONCRETE CHANNELS, ETC.				
3.1.11	SAN S 1200 -D	Excavate for surface trenches	m 3	77		
		Pond 3 -(40)				
		Pond 4 -(20)				

		Pond 5 -(8.5)				
		Pond 6 - (8.5)				
3.1.12		Excavate for holes for ground beams	m 3	189		
		Pond 3 -(95)				
		Pond 4 -(50)				
		Pond 5 -(22)				
		Pond 6 - (22)				
3.1.13		Carting away surplus excavated material	m 3	266		
3.1.14		Allow for risk of collapse to sides of excavations ne 1.5m deep	m 2	108 8		
		Pond 3 -(628)				
		Pond 4 -(328)				
		Pond 5 -(144)				

		Pond 6 - (144)				
		Compaction				
3.1.15		Scarify in-situ material to a depth of 150mm and compact to a 93 % Mod AASHTO density.	m 2	727		
		Prescribed Testing				
3.1.16		Allow for Mod AASHTO density tests on filling	n o	30		
	SAN S 1200 - MK	CONCRETE WORKS				
		Unreinforced concrete 25 Mpa (19mm stone) in:				

3.1.17		Ground beams around the ponds	m 3	189		
		Pond 3 -(95)				
		Pond 4 -(50)				
		Pond 5 -(22)				
		Pond 6 - (22)				
3.1.18		Channels around the ponds	m 3	77		
		Pond 3 -(40)				
		Pond 4 -(20)				
		Pond 5 -(8.5)				
		Pond 6 - (8.5)				
		Surface treatment				
3.1.19		Float surface of concrete to a wood float finish	m 2	770		

		Test blocks and testing				
3.1.20		Allow for preparing and curing a set of three test cubes, each	No	30		
		size 150mm x150 mm x 150, testing to done by an approved				
		independent laboratory				
		Smooth Formwork				
3.1.21		Formwork to edges of slabs not exceeding 300 mm high	m	250		
		Reinforcement				
		Mesh steel reinforcement to structural concrete				
3.1.22		Type 395 fabric reinforcement in concrete surface beds	m ²	770		

	SAN S 1200 LD	Plumbing And Drainage				
3.1.23		110 mm pipes connecting the ponds	m	200		
3.1.24		Allow for a chlorination system to be installed to the water treatment plant	S u m	1		
3.1.25		Allow for the unblocking of the outlet pipe at Pond 1&2	S u m	1		
3.1.26		Allow for remedial works to the vandalised sewer pump station	S u m	1		
3.1.27		Allow for the completion of plumbing work to the existing control room	S u m	1		

3.1.28		Fill the ponds with river water up to a depth of 300mm	m 3	249 5		
		INLET WORKS constructed as per Drawing No SCE-MATH-003				
	SAB S 1200 D	Excavation:				
3.1.29		Excavate in all materials to a depth not exceeding 1.5m deep for foundations and structures and use for backfill or embarkment on embankments or dispose	m 3	16		
3.1.30		Smooth vertical formwork to wall of screening chamber	m 2	35		
		Reinforcement high tensile welded mesh				

3.1.31		Ref 395 with minimum laps of 300mm	m 2	45		
	SAN S 1200 GA	Concrete Works				
3.1.32		15 Mpa/ 19mm concrete blinding	m 3	2		
3.1.33		15 Mpa/19 mm mass concrete fill underneath flume	m 3	5		
3.1.34		25 Mpa/19mm stone to channels around the screening chamber	m 3	2		
3.1.35		25 Mpa/19mm stone concrete to floors and walls of screening chamber	m 3	5		
3.1.36		Floating of surfaces to concrete channels	m 2	10		

3.1.37		Sawcut 3mm widex40mm deep ream out to 6mm wide sawcut and seal with 10x6 sikaflex 2HP on polyethelene backing cord or similar approved.	m	12		
3.1.38		10mm jointex filler with tear off strip and seal with 10x10 Sikaflex 2HP or similar approved	m	12		
		SCREENS TO INLET CHAMBER				
3.1.39		385mm wide stainless steel hand raked screen as per drawing SCE-MATH - 003	N o	1		
3.1.40		M10 HILTI S/S stud anchors for the hand raked screen	N o	4		
3.1.41		3475mm long x 500mm wide grating	N o	1		

		made of 50mm molded fibre glass				
3.1.42		30x5mm S/S Flat Bar@ 25mm c/c	N o	15		
3.1.43		60x5mm S/S Flat Bar 500mm long with 12mm diameter holes for stud anchors, holes min, 25mm from ends of bar	N o	1		
	SAN S 1200 L	Supply and installation of pipes and valves				
3.1.44		Flow measuring Parshal Flume (76.2mm) pre- manufactured from fibre glass material	N o	1		
3.1.45		450mm x 300mm ND GMS extension piece(flanged one end with puddle flanges)	N o	1		

3.1.46		300mm ND Flanged Gate Valve with handwheel	N o	1		
3.1.47		450 x 100 mm ND GMS extension piece (flanged one end with puddle flange 50mm from other end)	N o	1		
3.1.48		100mm ND flanged gate valve with handwheel	N o	1		
3.1.49		100 mm GMS blank Flange	N o	1		
3.1.50		160mm diameter inlet pipe	m	30		
3.1.51		200mm diameter outlet pipe	m	30		
		Security Fencing around the ponds:				

3.1.52		Clear the surface area for fencing installation	m 2	576		
3.1.53		Supply and install 2400 m high mesh hot dipped galvanised and marine fusion coated Clearview fencing with shark teeth on top as per drawing no SCE-MATH -011	m	960		
3.1.54		Supply and install a 1m x 2.4 Pedestrian Gate security gate	n o	1		
TOTAL CARRIED FORWARD TO SUMMARY						

C2.3 SUMMARY OF BILL OF QUANTITIES

SUMMARY OF THE BILL OF QUANTITIES - CLUSTER 2	
ST MATHEWS HIGH SCHOOL	
EMIS NO: 200 200 818/P-No: P900 7299	
SECTION 1: PRELIMINARY AND GENERAL	
SECTION 2: ELEVATED STEEL WATER TANKS	
SECTION 3: OXIDATION PONDS	
NETT TOTAL OF TENDER	
The following Monetary Allowances are to be omitted from the contract sum and used as directed below: Provide the amount of R 529 687.65 (Five Hundred and Twenty Nine Thousand , Six Hundred and Eighty Seven Rands and Sixty Five Cents) for contingencies to be adjusted, used and paid as instructed and approved by the Client in terms of Clauses 6.6.3 of the General Conditions of Contract	R 529 687,65
SUB TOTAL	

ADD 15% VALUE ADDED TAX	
AMOUNT CARRIED TO FORM OF OFFER AND ACCEPTANCE (C1.1.1)	



AMATOLA WATER

Bid Number.: AW2022/23/18

UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL

C 3 SCOPE OF WORK

STATUS

In the event of any discrepancy between the Scope of Work and any part of the SABS 1200 Standardized Specifications, the Bill of Quantities or the Drawings, the Scope of Work shall take precedence and prevail in the Contract.

C 3.1 DESCRIPTION OF WORKS

ABBREVIATIONS

AW	Amatola Water
DPW	Department of Public Works
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
ECDoE	Eastern Cape Department of Education

BACKGROUND

ECDoE allocated new projects to Amatola Water (AW) to implement in Financial Year (FY) of 2021/22 but due to various reasons the projects did not start, resulting in these projects being rolled over into FY 22/23. These are new projects which ECDoE allocated to AW to start in FY 22/23, from inception through to close out.

These projects were previously designed, and tender documentation compiled but did not go ahead due to Client financial constraints, the new appointed Professional Service Providers (PSP) has checked the previous designs and ensured that the latest norms and standards

were used and the information from the school (pupil and teacher numbers, growth etc.) has been included in the final designs.

SCOPE OF WORKS FOR MATHEWS HIGH SCHOOL

School name	DESCRIPTION OF GOODS/SERVICE
MATHEWS HIGH SCHOOL	• Supply and install a Chlorination system, • Clean and refurbish the existing ponds, • Install geolining on the existing ponds, • Construct an additional pond and line it with geomembrane, • Fence around the ponds, • Add metering on the inlet flow and outlet flow of the ponds, • Supply, construct and erect elevated pressed steel tank of 300 kl for 48 hour storage. •

The scope involves the implementation, site supervision, construction monitoring and closeout report for Bulk Water Supply and Sanitation, treatment works which includes components of: water pumps, water reticulation, piping and bulk supply, generators, electrical control and instrumentation.

General

The Tenderer will execute the required services in a professional manner, complying with the appropriate designs and specifications. They will comply with all relevant legislation pertaining to the build environment in general.

C3.2 ENGINEERING

C3.2.1 DESIGN

Concept, feasibility and overall process	Employer's Agent
Basic engineering and detail layout to tender stage	Employer's Agent
Final design approved for construction stage	Employer's Agent
Temporary works	Contractor
Preparation of as-built drawings and GIS information	Contractor/Employer's Agent

C3.2.2 EMPLOYER'S DESIGN

Not applicable.

C3.2.3 CONTRACTOR'S DESIGN

Where the Contractor is to supply the design of designated parts of the permanent Works or temporary Works he shall supply full working drawings supported by a professional engineer's design certificate.

The Contractor shall take all statutory requirements, as well as the Site Specific Health and Safety Specification and Basic Risk Assessment (refer to particular specification PB) into consideration when designing the Temporary Works.

C3.2.4 DRAWINGS

The drawings are listed below:

DRAWING NO	DRAWING TITLE
GENERAL	
SCE- MATH - 001	PROPOSED POND LAYOUT
SCE- MATH - 002	STANDARD POND DETAILS
SCE- MATH - 003	INLET WORKS
SCE- MATH - 004	POND LINING AND EMERGENCY OVERFLOW STRUCTURE
SCE- MATH - 006	POND LINING DETAILS
SCE – MATH -007	FOUNDATIONS
SCE- MATH - 008	FOUNDATION REINFORCEMENT

SCE-MATH-009	FOUNDATION REINFORCEMENT
SCE-MATH-10	FOUNDATION REINFORCEMENT
SCE -MATH-11	CLEARVIEW FENDING DETAIL
DRAWING NO 4	ELEVATED WATER TANK

C3.3 PROCUREMENT

C3.3.1 PREFERENTIAL PROCUREMENT

C3.3.1.1 Requirements

Refer to Clauses C.3.11.1, of the Tender Data and Form T2.1: Form SBD 6.1: Specific Goals will be used as the preference mechanism in accordance with Preferential Procurement Regulations of 2022.

C3.3.1.2 Resources Standards pertaining to targeted procurement

Tenders will be evaluated in terms of the Employer's Procurement Points system. The criteria for allocation of procurement points are stated in Clauses C3.11.1 of the Tender Data.

C3.3.2 SUBCONTRACTING

C3.3.2.1 Scope of mandatory subcontract works

The Contractor shall note that the Employer is committed to local Emerging Enterprise development and this forms part of this.

It is the Employer's intention for the Contractor to enter in a subcontract with a local Emerging Enterprise/s, where fifteen percent (15%) of the work shall be subcontracted in accordance with the subcontracting procedures referred to in this scope of work who are registered with the CIDB with a Contractor Grading Designation of 1 in an appropriate class of construction work.

C3.3.2.2 Preferred subcontractors / suppliers

Local Emerging Enterprises registered on the Amatola Water Database and CSD.

C3.3.2.3 Subcontracting procedures

All matters pertaining to subcontractors and the work executed by them shall be dealt with directly between the Employer's Agent and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.

Subcontractors shall comply in full to all aspects of the Contract.

The Employer's Agent will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor.

For local Emerging Enterprises Subcontractors, as stated above, the following shall apply:

The Employer shall provide a list of local EE's, in the required contractor grading designation, for the Contractor to select a suitable EE's to tender and subcontract with. The Contractor shall evaluate the list and shall select EE's to enter into subcontract/s.

The Contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.

Subcontractors shall comply in full, to all aspects of the Contract.

C3.3.2.4 Attendance on subcontractors

The Contractor shall guide, assist, advise and mentor the local EE subcontractor/s and guidance on how to establish and determine rates.

The Contractor shall be responsible for ensuring that the prospective local EE subcontractor/s fully comprehends the:

- Implications of the liabilities and responsibilities inherent in the contract into which the tenderer entered.
- Implications of the tendered rates.
- Scope and extent of the Works.
- Proper procedures for the submission of a tender.
- Procedures and basis on which tenders will be evaluated and awarded.

The Contractor shall closely manage, mentor, supervise, guide and assist the EE in all aspects of management, planning, execution and the completion of work.

The above shall include inter alia, but is not limited to, the following:

- (i) Planning and programming of the Works.
- (ii) The sourcing, ordering, purchasing, hiring all the necessary Construction Equipment, Materials, tools and accidentals necessary and required for the successful execution and completion of the Permanent as well as the Temporary Works.
- (iii) Labour relations and employment.
- (iv) Monthly measurements, costing and invoicing.
- (v) General safety, occupational health and safety matters.
- (vi) Functions of civil engineering infrastructure, structures, services and systems.
- (vii) Interpreting and understanding the contract.
- (viii) Construction and maintenance methods and procedures.
- (ix) Communication.
- (x) Cash-flow control, submitting invoices and payment certificates.
- (xi) Planning, programming, scheduling, critical path control and acceleration.
- (xii) Maintenance planning.
- (xiii) Material procurement and control.
- (xiv) Risk limitation and management.
- (xv) Quality assurance and procedures.
- (xvi) Compliances with all applicable laws, regulations, statutory provisions and agreements.
- (xvii) General Conditions of Contract and Contract Data.
- (xviii) Contractual claims, if situations arise that entitle a contractor to claims in terms of the Conditions of Contract.
- (xix) Profit and loss.
- (xx) Replacement and running costs of Construction Equipment.

The extent and level of management, mentorship, supervision, guidance and assistance to be provided by the Contractor shall be in commensuration with the expertise of the relevant EE and should be so directed as to enable the EE to achieve the successful execution and completion of the respective works.

C3.3.3 SANCTIONS

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal outcomes was due to quantitative under runs, the elimination of items, or any other reasons beyond the Contractor's control which may be acceptable to the Employer, the Contractor shall be liable to pay to the Employer a financial penalty calculated in the following manner:

$$P = 0,50 \times \frac{(D-D_0)}{(100)} \times N_A$$

Where	D	=	tendered Contractor participation goal percentage.
	D _o	=	the Contract Participation Goal, which the Employer's Representative based on the credits passed, certifies as being achieved upon completion of the contract.
	N _A	=	Net Amount of the Tender
	P	=	Rand value of penalty payable.

The penalties will be calculated with each certificate, based on the information provided under the monitoring indicated in clause C3.3.4 below.

C3.3.4 MONITORING / REPORTING

The reporting requirements below will be adhered to.

CPG attainment will be monitored on a monthly basis, and for this the Contractor will supply the relevant information at a time set by the Employer's Agent.

- C3.3.4.1 The Contractor shall submit all the documentation required in terms of details of his plan to achieve CPG, compliance with the contract and C3.3.4.2 timeously and, together with his programme of activities, a schedule which indicates clearly the expected commencement and completion dates of work and services to be performed by all the targeted enterprises engaged on the contract for the purpose of securing credits towards the contract participation goal. This schedule shall be updated by the Contractor whenever a change in date occurs.
- C3.3.4.2 The Contractor shall prepare and attach to his claim for payment, in a form approved by the Employer, the following:
- a) a brief report which describes the commercially useful functions performed by the targeted enterprises in the performance of the contract, both over the interim period and on a cumulative basis;
 - b) a schedule reflecting the estimated total value of the contracts, the cumulative value of the contracts and the value of supplies provided or work and services performed (or both) over the period for which payment is claimed in respect of each and every targeted enterprise performing commercially useful functions;
- C3.3.4.3 Should random inspections conducted by the Employer's Agent on targeted enterprise activities indicate that such enterprises are not performing in accordance with the requirements of this part, the Contractor shall provide, in addition to the requirements of C3.3.4.2, separate weekly resource returns and any other relevant information in respect of such targeted enterprises in a format approved by the Employer's Agent.
- C3.3.4.4 The Employer's Agent shall certify the value of the credits counted towards the contract participation goal whenever a claim for payment is issued to the employer, and shall notify the Contractor of this amount.
- C3.3.4.5 The Contractor shall, upon completion of each individual targeted enterprise's contract, issue a completion certificate and certify the amount paid to such targeted enterprises. He shall submit the certificates, counter-certified by the relevant targeted enterprise, to the Employer's Agent for record-keeping purposes. The Contractor shall furnish reasons to the Employer whenever it is not possible to obtain such counter certification.

C3.3.5 CONTRACTOR'S OBLIGATIONS TO SUBCONTRACTED EEs

(1) Dispute Avoidance and Resolution Procedures

The Contractor shall at all times

- (a) apply the terms and conditions of the subcontract fairly and justly, taking due cognisance of the level of sophistication and experience of the EE subcontractor concerned.
- (b) closely monitor all EE subcontracts and issue reasonable warnings when any contravention of the terms of the subcontract has occurred or appears likely to occur. The Contractor shall give EEs reasonable opportunity to avoid or make good any such contravention.

When taking any disciplinary actions or imposing any penalties provided for in the subcontract, the Contractor shall explain fully that such actions are in accordance with the conditions of subcontract.

Should any dispute arise between the Contractor and an EE, such dispute shall be resolved in accordance with the provisions of the subcontract.

Should an EE subcontractor be terminated, the Contractor shall replace such subcontractor with a local EE subcontractor listed on the KLM database.

(2) Quality of Work and Performance of EE subcontractors

If, in the opinion of the Employer's Agent, an EE Subcontractor fails to comply with any of the criteria listed below, he/she shall issue a written warning to the Contractor stating all the areas of non-compliance.

- (a) Acceptable standard of work as set out in the subcontract specifications.
- (b) Progress in accordance with the time constraints in the subcontract.
- (c) Site safety.

The circumstances that may warrant the issue of a written warning are, however, not limited to those listed above.

A copy of the letter of warning shall be forwarded to the Employer.

C3.3.6 ISSUING OF COMPLETION CERTIFICATE

The Contractor shall, within 7 days of the completion of each subcontract completed in accordance with the provisions of this specification, issue free of charge to the EE a Certificate of Completion co-signed by the Employer's Agent and a senior representative of the Contractor who has been duly authorised to do so.

C3.3.7 MEASUREMENT AND PAYMENT

No direct payment will be made for the cost of dealing with EE's. Payment will be deemed to be covered by the rates and sums tendered and paid for the various items of work included under the contract.

C3.4 CONSTRUCTION

C3.4.1 APPLICABLE SANS 2001 OR SANS 1200 STANDARDS FOR CONSTRUCTION WORKS

The provisions of the SANS 1200 Standardized Specifications, as amended, take preference over the provisions of the SANS 2001 standards.

C3.4.2 APPLICABLE NATIONAL AND INTERNATIONAL STANDARDS

Although not bound in nor issued with this document, but are available at the Tenderer's/Contractor's expense from the relevant specification authorities, for the purpose of this Contract the latest issues of the following Standard Specifications for Civil Engineering Construction, applicable at the date of tender advertisement, shall apply:

SABS	1200 A	General
SABS	1200 AB	Engineer's Office
SABS	1200 C	Site Clearance
SABS	1200 D	Earthworks
SABS	1200 DB	Earthworks (Pipe Trenches)
SABS	1200 DK	Gabions and Pitching
SABS	1200 DM	Earthworks (Roads, Subgrade)
SABS	1200 G	Concrete (Structural)
SABS	1200 GE	Precast Concrete (Structural)
SABS	1200 HA	Structural Steelwork (Sundry Items)
SABS	1200 L	Medium-pressure Pipelines
SABS	1200 LB	Bedding (Pipes)
SABS	1200 LE	Stormwater Drainage
SABS	1200 LG	Pipe Jacking

C3.4.2.1 The term "project specification" appearing in any Standardised Specification must be replaced with "Scope of Work".

C3.4.2.2 Each of the Standard Specifications contains an appendix, which in turn lists further specifications which are not bound into the tender and contract documents.

Both the Standard Specifications, as well as those specifications that are listed in the appendix to the Standard Specifications, shall apply to the Contract to the same extent as if each of these specifications had been bound into the tender/contract documents.

C3.4.2.3 Further to the above, it should be noted that, where in a specific Standardised Specification reference is made to a sub-clause in another Standardised Specification, any amendment or addition to the sub-clause referred to, as provided in the Works Specification, shall apply.

C3.4.2.4 The prefix "PSA" denotes an amendment to SABS 1200A. "PSAB" denotes an amendment to SABS 1200AB and so forth. The number following these prefixes refers to the relevant clause numbers of SABS 1200.

For example: "PSA 8.1" refers to Clause 8.1 of SABS 1200A.

C3.4.2.5 New clauses are followed by an asterisk (*).

C3.4.2.6 The variations and additions to the specifications listed in C3.4.2 above are to be found in Part C5 of this document

C3.4.3 PARTICULAR SPECIFICATIONS

The following particular specifications, bound into this document under section 3.6 Specification data are applicable to this contract:

C3.4.4 CERTIFICATION BY RECOGNISED BODIES

Only SANAS accredited laboratories or other institutions may be used for certification purposes. For material testing, concrete durability testing, or other the laboratory shall be approved by the Engineer.

C3.4.5 AGRÉMENT CERTIFICATES

No alternative tenders and no tenders offering alternative materials to those stated in the Schedule of Quantities and/or Specifications will be accepted for tender purposes.

The use of alternative materials, which may be fit for purpose and are subject to an Agrément certificate, may however be considered following award of the contract providing the following are adhered to:

- A full copy of the Agrément certificate must be provided,
- The certificate must be currently active,
- All work must be done in accordance with the terms of a specific certificate for the product,
- Details of any and all variations approved by Agrément South Africa must be provided,
- Details of who will erect or install the product must be provided,

The decision as to whether alternative materials complying with the above requirements may be used will be at the sole discretion of the Engineer.

C3.5 MANAGEMENT

C3.5.1 APPLICABLE SANS STANDARDS

The following parts of SANS 1921 (Construction and management requirements for construction works) and associated specifications are applicable:

SANS 1921-1: General engineering and construction works

SANS 1921-2: Accommodation of traffic on public roads occupied by the contractor

SANS 1921-3: Structural steelwork

SANS 1921-4: Third party management support in works contracts

SANS 1921-5: Earthworks activities, which are to be performed by hand

SANS 1921-6: HIV / AIDS awareness

The associated specification data are as follows:

SANS 1921-1: General engineering and construction works	
Clause No	Specification data
4.1.7	The Contractor will be responsible for the submission of technical data sheets, spares lists, guarantees for all materials supplied under this contract.
4.2.1	The responsibility strategy assigned to the contractor for the works is: A
4.2.2	The Engineer is Servinet Consulting Engineers
4.2.3	Drawings and other information are to be submitted in accordance with the Contractor's programme.
4.3	The planning, programme and method statements are to comply with the following: • The Contractor will take into consideration the execution of the definable items of work associated with the scheduled provisional items and provisional quantities within the time period contemplated by the Time for Completion stipulated or tendered, as the case maybe. • The Works must be commenced within a period not exceeding 14 days from the Commencement Date, such Commencement Date to be agreed with the Employer. • The Site will be handed over to the Contractor as early as possible. The works should commence immediately thereafter. • The planning, program and method statements are to comply with the following: ○ Microsoft Project format ○ Links between all predecessors to and all dependencies to any particular task must be shown ○ Critical path must be shown
4.3.3	The notice period for inspection is 72 hours.
4.12.2	Full details of QA programmes and monitoring are required from the Contractor.
4.14.3	No facilities are required for the Employer.

SANS 1921-1: General engineering and construction works	
Clause No	Specification data
4.17.1	None
4.17.3	Services which are known to exist on site are: a) Shown on the layout drawings and/or will be pointed out on site.
4.17.4	None
4.18	The additional health and safety requirements are: Refer C3.6 : Health & Safety Requirements & Procedures
4.22	The works to be undertaken by nominated and selected subcontractors comprise: None
Variations:	
Additional clauses:	
	1. Site Meetings and Procedures The Contractor will be expected to provide the Engineer with full details of deliveries to site, deliveries still to be made to site, full QA records of work to date, work completed to date versus programme, rate of progress, plant, machinery and staff on site, for each of the monthly meetings the Engineer will hold on site with the installation contractor
	2. Water and Electricity The Employer does not warrant that any water or electricity supply may exist at any or all points on site.
4.4	An item for independent quality tests required by the Engineer is included in the Schedule of Quantities. The Contractor shall draft and submit his proposed Quality Assurance Plan to the Engineer for his approval. This plan shall clearly indicate and control all contract activities ensuring that work is carried out fully in compliance with the contract specifications and/or product manufacturer's specifications, whichever is applicable.

C3.5.2 LIAISON WITH EMPLOYER'S STAFF AND OPERATIONAL REQUIREMENTS

The Contractor shall liaise with Amatola Water with regard to the timing of the work so as to fit in with the operational requirements of the TREATMENT WORKS. This shall particularly apply to operations which require the shutting down of the SERVICES supply, as alternate services arrangements must be made. Amatola Water requires 14 days notice of any such shutdown.

C3.5.3 PLANNING, CASHFLOW AND PROGRAMMING

C3.5.3.1 Planning

Disruption of the waste water works must be avoided as far as practically possible throughout the duration of the contract.

The Contractor shall therefore undertake the Works in a manner that ensures no unnecessary disruption of the waste water works. The number of supply system shutdowns must be kept to an absolute minimum with the duration of any shutdown as short as possible.

Tenderers shall provide information as part of the method statements submitted with their tenders as to the number, sequence and durations of proposed supply system shutdowns.

Note : No supply system shutdown shall be allowed at any time or for any reason whatsoever without the written permission of the Employer's authorised official responsible for the contract. Should the Contractor fail to adhere to this requirement, the full costs of any nature whatsoever incurred by the Employer in ensuring continuation of the services to consumers shall be charged to and recovered from the Contractor. This shall include the full cost of any penalties charged to the Employer by industrial and other consumers.

C3.5.3.2 Submitted Programme

The Contractor shall provide basic main activity and cashflow programmes as part of his tender offer.

Detailed activity programmes showing the anticipated quantities of work to be performed, together with the manner in which the required Works shall be constructed, inspected, tested and commissioned, together with an estimated cash flow, shall be submitted by the successful tenderer within 14 days of the Commencement Date (Clause 5.6.1 of the GCC2010 refers).

This programme shall clearly indicate each of the work activities and take into account the work and time constraints.

If, during the progress of the work, the quantities of work performed per month fall below those indicated on the programme, or if the sequence of operations is altered, or if the programme is deviated from in any other way, the Contractor shall produce a revised programme showing the modifications to the original

programme necessary to ensure completion of the works or any part thereof within the specified time for completion, within one week, to the Engineer.

The programme, including cashflow to date, shall furthermore be updated for each site meeting showing the work completed and the progress ahead, to or behind schedule as relevant.

During the duration of the contract, the Contractor shall submit written reports to the Engineer each fortnight showing progress related to the agreed programme, and shall update the programme and cashflow in accordance with actual progress.

The approval by the Engineer of any programme shall have no contractual significance other than that the Engineer would be satisfied if the work is carried out according to such programme, and that the Contractor undertakes to carry out the work in accordance with the programme. It shall not limit the right of the Engineer to instruct the Contractor to vary the programme should circumstances make this necessary.

The Contractor's programme and method statements will not be accepted as the basis for claims for additional compensation without due reference to all relevant associated factors.

When requested by the Engineer, the Contractor shall submit, within two working days, a Method Statement dealing with his proposed procedure for certain elements of the works. No work to this element shall commence until the Engineer's written approval of the Method Statement has been received.

C3.5.3.3 General Allowances

When drawing up his programme, the Contractor shall take into consideration and make allowance for, inter alia:

- (i) provision and approval of the required documentation, insurances and surety,
- (ii) preparation and submission of design drawings to the Engineer for approval, and the time allowed for approval by the Engineer, the time for approval being seven (7) days,
- (iii) expected weather conditions and their effects,
- (iv) known physical conditions or artificial obstructions,
- (v) searching for, dealing with and carrying out alterations to the existing services,
- (vi) the sequencing of the Works taking all other pertinent information contained in the documents into account,
- (vii) lead times for delivery of pipes and other materials,
- (viii) allowance for inspection and testing by a third party,
- (ix) delivery schedule as agreed to with the Supply Contractor(s),
- (x) the provision and implementation of the Health and Safety Plan in terms of the Construction Regulations, 2014 of the Occupational Health and Safety Act.

C3.5.3.4 *Engineer's Inspection and Approval of Work*

The Contractor shall allow reasonable time in his programme for the Engineer to carry out testing and inspection of the Works. To this end the Contractor shall provide to the Engineer a schedule indicating when inspections are required. Requests for ad hoc inspections should be made in writing to the Engineer at least 24 hours before such inspections are required.

If the Engineer attends with the purpose of examining any part of the Works at the date and time agreed on with the Contractor and it is found that the Works are not ready for inspection, the Contractor shall be responsible for the cost of that visit by the Engineer.

The Engineer's Representative will visit the site regularly for the purpose of supervision of the Contract and inspection and approval of completed work. The Contractor shall therefore arrange his working programme in such a way that all work is inspected and approved at the required time. Under no circumstances shall he proceed with any activity that covers up previous work before the previous work has been approved in writing (e.g. no trench shall be backfilled until the laid pipes and bedding have been inspected and approved).

C3.5.3.5 *Review of Progress*

The Contractor shall review his progress each month and should progress lag behind the latest accepted programme by more than 1 week, he shall submit a revised programme and method statement of how he proposes making up lost time. If, in the opinion of the Engineer, such revised programme will not make up lost time, the Engineer shall have the right to request the Contractor to reorganize his work in a manner which will ensure an acceptable programme. Claims for additional payments to meet any cost incurred due to such reorganization will not be accepted.

C3.5.4 *SEQUENCE OF THE WORKS*

Due to the urgent nature of this contract, the Works shall have to be undertaken at several locations at the same time.

Immediately after moving onto Site and establishing, the Contractor shall clear the route of the project areas. After clearing, the Contractor shall construct the temporary gravel access roads. These activities shall receive high priority.

The sequence of construction shall be carefully planned and agreed with the Engineer before any work commences.

C3.5.5 *QUALITY PLANS AND CONTROL*

C3.5.5.1 *General*

Quality control forms an essential part of this contract. The Employer will engage the services of an independent third party quality inspectorate who shall carry out quality control inspections and testing at all stages of the manufacturing, supply

and construction stages for the entire project, on behalf of the Employer. The Contractor shall agree hold points with the third party inspectorate for quality inspections and testing, to the approval of the Engineer.

The Contractor shall submit to the Engineer for approval his Quality Control plans, method statements and testing methods prior to undertaking or starting any work under the contract.

C3.5.5.2 *Quality Control of Workmanship*

The Contractor shall be responsible for routine inspection, sampling and testing of all OCIM, workmanship, and plant and measuring devices in order to control the quality of the work and to ensure compliance with the Specification.

The Contractor shall be responsible for establishing and maintaining procedures for Quality Control which ensure that all aspects of the Control Works comply with the conditions of the Contract.

The Contractor shall appoint a suitably qualified member of his staff to be responsible for the Quality Control and to maintain effective liaison with the Engineer. Such appointment shall be subject to the approval of the Engineer.

The cost for the above will be deemed to be included in the rates tendered.

C3.5.5.3 *Control Testing of Earthwork Layers and Bedding*

The Contractor is required to carry out his own control testing, but if he so wishes, and agrees to abide by the results of the Engineer's check test, he may dispense with his own tests. However, should the Contractor wish to use the Engineer's testing facilities, he will be charged for the various tests at the rates ruling at the time.

Any additional tests requested by the Contractor or any retests required, due to failure of the initial tests, will be charged to the Contractor at the rates ruling at the time.

The Contractor shall engage the services of an approved independent laboratory or other institution – as applicable for quality testing – to ensure that his work complies with the Specifications. The Contractor shall liaise with Amatola Water, WSSA, UKDM with regard to the timing of the work so as to fit in with the operational requirements of the TREATMENT WORKS. This shall particularly apply to operations which require the shutting down of the SERVICES supply, as alternate services arrangements must be made. Amatola Water requires 14 day's notice of any such shutdown.

Disruption of the waste water works must be avoided as far as practically possible throughout the duration of the contract.

The Contractor shall therefore undertake the Works in a manner that ensures no unnecessary disruption of the waste water works. The number of supply system

shutdowns must be kept to an absolute minimum with the duration of any shutdown as short as possible.

Tenderers shall provide information as part of the method statements submitted with their tenders as to the number, sequence and durations of proposed supply system shutdowns.

Note : No supply system shutdown shall be allowed at any time or for any reason whatsoever without the written permission of the Employer's authorised official responsible for the contract. Should the Contractor fail to adhere to this requirement, the full costs of any nature whatsoever incurred by the Employer in ensuring continuation of the services to consumers shall be charged to and recovered from the Contractor. This shall include the full cost of any penalties charged to the Employer by industrial and other consumers.

The Contractor shall provide basic main activity and cashflow programmes as part of his tender offer.

Detailed activity programmes showing the anticipated quantities of work to be performed, together with the manner in which the required Works shall be constructed, inspected, tested and commissioned, together with an estimated cash flow, shall be submitted by the successful tenderer within 14 days of the Commencement Date (Clause 5.6.1 of the GCC2010 refers).

This programme shall clearly indicate each of the work activities and take into account the work and time constraints.

If, during the progress of the work, the quantities of work performed per month fall below those indicated on the programme, or if the sequence of operations is altered, or if the programme is deviated from in any other way, the Contractor shall produce a revised programme showing the modifications to the original programme necessary to ensure completion of the works or any part thereof within the specified time for completion, within one week, to the Engineer.

The programme, including cashflow to date, shall furthermore be updated for each site meeting showing the work completed and the progress ahead, to or behind schedule as relevant.

During the duration of the contract, the Contractor shall submit written reports to the Engineer each fortnight showing progress related to the agreed programme, and shall update the programme and cashflow in accordance with actual progress.

The approval by the Engineer of any programme shall have no contractual significance other than that the Engineer would be satisfied if the work is carried out according to such programme, and that the Contractor undertakes to carry out the work in accordance with the programme. It shall not limit the right of the Engineer to instruct the Contractor to vary the programme should circumstances make this necessary.

The Contractor's programme and method statements will not be accepted as the basis for claims for additional compensation without due reference to all relevant associated factors.

When requested by the Engineer, the Contractor shall submit, within two working days, a Method Statement dealing with his proposed procedure for certain elements of the works. No work to this element shall commence until the Engineer's written approval of the Method Statement has been received.

When drawing up his programme, the Contractor shall take into consideration and make allowance for, inter alia:

- (i) provision and approval of the required documentation, insurances and surety,
- (ii) preparation and submission of design drawings to the Engineer for approval, and the time allowed for approval by the Engineer, the time for approval being seven (7) days,
- (iii) expected weather conditions and their effects,
- (iv) known physical conditions or artificial obstructions,
- (v) searching for, dealing with and carrying out alterations to the existing services,
- (vi) the sequencing of the Works taking all other pertinent information contained in the documents into account,
- (vii) lead times for delivery of pipes and other materials,
- (viii) allowance for inspection and testing by a third party,
- (ix) delivery schedule as agreed to with the Supply Contractor(s),
- (x) the provision and implementation of the Health and Safety Plan in terms of the Construction Regulations, 2014 of the Occupational Health and Safety Act.

The Contractor shall allow reasonable time in his programme for the Engineer to carry out testing and inspection of the Works. To this end the Contractor shall provide to the Engineer a schedule indicating when inspections are required. Requests for ad hoc inspections should be made in writing to the Engineer at least 24 hours before such inspections are required.

If the Engineer attends with the purpose of examining any part of the Works at the date and time agreed on with the Contractor and it is found that the Works are not ready for inspection, the Contractor shall be responsible for the cost of that visit by the Engineer.

The Engineer's Representative will visit the site regularly for the purpose of supervision of the Contract and inspection and approval of completed work. The Contractor shall therefore arrange his working programme in such a way that all work is inspected and approved at the required time. Under no circumstances shall he proceed with any activity that covers up previous work before the previous work has been approved in writing (e.g. no trench shall be backfilled until the laid pipes and bedding have been inspected and approved).

The Contractor shall review his progress each month and should progress lag behind the latest accepted programme by more than 1 week, he shall submit a revised programme and method statement of how he proposes making up lost time. If, in the opinion of the Engineer, such revised programme will not make up lost time, the Engineer shall have the right to request the Contractor to reorganize his work in a manner which will ensure an acceptable programme. Claims for

additional payments to meet any cost incurred due to such reorganization will not be accepted.

Due to the urgent nature of this contract, the Works shall have to be undertaken at several locations at the same time.

Immediately after moving onto Site and establishing, the Contractor shall clear the route of the project areas. After clearing, the Contractor shall construct the temporary gravel access roads. These activities shall receive high priority.

The sequence of construction shall be carefully planned and agreed with the Engineer before any work commences.

Quality control forms an essential part of this contract. The Employer will engage the services of an independent third party quality inspectorate who shall carry out quality control inspections and testing at all stages of the manufacturing, supply and construction stages for the entire project, on behalf of the Employer. The Contractor shall agree hold points with the third party inspectorate for quality inspections and testing, to the approval of the Engineer.

The Contractor shall submit to the Engineer for approval his Quality Control plans, method statements and testing methods prior to undertaking or starting any work under the contract.

The Contractor shall be responsible for routine inspection, sampling and testing of all OCIM, workmanship, and plant and measuring devices in order to control the quality of the work and to ensure compliance with the Specification.

The Contractor shall be responsible for establishing and maintaining procedures for Quality Control which ensure that all aspects of the Control Works comply with the conditions of the Contract.

The Contractor shall appoint a suitably qualified member of his staff to be responsible for the Quality Control and to maintain effective liaison with the Engineer. Such appointment shall be subject to the approval of the Engineer.

The cost for the above will be deemed to be included in the rates tendered.

rees to abide by the results of the Engineer's check test, he may dispense with his own tests. However, should the Contractor wish to use the Engineer's testing facilities, he will be charged for the various tests at the rates ruling at the time.

Any additional tests requested by the Contractor or any retests required, due to failure of the initial tests, will be charged to the Contractor at the rates ruling at the time.

The Contractor shall engage the services of an approved independent laboratory or other institution – as applicable for quality testing – to ensure that his work complies with the Specifications.

No separate payment will be made for such testing, the cost of which will be deemed to be included in the Contractor's rates tendered for the items of work that require testing in accordance with the Specifications.

No separate payment will be made for such testing, the cost of which will be deemed to be included in the Contractor's rates tendered for the items of work that require testing in accordance with the Specifications.

C3.5.5.4 *Quality Assurance (QA) (Read with SANS 1921 – 1: 2004 clause 4.4)*

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings, rests with the Contractor, and the Contractor shall, at his own expense, institute a quality control system and provide experienced engineers, foremen, surveyors, material technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all time.

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. To this end it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system.

The Engineer will audit the Contractor's quality assurance (QA) system on a regular basis to verify that adequate independent checks and tests are being carried out and to ensure that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

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

C3.5.5.5 *Process Control*

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related items of work and no additional payment will be made for testing required.

The Contractor's attention is drawn to the provisions of the various Specifications regarding the minimum frequency of testing required. The Contractor shall, at his own discretion, increase this frequency, where necessary, to ensure adequate control.

On completion and submission of every part of the work to the Engineer for examination, the Contractor shall furnish the Engineer with the results of the relevant tests to indicate compliance with the Specifications.

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

The Contractor may establish his own laboratory or he may employ the services of an independent commercial laboratory. Whatever method is used, the Contractor must submit the results of tests carried out on materials and

workmanship when submitting work for acceptance by the Engineer. The costs for these tests shall be deemed to be included in the relevant rates

C3.5.5.6 Acceptance Control

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

C3.5.5.7 Data Books

The Contractor shall establish and maintain a comprehensive Data Book, which will provide a complete and permanent record of all inspections and tests relating to the Contract. The Data Books shall be maintained in triplicate format and presented to the Engineer for review and approval at the end of the Contract. After review and approval a copy will be delivered to the Employer (Amatola Water), one copy retained by the Engineer and one copy returned to the Contractor for his permanent records.

C3.5.6 PAYMENT CERTIFICATES

This is a “re-measurable” Contract based on quantities as opposed to Lump Sums for milestones reached or activities completed. Interim payments will be made for works executed in terms of the contract. The sum of the interim payments is to represent a fair and reasonable estimate of the value of works at the time of assessment

The Contractor should submit his claim for payment on or about the 20th day of each month.

The Engineer's Representative will either verify claims or return claims where errors are found in the supporting data within 2 days. The Contractor will issue on invoice in respect of verified claims together with all supporting data within 3 days of being requested to do so. In terms of GCC 2010 clause 6.10.4 the Engineer will forward the payment certificate / invoice etc. to Employer for payment within 7 days of receiving the invoice together with all supporting data.

In the event of errors being found in the invoice or supporting data it will be deemed that the claim for verification or invoice has not been received.

Failure to supply claims by the 20th may result in late payments.

Payment certificates shall be submitted in the form of the Bill of Quantities. Columns shall be provided showing the previous quantity, current quantity and total quantity claimed under each item.

Calculations to substantiate the quantities claimed must be submitted with each monthly claim. Claims for payment will be deemed not to have been received until provision by the Contractor to the Engineer of calculations to substantiate the quantities claimed.

The Transfer of Rights declaration must be submitted together with any claim made for payment. No payment for Goods or materials will be made without such a declaration. A pro forma declaration of Transfer of Rights is included in this document.

C3.5.6.1 *Electronic payments*

Amatola Water does make electronic payments. The Contractor will be responsible for supplying correct bank details to the Employer for electronic payments and the Employer will not be held responsible for any incorrect bank details supplied by the Contractor.

C3.5.6.2 *Bonds and Guarantees*

The Employer does not accept Bonds or Guarantees for retention.

C3.5.7 *FORMAT OF COMMUNICATIONS*

Throughout the construction period all communication between parties shall be in writing delivered by means of email or facsimile. All verbal instructions, requests or agreements shall be confirmed in writing to be of effect.

Throughout the contract period, the Contractor shall supply and maintain the following documentation that shall be kept accessible to both the Contractor and the Engineer or Engineer's Representative at all times:

- a) Site Request / Instruction book: For the Contractor to provide the Engineer or Engineer's Representative with information required, for giving notification in writing of inspections, drawings, etc., required by the Contractor, and for use by the Engineer or Engineer's Representative for the purpose of writing day-to-day instructions or confirming verbal information or instructions given to the Contractor.
- b) Safety File: Containing the safety hierarchy, contact details, safety plan, audits, safety equipment, safety training, injuries log, inspections and all other relevant safety data.
- c) Quality Control File: Containing Quality Assurance and Quality Control Forms to be operated and maintained by the Contractor.

- d) Measurement File: Containing records of work measurement and calculations.
- e) Daily Register: Listing labour and construction equipment status.
- f) Daily Contract Diary: For recording the work carried out on site each day – shall reference the specific area of work and shall be signed by the Site Agent and the Engineer's Representative.
- g) Monthly Labour Return Schedule.
- h) One full set of contract drawings and contract documents.
- i) Construction Programme.

C3.5.8 RECORDING OF WEATHER

The Contractor shall record all climatic conditions during the execution of the Works. The recordings shall be submitted to the Engineer's Representative on a weekly basis, together with a statement recording the Contractor's opinion of the effect on the progress of the Works and on his construction Programme of any climatic conditions which he may consider to be abnormal and/or to constitute a reason for an extension of the Time for Completion of the Works.

Should the Contractor wish to invoke or submit a claim for extension of time for the completion of the Works due to the Works being delayed by reason of climatic conditions he shall do so in writing giving, inter alia, the following details:-

- the period and times work or the Works was stopped and proceeded with; and
- a report on resources on Site, active and/or In readiness, at the time of the alleged delay or disruption, which shall be certified by the Engineer's Representative; and
- The reasons construction could not or cannot (as the case may be) proceed or commence, with reference to the approved construction programme activities and an identification of the Critical Path Activity affected; and
- The circumstances surrounding any instruction by a third party to stop work due to inclement weather such as Industrial Council, Safety Officers, etc.

Only when the Works shall have been completed in terms of Sub-clause 5.14.3 of GCC 2010 shall the extension of time for completion resulting from climatic conditions, if any, be finalized by the Engineer.

**C3.5.9 PRINCIPLES AND METHOD FOR GRANTING EXTENSION OF TIME
RESULTING FROM CLIMATIC CONDITIONS (Refer Sub-Clause 5.12 of
GCC 2010)**

"Normal climatic conditions" shall not be deemed to constitute "circumstance of any kind" in terms of Sub-clause 5.12.1 of GCC 2010.

Extension of time resulting from "abnormal climatic conditions" in terms of Clause 5.12.2.2 GCC 2010 shall be determined in accordance with a Critical Path Method, as follows :-

A delay caused by "abnormal climatic conditions" will be regarded as an actual delay only if, in the opinion of the Engineer, the execution of an item or items of work on the critical path of the construction programme of the Contractor cannot be proceeded or commenced with. Delays on working days only (based on an ordinary working week having 45 working hours and an ordinary working day having 9 working hours) will be taken into consideration for the determination of an extension of time.

Extension of time due to abnormal climatic conditions shall be considered by the Engineer over the full period of construction up to the authorized Due Completion Date, i.e. including any extension thereof, which may have been granted.

Extension of time for parts of a month shall be determined by pro rata values of the expected delays specified to be used.

C3.5.10 KEY PERSONNEL AND SUPERVISION

The Contractor shall assign as Site Agent a person suitably qualified and experienced in all aspects of the Works and specifically in the construction of large diameter continuously welded mild steel pipelines. This Site Agent shall be responsible for all aspects of the Works on behalf of the Contractor, including receiving instructions, providing quotations, attending meetings, dealing with contractual correspondence, payment certificates, preparation of programs and cash flows, and the like. The Site Agent shall also have the authority to commit the Contractor to all contractual aspects of the Contract. The Site Agent shall be appointed in writing in full accordance with the requirements of clause 4.12.2 of GCC 2010.

Senior personnel such as the Site Agent, Assistant Site Agent and/or General Foreman shall be on site at all times to control and supervise the site activities. No work may be undertaken without these senior personnel on the site and the Engineer shall close the site if these personnel are not present. No claim for additional time or cost will be allowed for such site closure due to the senior personnel not being present on site.

The Contractor shall provide the Engineer with the full names, qualifications, experience and contact details of his key personnel within seven (7) days of the commencement date of the contract.

C3.5.11 MANAGEMENT MEETINGS

Management meetings will be held monthly on site for the duration of the Contract on dates and at times to be agreed.

It is a requirement that the Site Agent attend the monthly management meetings.

Two days prior to each monthly meeting the Contractor shall provide an updated programme and progress report, cash flow, labour report and plant and equipment report.

C3.5.12 WORKING HOURS

Normal working hours shall be between 07:00 and 17:00 from Monday to Friday. Work may take place on Saturdays between 07:00 and 13:00. Saturdays will not be included in calculating days for completion of any extension of time granted.

C3.5.13 PERMITS

No special permits are required, however, should any be necessary the Engineer will timeously inform the Contractor. The Contractor shall then be responsible for obtaining the required permit(s), the cost of which shall be recoverable from the Employer.

C3.5.14 DEALING WITH TRAFFIC AND ACCESS

The Contractor shall liaise with all the relevant authorities/persons regarding construction where it affects public/private right of way on roads, access to properties etc. Where alternative arrangements cannot be made, roads shall be crossed in half widths to allow for safe passage of traffic.

All the relevant requirements regarding the latest edition of the South African Traffic Signs Manual shall be adhered to. Specific attention shall also be paid to the requirements of the OR Tambo District Municipality and Department of Transport regarding signs for road closures, deviations, warning signs, etc.

C3.5.1 TRAFFIC MANAGEMENT

To avoid the generation of congestion on public roads the Contractor shall avoid using access roads for the supply or removal of materials during peak traffic periods. The Contractor is to liaise with the OR Tambo District Municipality and the Department of Transport to determine which time periods of the day shall be avoided.

C3.5.2 MAINTENANCE OF ACCESS AND STREETS

The operation of vehicles on existing roads or streets shall be limited to traffic with an axle load not exceeding that allowed by the Road Traffic Ordinance of the authority concerned, or any amendment thereof.

All access roads used by the Contractor shall be maintained for the duration of the contract and shall be rehabilitated to their original condition on completion of the contract.

The Contractor must note that no additional payment will be made for construction, maintenance and rehabilitation of any access roads to the site.

C3.5.3 PROTECTING THE SITE

The Contractor shall be solely responsible for the protection of the Site against all damage to property, services, terrain, trees etc. If in the normal execution of this Contract, disturbance to the Site of the Works is necessary, the Contractor shall obtain the prior permission of the Engineer. After completion of this work, the Contractor shall reinstate the area concerned to its original condition at his own cost as covered under the relevant rates. The Engineer's ruling of what was the original condition of the Site or part thereof shall be final.

If the Contractor fails to reinstate the Site, the Employer shall do the reinstatement and the Engineer shall establish the extent of the work as well as its costs. The Engineer's ruling shall be final and payment for the work will be deducted from money owed to the Contractor.

The Contractor shall ensure that his actions do not cause any nuisance or safety hazards to the general public or the Employer's operational staff.

C3.5.4 NOISE CONTROL AND WORKING HOURS

The Contractor is to observe any plant operational restrictions imposed by OR Tambo District Municipality. Working hours for particularly noisy operations are to be kept to a minimum. Plant is to be kept well maintained with noise performance checks being carried out during regular maintenance schedules.

In addition to any operational restrictions that may be imposed by the OR Tambo District Municipality the Contractor shall not shall operate before 07:00 or after 17:00 Monday to Saturday. Should the Contractor wish to work outside this period or on Sunday, permission will have to be obtained from the Engineer. In addition, any local residents shall be given 72 hours' notice of the event.

C3.5.5 HEALTH AND SAFETY

C3.5.5.1 *Health and Safety Requirements and Procedures*

This clause shall be read in conjunction with the Health and Safety Specification, included in this document. Anything set out in connection with the Safety Act in this document is supplementary to and in no way replaces, alters or supersedes the provisions of the Occupational Health and Safety Act 1993 (Act 85 of 1993)

and the Constructional Regulations 2014, which shall be complied with at all times.

A. in terms of the provisions of Section 37(2) of the *Occupational Health and Safety Amendment Act, 1993* (Act 85 of 1993), hereinafter referred to as the Act, the following arrangements and procedures shall apply between the Contractor and the Employer to ensure compliance by the Contractor with the provisions of the Act:

(i) 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 of the Act.

(ii) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations on the Contractor will be fully complied with.

(iii) The Contractor accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from himself being obliged to comply with any of the aforesaid duties, obligations and prohibitions, with the exception of such duties, obligations and prohibitions expressly assigned to the Employer in terms of the Act and its associated Regulations.

(iv) The Contractor agrees that any duly authorised officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to monitor that the Contractor has conformed to his undertakings as described in paragraphs (i) and (ii) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or any appropriate records or safety plans held by the Contractor.

(v) The Contractor shall be obliged to report forthwith to the Employer and Engineer 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 Contract, and shall, on written demand, provide full details in writing, to the Employer and Engineer, of such investigation, complaint or criminal charge.

(vi) The Contractor shall furthermore, in compliance with Constructional Regulations 2014 to the Act acquaint himself with the requirements of the Employer's Health and Safety Specification as laid down in Regulation 4(1)(a) of the Construction Regulation 2014, and prepare a suitably and sufficiently documented health and safety plan as contemplated in Regulation 5(1) of the Construction Regulation 2014 for approval by the Employer or his assigned agent. The Contractor's Health and Safety Plan and Risk Assessment shall be submitted to the Employer for approval within fourteen (14) days of the Commencement Date and shall be implemented and maintained from the commencement of the works.

(vii) The Contractor shall at all times be responsible for full compliance with the approved plan as well as with the Construction Regulations and no

extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

(viii) The Employer, or his assigned agent, reserves the right to conduct periodic audits, as contemplated in the Construction Regulations 2014, to monitor that the Contractor is compliant in respect of his obligations. Failure by the Contractor to comply with the requirements of these Regulations shall entitle the Engineer, at the request of the Employer or his agent, to suspend all or any part of the Works, with no recourse whatsoever by the Contractor for any damages incurred as a result of such suspension, until such time that the Employer or his agents are satisfied that the issues in which the Contractor has been in default have been rectified.

(ix) The proposed type of work, materials to be used and potential hazards likely to be encountered on this contract are detailed in Section C3.3: Construction, the Bill of Quantities, the Drawings, and in the Employers' Health and Safety Specification (*Regulation 4(1) of the Construction Regulations 2014*).

Payment items are included in the Bill of Quantities to cover the Contractor's cost for compliance with the OHS Act and the abovementioned regulations.

C3.5.5.2 Health and Safety Specifications and Plans to be Submitted at Tender Stage

C3.1.5.2.1 Employer's Health and Safety Specification

The Employer's Health and Safety Specification are included in the tender documents as part of the Scope of Works.

C3.1.5.2.2 Tenderer's Health and Safety Plan

The successful Tenderer shall, on receipt of notification that he has been awarded the contract, submit without delay his own documented Health and Safety Plan for the execution of the work under the contract. His Health and Safety Plan must at least cover the following:

- (i) a proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 9;
- (ii) pro-active identification of potential hazards and unsafe working conditions;
- (iii) provision of a safe working environment and equipment;
- (iv) statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (Regulation 7);
- (v) monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (vi) details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 8 and other applicable regulations; and
- (vii) details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2014.

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

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

C3.5.5.3 *Cost of Compliance with the OHSA Construction Regulations*

The rates and prices tendered by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as applicable to this contract. Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

Items that may qualify for remuneration will be specified in the Safety Specifications included or in the Project specifications.

C3.5.5.4 *Protection of the Public*

The Contractor shall at all times ensure that his operations do not endanger any member of the public.

The Contractor shall take special precautions to prevent public access to any dangerous areas on the works, e.g. by temporary barricades and / or fencing.

C3.5.5.5 *First Aid and Site Safety*

The Contractor shall be the responsible party on Site to ensure that the Occupational Health and Safety Act 1993 (Act 85 of 1993) including the Constructional Regulations 2014 and any other statutory obligations on safety are strictly adhered to and administered. The Employer shall not be held liable for safety on Site or anywhere else where the Contractor is active. The Contractor shall complete a "Contractor's Legal Delegation Statement" which is bound into this document.

The Contractor may be working in confined spaces and deep trenches and excavations and shall especially be required to observe those sections of the Act and Regulations which deal with working in such conditions. The Contractor shall ensure that the following list of personnel protective equipment is in general use as a minimum:

- Safety harnesses for working in confined spaces, near to water and at heights.
- Hard hats where required.

- Leather gloves for cut resistance.
- Ear muffs or ear plugs for noise from machines.
- Appropriate eye protection when any cutting, grinding or welding is undertaken, and in dusty conditions.
- Overalls for body protection.
- Reflective safety vests.
- Safety shoes for foot protection.

Ladders for access and escape from the trench shall be placed at the regulated minimum distances and shall be maintained in a good and safe state at all times.

Anything set out in connection with the Safety Act in this document is supplementary to and in no way replaces, alters or supersedes the provisions of the Occupational Health and Safety Act 1993 (Act 85 of 1993) and Constructional Regulations 2014, which shall be complied with at all times.

C3.5.5.6 Expected Health and Safety Risks

Listed below are, which may not be all, the expected health and safety related risks that may be encountered during the contract duration. The Contractor shall identify and prepare assessments for all risks he is likely to encounter in the execution of the contract before commencing with any work.

Further assessments shall be prepared as and when required for any other risks identified during the construction phase before work involving such risks is undertaken.

- Working in deep trenches and other excavations in potentially unstable and/or wet ground conditions;
- working in large ponds greater than 1.5m deep
- Working with cement and other hazardous materials;
- Water in excavations;
- Operating construction plant and equipment;
- Lifting, loading and placing of heavy materials and other weights;
- Excessive noise levels;
- Moving construction plant and vehicles on the Site;
- Potential of flooding should heavy rain occur;
- Venomous snakes and crocodiles , possibly including boomslangs, cobras and mambas, on the Site

C3.5.5.7 Barricades and Lighting

The Contractor shall comply in all aspects with the requirements of the Occupational Health and Safety Act (Act 85 of 1993) and the Constructional Regulations 2014.

The Contractor shall erect and maintain for the duration of the contract adequate barricades in the form of fencing, or other approved methods, to prevent unauthorised access to the Site, and in particular any excavations, by the general public.

Trench excavations for pipelines shall be barricaded on both sides along the entire length of open trench. Where trenches are excavated within road reserves and where it may be reasonably expected that vehicular traffic may be encountered in areas outside of road reserves, the Contractor shall provide, maintain and keep lit between sunset and sunrise, warning lamps placed at regular intervals not exceeding 50m along the length of open trench on the side facing the street or direction from which traffic may reasonably be expected.

The Contractor shall, in connection with the Works, provide and maintain all signs, signboards, lights, barriers, barricades, fencing and watching when and where

- (a) specified in or reasonably to be inferred from the Contract, or
- (b) required by any competent statutory or other authority, or
- (c) required by the Engineer for the protection of the Works or for the safety or convenience of the public or others.

C3.5.5.8 Health and Safety Plan

The Health and Safety Plan shall be based on the following principles :

- Proper risk assessments of the construction work;
- Pro-active identification of potential health hazards and unsafe working conditions;
- Informing and training of employees in hazards and risks;
- Provision of a safe working environment and safety equipment;
- Ensuring the health and safety of subcontractors through their health and safety plans;
- Monitoring the health and safety on the construction works on a continuous basis;
- Employing only competent, registered health and safety officials.

C3.5.5.9 Proof of Compliance with the Law

The Works shall be constructed in accordance with the relevant Government Acts and Regulations and in particular "The Occupational and Health and Safety (Act No. 85 of 1993) and the Construction Regulations 2014".

All apparatus and material supplied and all work carried out shall comply in all respects with the Act.

The Contractor must comply with the requirements of the Act and inform his employees and Sub-contractors regarding regulations, safety requirements, inspections, etc.

The specific health and safety conditions imposed by the Employer (refer the OHASA Agreement under "Forms to be completed after award of Tender" in Volume 1 of the Tender Document) also apply and take precedence where in conflict with the Occupational Health and Safety Act. This Agreement must be signed upon award of the Tender.

The Contractor exempts both the Employer and the Engineer for the safety of his work on the Site. The Contractor assumes the responsibility in terms of Section 16(1) of the Occupational Health and Safety Act. If the Contractor delegates any duty in terms of Section 16(2), a copy of each written delegation shall immediately be handed to the Engineer.

By accepting the Contract, the Contractor warrants that all his and his Sub-contractor's workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act (Act No. 130 of 1993), which cover shall remain in force whilst any workman is present on the Site.

C3.5.6 ENVIRONMENTAL MANAGEMENT

C3.5.6.1 *Methods and Procedures*

The following, together with the Construction Environmental Management Programme, shall be applied with regard to the operation and maintenance of the site:

- Before setting up any construction work camp or stockpile site for equipment, the Contractor (or sub-contractor) must liaise with the Engineer and the relevant landowner and reach agreement regarding the location, layout and demarcation of any camp to be established, including any compensation to be paid to the landowner;
- All equipment and materials, particularly potentially hazardous substances, shall be securely stored in lockable structures and all reasonable steps taken to prevent theft or use by unauthorized personnel;
- The site shall at all times be kept in a neat and tidy condition. Papers and packaging shall be binned and removed from site and waste stockpiles shall be properly demarcated and the waste removed at regular intervals and disposed of at a registered waste disposal site.
- Natural vegetation shall not be damaged unnecessarily and the working areas of the site be kept to the minimum reasonably possible for construction. An environmental awareness training programme for the construction staff should be implemented by the Contractor/sub-contractor(s) and all workers made aware of the recommended mitigation measures to be implemented.
- No wild animals (birds, snakes, lizards, game, etc.), domestic stock or indigenous plants are to be disturbed unnecessarily in any way by the construction activities or by the construction staff.
- All topsoil (containing indigenous plant seeds, rootstock, etc.) removed – that may be required in future rehabilitation – should be carefully stockpiled for later rehabilitation.

- Measures need to be taken to ensure that contamination from the work camp and lay-down site does not pollute adjacent areas. This should include the diversion of natural run-off away from the works and the containment thereof in drainage retention areas, where applicable.
- Water from dewatering operations shall be disposed of so as not to return to the working area nor to cause damage or erosion to surrounding areas.
- Dust from stockpiles and access roads shall be controlled by watering.
- Precautions need to be taken against oil spillage from heavy equipment through the use of sand or sawdust drip trays. All material (including soil) contaminated with hydrocarbons should be disposed of as hazardous waste at a registered waste disposal site.
- Any object of historical interest that may be uncovered in the course of the works shall immediately be protected and reported to the Engineer for further action. There is a legal requirement to report any archaeological site of cultural significance to the National Monuments Council, according to the National Heritage Act (Act No. 25 of 1999).
- The Contractor shall check and supervise his own work and the work of his sub-contractors to ensure that all work is carried out in accordance with the EMP.
- Sources of imported material shall be listed and approved by the ECO and shall be free of weeds, seeds of alien plants, litter and contaminants;
- No hazardous substances may be disposed of on site;
- The storage of flammable liquids and substances should strictly comply with specifications;
- Adequate fire-fighting equipment must be readily available at the materials storage and dispensing areas;
- Adequate precautions shall be provided to prevent spillage during the filling of any tank with flammable and hazardous liquids and during the dispensing of the contents;
- The site shall at all times be kept in a neat and tidy condition – papers and packaging shall be disposed of into scavenger- and weatherproof bins and the waste removed at regular intervals;
- Wherever possible, materials used or generated by construction shall be recycled;
- Provision shall be made for employee facilities including shelter, toilets, washing and eating facilities;
- Sanitation facilities supplied by the Contractor for the workers shall be maintained in a hygienic state and serviced regularly;
- Contaminated water, run-off and/or effluent should be prevented from discharging into the groundwater, any water course, drain or sea and should be contained and disposed of at a site approved by the Engineer and Local Authority;
- Water from dewatering operations shall be disposed of so as not to return to the working area nor to cause damage or erosion to surrounding areas;
- Dust shall be minimized as far as reasonably possible and controlled by watering;

- Natural vegetation shall not be damaged unnecessarily and the working areas of the site and along the pipelines shall be kept to the minimum reasonable possible for construction;
- The Contractor should manage and minimize any noise generated on site so as not to disturb nearby residents;
- Final audit: On completion of the works, but before the construction site is handed back to the Employer, a thorough environmental inspection or audit impacted by the construction activities shall be carried out and any 'problematic' or damaged areas shall be made good or rehabilitated to the satisfaction of all parties.

C3.5.6.2 Environmental Management Plan

The Contractor shall comply fully with all provisions of the environmental plan. A basic EMP is included in this document as SPEC EMA. During the duration of the contract, the Contractor may be required to take specific measures not covered by the EMP to protect the environment. Reference must be made to SPEC EMA and SDEMA for further information.

C3.5.6.3 Fires and Burning of Vegetation

Under no circumstances whatsoever may fires be lit anywhere on the site of the Works.

C3.5.6.4 Preservation of Flora and Fauna and Soil Conservation

The Contractor shall :

- a. take all precautions to prevent:
 - i) any damage to trees, shrubs and the surrounding natural environment,
 - ii) fires,
 - iii) loss or injury to domestic or wild animals from any lands used or occupied by the Contractor
- b. refrain from destroying, removing or clearing trees, timber and scrub to any extent greater than is absolutely necessary for the execution of the contract
- c. ensure that no vegetation, trees or shrubs outside the site boundaries are disturbed, damaged or destroyed. A penalty of R1,000 per incident may be charged to the Contractor,
- d. take care to cause the minimum disturbance to the fauna and flora,
- e. take measures as to ensure that his employees are aware of and abide by all laws and restrictions governing the hunting, disturbing, capturing or destroying of animals and birds in the vicinity of the camp or the Works or the taking of fish from any water; and
- f. prohibit all firearms from the site and temporary camps.

C3.5.6.5 Protection of Trees, Shrubs and Surrounding Environment

The Contractor shall ensure that no trees, shrubs or the surrounding natural environment outside the site boundaries are disturbed, damaged or destroyed.

A penalty of R1,000 per tree or shrub damaged or destroyed or for damage to the natural surrounding environment may be charged to the Contractor. The Engineer shall have the right to permanently exclude any person from the site who causes any damage to the natural environment.

C3.5.6.6 *Prevention of Poaching*

The Contractor shall ensure that none of his employees partake in any poaching activities of any nature during the duration of the contract.

Any person caught poaching shall be banned from the site of the Works and shall be prosecuted under the relevant laws.

The Contractor shall be liable for a fine of R5,000 for the first incidence of poaching committed by any of his employees, whether the employee is prosecuted or not. The fine shall double for each and every incident thereafter up to a maximum of R20,000 per incidence. Repeated incidents may be considered as cause for cancellation of the contract in terms of Clause 9.2.1.3.5 of the GCC 2010.

C3.5.7 LEGISLATION

C3.5.7.1 *Changes in legislation*

Reference in the General Conditions of Contract and in any other standard document forming part of this contract to legislation which has been amended or superseded by other legislation since the most recent publication of such standard document, shall be deemed to be a reference to the amended or replacement legislation.

Such amendment or replaced legislation shall be applicable during the Contract Period, provided the amendment or replacement occurred more than 28 days prior to the closing date for tenders, in terms of Clause 6.8.4 of the GCC2010, as amended in Part 1 of the Contract Data.

C3.5.7.2 *The Occupational Health and Safety Act*

The Contractor shall be required to comply with the Occupational Health and Safety Act, 1993, and the Construction Regulations 2014. Non-compliance with these regulations in any way whatsoever will be adequate reason for suspension of the Works.

The proposed type of work, materials to be used and hazards likely to be encountered on this Contract are detailed in the Scope of Work, Pricing Instructions and Drawings. The Employer's Health and Safety Specifications are included in the Annexure.

The Contractor shall, in terms of Sub-clause 5(1) provide a comprehensive health and safety plan, detailing his proposed compliance with the Regulations, for approval by the Employer.

C3.6 SPECIFICATION DATA

The Specification Data gives amendments and additions to the specifications that are listed in the List of Applicable Specifications. Clause headings are prefixed by the letters "PS" followed by alphabetic and numeric characters which identify the specification and main clause of the applicable specification. Where the Specification Data sub-clause is an addition and there is no appropriate clause in the applicable specification to which to link it, a new clause number is given following the last clause number used in the specification. New clauses are followed by an asterisk (*).

Should any requirement of the Specification Data conflict with any requirement of the specifications listed, the requirement of the Specification Data shall prevail.

Where the context requires, words importing the singular also include the plural and vice versa, and words importing the masculine gender also include the feminine and neuter.

C3.6.1 LIST OF APPLICABLE STANDARDIZED SPECIFICATIONS

SABS	1200 A	General
SABS	1200 AB	Engineer's Office
SABS	1200 C	Site Clearance
SABS	1200 D	Earthworks
SABS	1200 DB	Earthworks (Pipe Trenches)
SABS	1200 DM	Earthworks (Roads, Subgrade)
SABS	1200 G	Concrete (Structural)
SABS	1200 GE	Precast Concrete (Structural)
SABS	1200 HA	Structural Steelwork (Sundry Items)
SABS	1200 L	Medium-pressure Pipelines
SABS	1200 LB	Bedding (Pipes)

C3.6.2 LIST OF APPLICABLE VARIATIONS TO SANS 1200 SPECIFICATIONS

PSA	GENERAL
PSC	SITE CLEARANCE
PSLB	BEDDING (PIPES)
PSLD	SEWERS (SANS 1200 LD)
PSLE	STORMWATER DRAINAGE (SANS 1200 LE)
PSG	CONCRETE (Structural)
PSDM	EARTHWORKS (ROADS, SUBGRADE) SANS 1200 DM
PSQB	GENERAL BUILDING MATERIALS AND WORKMANSHIP

C3.6.3

C3.6.4 LIST OF APPLICABLE PARTICULAR SPECIFICATIONS

SPEC PDA QUALITY CONTROL AND ASSURANCE SYSTEMS

SPEC PAM HEALTH AND SAFETY SPECIFICATION
SPEC PEM ENVIRONMENTAL MANAGEMENT

C3.7 OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION for PRINCIPAL CONTRACTORS AND CONTRACTORS

The Occupational Health and Safety Act, Number 85 of 1993, under Construction Regulations 2014 requires the development of the health and safety specification to be prepared by the client for the construction work project.

Following is the "Health and Safety Specification" prepared for the principal contractor to conduct construction, see details below:-

Project Name	UPGRADING AND REFURBISHMENT OF BULK WATER SUPPLY AND SANITATION AT VARIOUS DEPARTMENT OF EDUCATION SCHOOLS IN THE EASTERN CAPE PROVINCE (ECDOE) – MATHEWS HIGH SCHOOL
The Client	
Health & Safety Specification prepared by (On behalf of Client)	
Principal Contractor	

ACCEPTANCE OF THE H&S SPECIFICATION BY THE PRINCIPAL CONTRACTOR (PC)

Principal Contractor	
Principal Contractor's representative (Name)	
Signature	

Section		Title
1		Introduction
2		Purpose
3		Application
4		Definitions
5		Compliance
6		Site rules for contractors
	6.1	Rules of conduct
7		Responsibilities of Contractors for construction work
	7.1	Notification of construction work
	7.2	Duties of Principal Contractors
	7.3	Contractor's responsibilities, including Sub-Contractors
	7.4	Legal appointments
8		Documentation and procedures
9		Application of COIDA and OHSA to construction work
	9.1	Compensation for Occupational Injuries and Diseases Act
	9.2	Occupational health and safety policy
	9.3	Health and Safety Training and competency
	9.4	Hazards and Potentially Hazardous Situations
	9.5	Health and Safety Reps
	9.6	Health and Safety Committee
	9.7	General Documents / Record Keeping
	9.8	Incident management and emergency plans
	9.9	Contractors and Suppliers
	9.10	PPE, Intoxication, Signage, Access Control
	9.12	Portable Electrical Equipment
	9.15	Environmental Rules
	9.16	Monitoring and Review
10		Application of the Construction Regulations, 2014
	10.1	Risk assessment for construction work (CR 9)
	10.2	Fall protection (CR 10)
	10.3	Structures (CR 11)
	10.4	Excavation (CR 13)
	10.5	Construction vehicles and mobile plant (CR 23)
	10.6	Use and temporary storage of flammable liquids on construction sites (CR 25)
	10.7	Housekeeping and general safeguarding on construction sites (CR 27)
	10.8	Stacking and storage on construction sites (CR 28)
	10.9	Fire precautions on construction sites (CR 29)
	10.10	Construction employee's facilities (CR 30)
11		Site-Specific and Design Risks
	11.1	Hazard Identification & Risk Assessment Methodology
	11.1.1	Baseline Risk Assessment
	11.1.2	Task Risk Assessment
12		Cost schedule

1. Introduction

This Health and Safety Specification has been prepared in terms of the Client's responsibility [Construction Regulation 5 (1) (b)] to provide the Principal Contractor and Contractors with a documented Specification of all Health and Safety requirements pertaining to the associated works on the proposed construction site/s, so as to ensure the Health and Safety of all persons affected by the construction activities. This Health and Safety Specification highlights, but in no way replaces, the legal requirements that the Principal Contractor and Contractors are bound to comply with in terms of the contract.

- The client has made provisions in the tender for the Principal Contractor to price for the **cost of Health and Safety Measures** before and during the construction process [Construction Regulation 5 (1)(g)]. The Principal Contractor, in turn, needs to make the same provision when Contractors (Sub-contractors) tender or quote on work [Construction Regulation 7 (1) (c) (ii)].
- The Principal Contractor and Contractors are required to prepare a Health and Safety Plan based on the Client's Health and Safety Specification including other legal requirements applicable to their business, which shall be applicable from the date of commencement of and for the duration of the work [Construction Regulation 7 (1)(a)]. This documented plan must be based on a Hazard Identification and Risk Assessment (HIRA) which will serve to identify the hazards, and their associated risks, anticipated for the scope of works [Construction Regulation 9].

Principal Contractors tendering must provide the Client with an appropriate Preliminary Health and Safety Plan (including a Preliminary Hazard Identification and Risk Assessment) as in Construction Regulation 7 and 9. This Plan must be submitted with the tender.

2. Purpose

The purpose of the Health & Safety Specification is to provide the Principal Contractor and Contractor's tendering for the proposed construction work, and/or appointed for the above mentioned construction work with the necessary detail of all the health and safety requirements pertaining to the associated scope of works, so as to enable the Principal Contractor and Contractors to develop their Health and Safety Plans to be implemented on site with a purpose of ensuring the health and safety of all persons, property, equipment and other persons that may be affected by construction activities.

3. Application

The H&S Specification contains clauses that are applicable to occupational health and safety in construction and the document is intended to impose pro-active controls associated with the activities, plant & machinery and other aspects of the proposed construction work that impact on health and safety of persons, by means of a documented H&S Plan prepared by the Principal Contractor and Contractors.

Compliance to the requirements of the OHSAct and relevant legislation is in addition to the requirements of the H&S Specification and forms part of the Principal Contractor's and Contractor's responsibility. The Client and Client's Agent will monitor the Principal Contractor to ensure that the Principal Contractor and Contractors comply with the requirements of the OHSAct & other legal requirements, and will not prescribe to the Principal Contractor how such compliance is to be achieved.

4. Definitions

For the purpose of the General Health and Safety Specification, the abbreviations or definitions given hereunder shall apply:

"CR" refers to the Construction Regulations, 2014

"GHSS" refers to this document (the General Health & Safety Specification) including any project specific annexures that the engineers and designers could attach.

"OHSA" refers to the Occupational Health & Safety Act of 1993

"S" refers to a Section in the Occupational Health & Safety Act of 1993

"H&S" refers to Health and Safety

"Client" Amatola Water

Incident: means any unplanned event that causes, or has the potential to cause, an injury or illness and/or damage to equipment, buildings, plant or the natural environment. Incidents range from near-miss incidents to serious incidents and emergencies.

"Near Miss" means an incident which has the potential to cause an injury or illness or damage to company property.

"Regulations" means, specifically, the Construction Regulations, 2014 as issued on 7 February 2014, under the Occupational Health & Safety Act of 1993, but not excluding the other applicable regulations existing under the Act.

"Site" means the lands and other places, made available by the Municipality or the Client for the purposes of the Contract, on under over in or through which the construction work is to be executed or carried out.

"Principal Contractor" and "Contractor" shall be as defined in the Regulations.

Construction Work [CR 1]: Means any work in connection with –

- a) The erection, maintenance, alteration, renovation, repair, demolition or dismantling of or an addition to a building or any similar structure;
- b) The installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;

- c) The construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
- d) The moving of earth, clearing of land or making of an excavation or work on any similar type of work.

Hazard Identification, Risk Assessment and Risk Control (HIRA)

Means a documented plan, which identifies hazards, assesses the risks and detailing 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.

Site

Means the area in the possession of the Contractor for the construction of the works. Where there is no demarcated boundary it will include all adjacent areas, which are reasonably required for the activities for the Contractor, and approved for such use by the client.

Hazard

Means a source of or exposure to danger (source which may cause injury or damage to persons or property)

Risk

Means the probability or likelihood that a hazard can result in injury or damage.

Construction Manager [CR 8(1)]

Means a full time, competent employee appointed in writing by the Contractor to supervise construction work. The appointment, as required by the OHSA, shall stipulate health and safety responsibilities, area of responsibility and the proposed duration of the project.

Hazardous Chemical Substance (HCS)

Means any toxic, harmful, corrosive, irritant or asphyxiant substance, or a mixture or substances for which an occupational exposure limit is prescribed, or an occupational exposure limit is not prescribed, but which creates a hazard to health.

Construction Plant

Encompasses all types of plant including but not limiting to, cranes, piling frames, boring machines, excavators, dewatering equipment and road vehicles with or without lifting equipment.

Contractor [CR 1]

Means an employer [OHSA 1] who performs construction work and includes principal contractors and sub-contractors.

Health and Safety Plan (HSP) [CR 1]

Means a documented plan, which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified.

The plan shall be applied from the date of commencement of and for the duration of construction work [CR 5(1)]

Health and Safety File (HSF) [CR 1]

The file holding all documentation and records on health and safety for the project, which shall be available at all times for evaluation, and a copy of which will be forwarded to the client upon completion of the project.

Disabling Injury Frequency Rate (DIFR)

The number of disabling injuries (DI's) multiplied by a constant (man hours relative to period worked) divided by total man hours worked over a rolling period (usually 12 months, but can be less)

Disabling Injury Severity Rate (DISR)

The number of days lost due to DI's multiplied by a constant (man hours relative to period worked) divided by total man hours worked over a rolling period (usually 12 months, but can be less)

Confined Space

An enclosed, restricted or limited space in which, because of its construction, location or contents, or any work carried on therein, a hazardous substance may accumulate or an oxygen deficient atmosphere may occur, and includes any chamber, tunnel, pipe, pit, sewer, container, valve, machinery or object in which a dangerous liquid or dangerous concentration of gas, vapour, dust or fumes may be present.

5. Compliance

- 5.1 The Principal Contractor and other contractors must establish, implement and maintain a system for identifying and accessing the legal and other health and safety requirements that are applicable to their organisation.
- 5.2 The Principal Contractor and other contractors shall ensure that these applicable legal and other requirements to which their organisation subscribes are complied with when establishing, implementing and maintaining their system, and when doing their construction activities. legal requirements referred to are legal requirements such as
 - a) Occupational Health and Safety Act, number 85 of 1993 and its regulations as amended,
 - b) Compensation for Occupational Diseases Act, number 61 of 1997
 - c) Including all legal and other requirements to which the organisation subscribes.
- 5.3 All information regarding legal and other requirements must be kept up to date all the time.
- 5.4 The Principal Contractor and other contractors must communicate relevant information on legal and other requirements to all stakeholders.

6. Site Rules for Contractors

The site rule for contractors is the minimum standard with regard to specifications for construction work on this site. Contractors may have existing standards for each specific trade, but where conflict may arise between the contractor's standards and these Site Rules for contractors, the more stringent shall apply.

6.1. Rules of Conduct

Contractors and all employees under their control, including any visitors brought onto site must adhere to the following Rules of Conduct on Site:

Conduct Not Permitted:-

- No persons shall partake of, possess or sell drugs or alcoholic beverages on Site. Any employee or visitor whose actions and demeanour show symptoms of possible narcosis or drunkenness shall be removed from site.
 - Indulge in practical jokes, horseplay, fighting or gambling.
 - Make use of water from fire hydrants
 - Destroy or tamper with safety devices, symbolic signs or wilfully and unnecessarily discharge fire extinguishers.
 - Bring onto site or have in your possession of a firearm, lethal weapon, camera, or any other recording device, unless authorised to do so.
 - Assault, intimidate or abuse any other person.
 - Operate construction equipment (vehicles or plant) without the necessary training/competency and authorisation.
 - Display insubordination toward any supervisor, foreman or manager in respect to carrying out of properly issued instructions or orders for health and safety reasons.
 - Enter into any areas where you have no business unless authorised to do so by the person in charge
 - Negligently, carelessly or wilfully cause damage to property.
 - Refuse to give evidence or deliberately make false statements during investigations
 - Bring animals onto site.
 -
- Insubordination towards any foreman, supervisor or manager could lead to removal from site and/or dismissal and/or prosecution. Except insofar as the principles of common law, or conditions as determined by any relevant statutes are concerned, the decision of the Client or his Agent shall be final and binding in respect of any disputes that may arise from the interpretation of these rules.

7. Responsibilities of Contractors for Construction Work

7.1. Notification of Construction Work [CR 4]

Before construction work commences, the contractor shall notify the Provincial Director of the Department of Labour in writing if the construction work shall:-

- Include excavation work
- Include working at height
- Include demolition of a structure
- Include the use of explosives to perform construction work

The notification and submission to the local Department of Labour must be done on an Annexure 2 and a copy of the completed form kept in the health and safety file for inspection by an inspector, the client or an employee.

7.2. Duties of Principal Contractor's [CR 7]

- 1 *The contractor must:-*
- 7.2.1. *Compile a suitable, sufficient, and coherent site specific health and safety plan [CR 7(1a)]*
- 7.2.2. *Keep on site a Health and Safety File with all required documents (CR 7 1b).*
- 7.2.3. *Ensure sub-contractors are appointed in writing, registered with COIDA and have necessary competences and resources to perform construction work safely.*
- 7.2.4. *Ensure all employees have valid medical certificate of fitness specific to the construction work performed and issued by an occupational health practitioner in a form of Annexure 3.*
- 2 7.2.5. *Ensure co-operation between all contractors [CR 7(4)] to comply with the Act.*
- 3 7.2.6. *Ensure compliance with the Act in terms of [CR 5(3)]*
 - a. *Provide relevant sections of these specifications to contractors as required*
 - b. *Appoint each contractor in writing and only appoint contractors who have the necessary competencies and resources may be appointed [CR 7(1) (v)]*
 - c. *Ensure each contractor's HSP is implemented and maintained throughout the duration of the project on site*
 - d. *Stop any contractor from work which is not in accordance with HSP / law or which pose a threat to health and safety of persons.*
 - e. *Sufficient information is provided to contractors where there are changes to design and construction.*
 - f. *Ensure every contractor is registered and in good standing with the Compensation Commissioner*
 - g. *Ensure potential contractors have made provision for the cost of health and safety measures*
- 4 7.2.7. *Negotiate and approve the HSP of each contractor [CR 7(1) (vi)]*
- 5 7.2.8. *All HSP's including the principal contractor's to be available on site [CR 7(1)]*
- 6 7.2.9. *All HSF's including the principal contractor's to be available on site [CR (7)]*
- 7 7.2.10. *A consolidated HSF to be handed over to the client on completion of construction including records of drawings, designs etc. [CR 7(1) (e)]*
- 8 7.2.11. *HSF to include updated list of all contractors, the agreements and their type of work [CR 7(1) (f)]*

7.3. Contractor's Responsibilities [CR 7(2)] (including sub-contractors)

- 7.3.1. *Provide their HSP to the principal contractor [CR 7(2)(a)]*

- 7.3.2. Where a contractor appoints another contractor (sub-contractor) it is the responsibility of that contractor to apply sub regulation 1(b) to(g) of CR 7 as if he were the principal contractor [CR 7(3)]
- 7.3.3. No contractor to appoint another contractor (sub-contractor) unless the latter has the necessary competency and resources to perform the required work
- 7.3.4. To provide any information which affects the health and safety of any persons at work to the principal contractor [CR 7 (2) (e)]
- 7.3.5.

7.4. Legal Appointments

The principal contractor shall ensure copies of the appointment letters of all responsible persons appointed on site will be kept in the HSF. All legal appointments shall be conducted in accordance with the requirements set out in the OHSA and as per this specification. The tables below set out the appointment protocols for CR and OHSA. It should be noted that these represent complete lists and not all these appointments may be required:

7.4.1. Construction Regulation Appointments

Reg.	Appointment	Appointee	Appointed by
CR 5 (1)(k)	Principal Contractor	16(2) for the company	Client
CR 7 (1)(v)	Contractor	Competent person	Principal Contractor
CR 8 (1)	Construction manager	Competent person	Principal Contractor
CR 8 (2)	Assistant Construction manager	Competent person	Principal Contractor
CR 8 (5)	Safety Officer	Competent person	Principal Contractor
CR 8 (7)	Construction Supervisor	Competent person	Principal Contractor
CR 8 (8)	Assistant Construction Supervisor	Competent person	Principal Contractor
CR 9(1)	Risk Assessor	Competent person	Principal Contractor
CR 11 (2a)	Structure Inspector	Competent person	Principal Contractor
CR 13 (1)	Excavation Work Inspector	Competent person	Principal Contractor
CR 21 (1k)	Construction Vehicle Inspector	Competent person	Principal Contractor
CR 28 (a)	Stacking and Storage Supervisor	Competent person	Principal Contractor
CR 29 (h)	Fire Equipment Inspector	Competent person	Principal Contractor
CR 29 (i)	Fire Team Members	Competent person	Principal Contractor

OHS Act Appointments and other relevant Regulations

Reg.	Appointment	Appointee	Appointed by
OHSA 16 (2)	16 (2)	Contract Manager	16(1)
OHSA 17 (1)	Health & Safety Rep	Elected / Nominated	16(1)
GAR 9 (2)	Incident Investigator	Competent person	Principal Contractor

GSR 3 (4)	First Aider	Competent person	Principal Contractor
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The responsibilities of each appointment are detailed in the relevant form, which are signed by both the authorised person and the appointee and kept in the Health and Safety file.

8. Documentation and Procedures

All required HSE documentation for the construction work, shall be kept in the HSF, which shall be available on site. The Construction Supervisor shall be responsible for the file on site and the Project Manager shall ensure that documentation is valid and up to date. The procedures to be used for the project are to be in accordance with contractor policy and as per the outcome of the HIRA exercise.

It is required that the documentation is filed in an orderly fashion for easy access. The following sections are suggested:

- Policies, permits, notifications etc.
- Health & Safety plans, specifications
- Appointments
- Incident management
- Inspection checklists
- Risk assessments
- Training
- Safe Work Procedures
- Hazardous Chemical Substances
- Medicals
- Audit reports

9. Application of COIDA and OHSA to Construction Work [Items 8.11 to 8.15 only may not be applicable]

9.1. Compensation of Occupational Injuries and Diseases Act, Act No. 130 of 1993 (COIDA)

Every contractor shall provide proof of registration and a valid letter of good standing with the Compensation Commissioner.

9.2. Occupational Health and Safety Policy [OHSA 7]

The contractors must develop a Health and Safety Policy that:-

- Is appropriate to nature & scale of risks,
- Includes commitment to prevent injuries & ill health, and continual improvement of health and safety performance,
- Includes the commitment to comply with applicable legal and other requirements,

- Includes the setting of health and safety objectives and targets,
- Is documented, implemented and maintained,
- Is communicated to all stakeholders,
- Is reviewed periodically to ensure its relevant and appropriate to the construction company.

9.3. Health and Safety Training and Competency

A training needs analysis must be developed and training provided for all persons requiring training. Proof of training / competency must be made available on file.

9.3.1. Induction Training

The principal contractor shall be responsible for the induction of all personnel entering the site including visitors, inspectors etc. Contractors doing specific construction work shall be responsible for the induction of their employees with respect to that specific work. Records to be kept on file for all personnel that undergo induction training.

9.3.2. Awareness Training

In addition, the client would favour awareness training to be carried out such as weekly Toolbox Talks on relevant topics e.g. manual lifting, wearing PPE, safe use of portable electric tools etc.

9.3.3. Competency and CV's

Where applicable, valid copies of certificates of competency of appointed personnel to be provided and kept in the HSF. Other training requirements such as those identified through the HRA process, to be completed and proof of that training also kept in the HSF. Where competency is achieved through experience, a brief CV will be required.

9.3.4. Specific OH&S Training

Valid certificates of training from registered service providers preferably accredited by the appropriate SETA are required for First Aiders, H&S reps, Fire Marshals (CR21 Fire Equipment Inspectors) etc.

9.3.5. Medical Fitness

All employees doing construction work on site must have a valid medical certificate of fitness specific to construction work to be performed and this must be issued by an occupational health practitioner in the form of Annexure 3.

9.4. Hazards and Potentially Hazardous Situations [OHSA 13]

The principal contractor is responsible to ensure that all contractors and any visitors are warned of any hazardous or potentially hazardous situations, which may affect them on site and shall put any additional measures in place to assist in mitigating the risk of these hazards.

9.5. Health and Safety Reps [OHSA 17 and 18]

The principal contractor shall be responsible to ensure compliance to this section of the OHSA as required and to ensure similar compliance of all contractors.

If a rep is not required, the appointed Safety Officer will be responsible for these functions

9.6. Health and Safety Committee [OHSA 19 and 20]

The principal contractor shall be responsible to ensure compliance to this section of the OHSA as required. If a committee is not convened, health and safety matters will need to be tabled and discussed at site meetings

9.7. General Documents / Record Keeping

The principal contractor shall ensure that all Health and Safety documents and records, required by OHSA and Regulations are kept on site for reference purposes and auditing.

9.7.1. Inspections

The principal contractor shall keep all records of inspections undertaken during the contract. An assessment will need to be made of what inspections are required and their frequency. The principal contractor is also responsible to ensure compliance to this requirement by all contractors

9.7.2. Audits [CR 5 (0) and 7 (1c)(vii)]

The client's agent shall carry out regular audits on the principal contractor at least once per month. Similarly, principal contractors shall be responsible for carrying out regular audits on their contractors at least once per month. The results shall be tabled for action and discussed at the Health and Safety Committee meetings or the site meetings, as appropriate.

9.8. Incident management and emergency plans

The principal contractor shall create an Emergency Plan for the construction site. The plan shall be clearly laid out for all types of emergencies including responsibilities, evacuation routes, siren, emergency no.'s etc. The plan shall

be fully explained to all personnel during the induction training. All contractors will become completely familiar with the requirements of the plan and will participate in any evacuation drills that may take place.

9.8.1. **First Aid [GSR 3]**

The principal contractor shall be responsible to ensure compliance to this regulation as required. In particular, a first aid box with the minimum stock as specified in the regulation will be located at the site office and there will be signage to indicate the location of the box. Attention is drawn to GSR 3(4) for the requirement of trained first aiders. It is also suggested that a trained first aider be made responsible for the box in terms of the following:

- Security – the box should not be left open but it must be accessible in case of emergency (spare key availability)
- Injuries - a record of first aid box injuries treated and the stock issued
- Stock – a regular inspection to maintain stock levels and check expiry dates

In addition, the first aid requirements should be noted for high risk substances or hazardous chemical substances and if these are to be used, then it should be addressed in the HIRA and the need for eye wash facilities assessed.

9.8.2. **Incidents and Injuries – Investigation and Reporting**

The Principal Contractor will ensure there is a management system to report and investigate all incidents. All incidents **including ALL near misses**, first aid box treatment, and all other serious incidents involving any form of disabling injury or fatality are to be reported to the Client and the **Clients H&S Agent telephonically immediately**. This shall be confirmed in writing as soon as possible after the incident. Failure to comply with these provisions will be considered a serious offence. “Recording and Investigation of Near Misses”.

Incidents

The principal contractor shall provide evidence by means of a procedure or chart that he is fully aware of the “hierarchy” of incidents that can occur e.g. unsafe situations, near misses, first aid box injuries, medical cases, disabling injuries etc. He shall keep an incident register of all such incidents, investigate and implement corrective action where required. The client also reserves the right to request incident statistics from the principal contractor such as DI’s, DIFR and DISR and it is advised that these are maintained.

Injuries

First aid box injuries have been addressed under 8.8.1 above. More serious injuries requiring transport of the injured person to the nearest hospital or doctor or the calling of an ambulance and paramedic personnel will be the responsibility of the principal contractor’s appointed personnel such as the Construction Supervisor, First Aider and

Safety Officer. It is advised that all required emergency numbers be on hand and prominently displayed.

As all contractors are registered and in Good Standing with the Compensation Commissioner, it will be the responsibility of the contractor whose employee has been injured, to make the necessary report and claims to the Commissioner.

9.8.3. Accident & Incident Reporting & Investigation [OHSA 24, GAR 8, 9 (1) & (2)]

Should an incident or accident investigation need to be conducted, a competent person shall be appointed to conduct the said investigation. The procedure to be followed will be in accordance with Annexure 1 of GAR 9 – “Recording and Investigation of incidents”.

Particular attention is also drawn to OHSA 24, the reporting of certain incidents to an inspector of the department of labour.

The principal contractor shall ensure that the investigations are kept for record purposes and he shall ensure that the outcome of the investigation is communicated to all affected parties as required i.e. the Client, Clients H&S Agent and contractors.

The Client reserves the right to participate in all investigations into accidents or incidents and to conduct their own investigation if required.

9.9. Contractors and suppliers [OHSA 37(2)]

The client shall enter into an “Agreement with Mandatory” in terms of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993, with all appointed principal contractors. Likewise all principal contractors shall enter into a similar agreement with all contractors, sub-contracted to them for any period of the contract. Please note that if contractors hire any construction vehicles or mobile plant, the companies from which the equipment is hired must provide any maintenance and test certification as required. In addition, if operators are hired with the equipment, proof of competence and medical certification must be provided.

The principal contractor shall ensure that all contractors are issued with this safety specification where reasonable. The principal contractor shall assist and ensure that contractors engaged comply with all of these requirements and adhere to the requirements set out in the OHSA. Contractors will be stopped from working in the event of unsafe conditions and activities being observed.

All contractors shall be subject to the requirements specified in the HSP and will be issued with a copy of the plan. If the contractor is not able to comply with the requirements set out in the plan, he shall not be appointed as contractor.

9.10. Personal Protective Equipment, Intoxication, Signage and Access Control

9.10.1.1. Personal Protective Equipment (PPE) [GSR 2]

The principal contractor shall through the Risk Assessment process identify the specific PPE needs per activity. Contractors, as employers, will be responsible for the issue of the required PPE. Should PPE be lost or stolen, then the employee will be issued with new PPE. Should PPE be worn out or

damaged, the user shall return the worn or damaged PPE and will be issued with a replacement. Training in the use of this shall be provided. Visitors shall be informed of PPE requirements prior to their visit so that they may enter the site.

9.10.2. Intoxication [GSR 2A]

The principal contractor shall ensure that no persons may enter or remain at the construction site if under or apparently under the influence of intoxicating liquor or drugs.

9.10.3. Display of signs [GSR 2B]

The principal contractor shall make use of signage to assist in enforcing compliance to any requirement specified in this document or as required by law. Standard symbolic signs are acceptable for conveying these requirements where applicable. Approved signs as per SABS standard approved colours must be used.

9.10.4. Access control [GSR 2C]

The principal contractor shall be responsible to ensure control of access to all persons entering the construction site. The reasons for this are as follows:

- The principal contractor is the 'employer' on the site and is responsible for section 8 of OHSA for employees and contractors and section 9 for any other person on site such as visitors and inspectors
- All persons entering the site must undergo induction training to inform them of the hazards present on the site. This includes contractors, visitors, inspectors etc.
- The construction supervisor will be aware of who is on site and their function
- The construction supervisor will be able to control tasks that may impact on other work being carried out on the site by a permit to work system
- The number of people and their purpose on the site must be known in case of emergency and evacuation
- Security reasons

The principal contractor shall post notices at the site informing all those entering the site of these requirements.

9.11. Portable Electrical Tools [EMR 9]

This regulation shall be complied with as a minimum requirement. Regular inspections of all Portable Electrical Tools such as drills, angle grinders etc., and shall be carried out. In particular:

- Only trained personnel shall operate such equipment.
- The Construction Supervisor shall ensure operation of the equipment is in accordance with the HIRA requirements and Safe Working Procedure (SWP).

- All users shall undergo regular awareness training (toolbox talk) to ensure compliance.
- The Construction Supervisor shall ensure the required PPE is provided and properly used.

9.12. ENVIRONMENTAL RULES

The Contractor shall give effect to and maintain all safeguards and standards and take such measures as may be necessary for the protection of the environment. Prevention of any type of pollution must be taken into consideration when performing all construction activities on site.

9.12.1 Clearing

The Contractor shall comply with the following conditions and requirements for clearing:

- Follow the Occupational Health and Safety Act, the Environmental Regulations for workplaces and Project EMP.
- Areas to be cleared will have boundaries clearly marked by tape, pegs or other means and will conform to limits on design drawings.
- Clearing will not commence until drainage control works are in place.
- Cleared vegetation should be windrowed along the contour to assist with erosion control.
- Any area which is not to be disturbed under requirements of the *Cultural Heritage Management Plan* will be clearly identified.
- Vegetation clearance will be restricted to that necessary for the works.
- The Engineer is to be notified immediately if contaminated soil is discovered.
- Traffic shall be confined to maintained tracks and roads.
- Particular care shall be taken to minimise disturbance to the bed and banks of watercourses.

9.12.2 Noise and Vibration

The Contractor shall ensure that the exposure of persons to noise is prevented by all means and where it is not possible to prevent it, to adequately control the noise. The noise-induced hearing loss regulations must be complied with.

Each of its mobile and fixed plant and that of its subcontractors' are fitted with appropriate noise suppression equipment to ensure that noise levels from such plant are contained within the relevant limits prescribed by relevant industrial safety and environmental legislation, regulations and site standards. If there is a noise problem with electric power generating equipment, compressors, or other facilities under the control of the Contractor, additional noise suppression shall be erected by the Contractor at the Contractor's cost around the offending unit(s).

Any deviation from the above listed practices is to be rectified at the Contractor's cost.

9.12.3 Transport, Storage and Handling of Hazardous Substances and Dangerous Goods

The Contractor shall comply with the following conditions and requirements for storing and handling hazardous and dangerous goods:

- Comply with Hazardous Chemical Substance Regulations.
- Provide a list of hazardous substances and corresponding MSDS prior to bringing substances on Site.
- Substance register to be held at each storage facility.
- Corrosive materials to be stored and handled in accordance with HCS Regulations 14.
- Fuel, oils and substances in containers of 210 litres or more shall be stored in a bunded area with capacity of at least 110% of the total quantity of HCS.
- Fuel, oils and substances in less than 200 litre drums shall be stored as above or in a fenced and roofed compound.
- All fuel, oils and substances must be clearly labelled.
- Transfer of bulk fuel and handling of hazardous substances shall be conducted only by appropriately trained personnel.
- Spill clean-up kits including absorbent materials shall be kept at each storage facility.

9.12.4 Erosion and Oil Traps

The Contractor shall comply with the following conditions and requirements for erosion, sedimentation, silt and oil traps:

- Land disturbance will be restricted to that necessary for the works.
- Topsoil will be salvaged for use in rehabilitation.
- Storm water from upstream catchments will be diverted away from construction areas.
- Drains will be protected to prevent scouring if necessary.
- Sediment traps, silt fences or hay bales will be installed to control sediment where necessary and where directed by the Engineer.
- Sediment traps will be cleaned periodically.
- Hazardous materials will be bunded or stored such that contaminated run-off is not generated.
- Traffic will be confined to maintained tracks and roads.
- Particular care will be taken to minimise disturbance to the bed and banks of watercourses.
- Rehabilitation of disturbed areas will be carried out promptly.
- The Contractor shall maintain its specific work area so as to prevent erosion of adjacent soils by surface runoff. Temporary diversion drains shall be used to divert storm water away from the Contractor's work area, where necessary.
- The Contractor shall provide and maintain all silt traps and oil traps necessary for the execution of the work under the Contract and for the

protection of the environment as required by the Specification and as directed by the Engineer.

9.12.5 Dust Prevention

The Contractor shall comply with the following conditions and requirements for air quality and dust:

- Dust generated by construction activities will be suppressed by water spraying, to levels that are safe for Site personnel.
- Speed limits on unsealed roads will be limited to a maximum speed consistent with the minimisation of dust generation.
- Earthworks Supervisors must pay particular attention to the management of topsoil stripping such that dust does not become a safety hazard or severe nuisance.
- All dust complaints will be investigated promptly and appropriate action initiated to reduce nuisance.

9.12.6 Waste Management

- The Contractor shall provide suitable rubbish receptacles at the Site and shall ensure that all litter is collected in them and properly disposed of off Site in accordance with the requirements of the relevant statutory requirements.
- The Contractor shall ensure proper collection and off-site disposal of all industrial wastes in accordance with relevant statutory requirements.
- The Contractor shall apply the principles of Waste Minimisation by reducing the amount of waste generated on Site by their operations and activities as much as possible. The Contractor shall provide for recycling of glass, metals, plastics and paper.

9.12.7 Weed Management

The Contractor shall comply with the following conditions and requirements for weed management:

- Contractors shall ensure that all machinery, equipment and vehicles are washed down at a wash facility before entering the Site and again when leaving the Site.
- Plants and soil shall not be removed from the Site without authorisation.
- Soil or other material shall not be brought onto Site if it has originated from an area known to contain environmental weeds or declared weeds under the Rural Lands Protection Act 1995.
- Areas disturbed or rehabilitated as part of a Contract will be inspected upon completion of the works. The Contractor shall eradicate any declared weeds found.
- Seed used in rehabilitation shall be free of declared weeds.
- Control measures (including use of herbicides) must be consistent with manufacture's recommendations, safe practice and recommendations in the Department of Natural Resources Pest Fact series.
- Include information on the importance of weed control in inductions.

9.12.8 Found Object

All fossils, coins, articles, minerals of commercial value and objects of antiquity and structures and other remains and things of archaeological interest discovered at the Project Site shall be deemed to be the absolute property of the Company. The Contractor shall take reasonable precautions to prevent the Contractor's employees, subcontractors and the employees of subcontractors and any other persons from removing and damaging any such article and thing and shall immediately upon discovery thereof, acquaint the Engineer of such discovery and carry out, at the expense of the Company and at the Engineer's direction, the protection and or disposal of same.

9.13 MONITORING, AUDIT AND REVIEW

- The Client's Agent shall have the right to conduct audits / inspections of the Contractor's operations, equipment and procedures at any time, and the Contractor shall fully co-operate with the Client's Agent during such audits / inspections.
- The Client's Agent rights under this clause shall not relieve the Contractor of its obligations to conduct audits and reviews of its own safety and health performance.
- Where such Client's Agent audits reveal deficiencies in the Contractor's procedures, equipment, training, drills, etc., the Contractor shall rectify such deficiencies as soon as practicable, and provide to the Client's Agent a status report on all outstanding corrective actions. Where such deficiencies include an unsafe practice or a breach of the Statutory or the Contract's requirements, the Client's Agent may in accordance with the General Conditions of Contract suspend the work associated with the unsafe practice or breach until the deficiency is rectified.

10. Application of the Construction Regulations, 2014

[Please note: this is the complete list. Item 10.1 is compulsory and the rest are applicable if relevant to the work being carried out]

10.1. Hazard Identification, Risk Assessment and Risk Control (HIRA) [CR 9]

The contractor shall prior to the commencement of any construction work perform a HIRA exercise, which will form part of the HSP and file for the project.

A copy of the HIRA shall be made available for viewing to the client's OHS agent and shall be kept in the Health and Safety File.

NB: The contractor shall ensure that the outcome of all HIRA exercises will be conveyed to all relevant employees with respect to the hazards and the related control measures before any work commences.

Below is a list of activities, which may be considered for HIRA if the activity is to be carried out on site. The list is not exhaustive but gives examples of activities for a construction site:

- Traffic Management– restrictions etc.

- Site security and access
- Existing services, overhead and underground
- Ground conditions
- Excavations
- Batching on site
- Activities that affect adjacent sites
- Excavations in particular those adjacent to roads or sidewalks
- Lifting operations such as offloading and moving equipment
- Stacking, storage of equipment and materials, and good housekeeping
- Use of hand tools
- Use of portable electrical equipment (power tools)
- Use and storage of flammable and hazardous chemicals such as petrol, diesel, etc.
- Waste management including removal of hazardous waste
- Environmental restraints such as effluents, boundary noise and dust
- Temporary site accommodation
- General hazards to site personnel such as noise and dust.

The control of several of these risks may be specified in the OHSA or the CR but this does not mean that the HIRA exercise does not have to be carried out.

10.2. Fall Protection [CR 10]

Regulation 10(1)(a) of this regulation states that a contractor shall designate a competent person, to be responsible for the preparation of a fall protection plan. The fall protection should include the prevention of person falling into trenches or uneven grounds due to trenches dug for poles supporting the fence.

10.3. Structures [CR 11]

The appointed contractor shall meet the requirements of this regulation. Attention is drawn to CR 11(2)(a) which requires the designer to inspect the structure at appropriate times when mandated by the Client and the record of these inspections to be available on site.

10.4. Excavations [CR13]

Section 1 of this regulation states that this work must be carried out under the supervision of a competent person, who has been appointed in writing. All the requirements of CR 13 shall be met. For inspection of excavations, attention is drawn to sub regulation 2(h), the records of which must be available on site.

10.5. Construction vehicles and mobile plant [CR 23]

It will be the responsibility of each contractor on site to ensure compliance of their construction vehicles and mobile plant to these regulations.

This includes vehicles to be used for transporting personnel to and from site, which will be subject to relevant requirements such as licensing and roadworthiness checks. In addition the following will apply:

- Safe transport for personnel working on the project to and from the workplace, which shall include proper seating, side restraints and cover.
- Road safety principles shall be adhered to on and off site.

10.6. Use and storage of flammable liquids [CR 25], and hazardous chemical substances [HCSR]

All the requirements of CR 25 shall be met

In terms of HCSR, contractors shall ensure that all hazardous chemicals brought to site have a Material Safety Data Sheet (MSDS) and the users are made aware of the important sections of the MSDS such as:

- Hazards
- First aid measures
- Firefighting measures
- Accidental release measures
- Handling and storage
- Exposure control especially PPE
- Disposal

First Aiders shall be made aware of the MSDS and how to treat HCS incidents appropriately. Copies of MSDS's will be available on site and in the HSF.

10.7. Housekeeping [CR 27] including [ERW(6)]

All contractors shall ensure that housekeeping standards as per these regulations shall be maintained at all times.

10.8. Stacking of Materials [CR 26] including [GSR(8)]

All contractors shall ensure that materials are only stored in defined and allocated storage areas and that materials being stored are stacked in accordance with sound stacking principles as per these regulations.

10.9. Fire precautions [CR 29]

All contractors on site will comply fully with the requirements of this regulation. In particular, the principal contractor will be responsible for the evacuation plan (section (l)) the details of which will be imparted to contractors, visitors etc. through the site induction.

10.10. Construction welfare facilities [CR 30]

The principal contractor shall be responsible for implementing this regulation and shall ensure that adequate facilities are provided for the personnel on site in terms of the following:

- Change room facilities
- Adequate toilets.
- Hand wash facility.
- Potable water.

No food preparation shall be conducted on site. Eating and drinking will only be permitted in the designated eating areas, which must be provided with adequate seating.

Waste bins shall be strategically placed and cleared regularly.

11. Site Specific and Design Risks

[Please note: this is not a complete or exhaustive list. The principal contractor is expected to assess all risks to which his employees may be exposed during the construction process, as well as the hazards identified and listed below.]

11.1 Hazard Identification and Risk Assessment Methodology

11.1.1 Baseline Risk Assessment

A Baseline Hazard Identification and Risk Assessment must be carried out during the preliminary stages of the construction/demolition project for the purposes of attempting to reduce the possibility of accidents or ill health occurring.

Taking into account the constraints of time and resources, every effort must be made to identify the hazards and recommend possible solutions. It is not reasonably practicable to expect the baseline risk assessment to identify all hazards, which is why task risk assessments are carried out on site.

11.1.2. Task Risk Assessment

Once on site, every contractor shall perform task risk assessments, using the baseline risk assessment as a guide.

The Risk Assessment should be reviewed once on site and thereafter after any incident, change in design or every one-year period, whichever occurs first. Additional hazards highlighted or a change in the risk factor should have a separate risk assessment carried out and filed.

The Risk Assessment is based on the combination of the CONSEQUENCE and PROBABILITY associated with each hazard.

12.

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SCHEDULE OF OHS COSTS

<i>Item</i>	<i>Description</i>	<i>Quantity</i>	<i>Amount – Rands</i>
1.	Site Establishment & Facilities		
1.1	OHS File – Site Specific	1	
1.2	Temporary Site Office	1 per contractor	
1.3	Temporary Electrical Connection	1	
1.4	Temporary Water Connection	1	
1.5	Portable Chemical Toilets – Male/ Female	As per Risk Assmnt	
1.6	Change Room Facilities – Male/ Female	As per Risk Assmnt	
1.7	Eating area Facilities	1	
1.8	Notice Board	1	
1.9	Construction Site Signage Board	?	
1.10	Signage - PPE Required for Site	As per Risk Assmnt	
1.11	Hazardous Substance Store & Signage	1	
1.12	Fire Extinguisher 9kg DCP	As per Risk Assmnt	
1.13	Regulation 3 First Aid Box Complete	1	
1.14	Regulation 7 Blood Spill Kit	1	
1.15	Hazardous Substance Spill Kit	1	
1.16	Spare Protective Clothing – i.e. Hard Hats, hearing, respiratory, eye and hand protection and reflective vests.	As per risk assessment	
1.17	Perimeter hoarding/ shade cloth	All	
1.18	Waste Material Skips	As per Risk Assmnt	
2.	Administration and Documentation		
2.1	medical certificate/s of fitness	All	
2.2	Access Control – Security	As per Risk Assmnt	
2.3	Medicals	Number of employees	
2.4	First Aider/s	As per OHS Act	
2.5	Fire Marshalls	As per Risk Assmnt	
2.6	Safety Officer	1	
2.7	Safety Representatives	As per OHSAAct	
3.	Other		

C3.8 GENERAL SPECIFICATIONS

C3.8.1 EXISTING SERVICES

Items have been allowed in the Bills of Quantities for dealing with and protecting existing services where they are known.

The Contractor shall however ensure that prior to construction all the necessary Record Drawings and Way-leaves for all services have been obtained and verified on site by the relevant Service Providers in his presence. The Contractor must request in writing the relevant official(s) to indicate the said services within 5 working days prior to commencement of work, after which the responsibility rests with the Service Department if the services are not indicated to the Contractor as requested.

The Contractor shall take whatever extra precautions are required to protect all existing services from damage during the period of the Contract. The Contractor shall make use of hand excavation to expose services. Any damage to existing services indicated by the relevant service providers or other damage as a result thereof, shall be for the Contractor's account.

C3.8.2 SURVEY BEACONS AND BENCHMARKS

The Contractor shall be responsible for the preservation of all land survey, erf or other pegs, benchmarks and beacons. If damage or disturbance of any such pegs or beacons is caused by the operations of the Contractor or his subcontractors, the pegs are to be replaced by a Registered Land Surveyor at the cost of the Contractor. Benchmarks will be replaced by the Engineer at the Contractor's expense.

Information regarding the position of all such pegs will be made available to the Contractor by the Engineer on request.

The Contractor is to ensure that no spoil is placed over an erf peg or benchmarks and that these are adequately protected for the full duration of the Contract.

Where disturbances of boundary pegs is unavoidable due to excavation or other operations adjacent to the pegs, the Contractor shall advise the Engineer or his Representative immediately, and agreement is to be reached that the disturbance of the peg is unavoidable and a strict record of such disturbed pegs is to be kept. Such pegs are to be replaced by a Registered Land Surveyor as described above and the Contractor is to submit proof of the cost of replacement of pegs. The Contractor will be reimbursed on a basis pro-rata to the total cost of peg replacement determined on completion of the Works.

C3.8.3 FEATURES REQUIRING SPECIAL ATTENTION

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

C3.8.3.1 Work Within Demarcated Areas Only

The Contractor shall ensure that all his activities take place within the demarcated areas only. No work or activities may take place outside of the demarcated areas and any damage of whatsoever nature caused by the Contractor outside of the demarcated areas shall be the sole responsibility of the Contractor, who shall bear all and any associated costs.

A working width of 25m shall be allowed along the length of the pipeline routes, except where otherwise shown on the drawings. The Contractor shall confine all his activities to within this 25m width.

C3.8.4 GUARANTEES

The Contractor shall be liable for, and shall guarantee, all work undertaken by him under the terms of the Contract and for the period of Defects Liability.

The Contractor shall accept and have full responsibility for the adequacy and compatibility of all items of plant and equipment required under this contract.

C3.8.5 SECURITY

The Contractor shall provide security watchmen for the contract as he deems fit at no extra cost to the Employer. This will include for all materials, temporary works and barricading. The Contractor must ensure that all his employees as well as the employees of his subcontractors are able to identify themselves as members of the construction team. The Contractor's rates will be deemed to allow for all related activities and equipment

C3.8.5.1 PLANT AND MATERIALS

C3.8.5.2 Plant and Materials Supplied by the Employer

The Employer shall not supply any plant for use on this contract. The Contractor shall provide all plant.

C3.8.5.3 Materials and Samples

Where material to be used in this contract is specified to comply with the requirements of a South African National Standard Specification and such material is available with the official SANS (SABS) mark or similar equivalent, the material shall bear the official mark.

The Contractor shall supply samples of sufficient size of proposed bedding and concrete materials, as applicable, to a SANS accredited laboratory for testing prior to any such materials being used. Only materials that comply with the specifications may be used. No separate payment shall be made for the testing of materials, the cost of which shall be deemed to be covered by the rate for the relevant items.

Copies of all test results shall be given to the Engineer for his approval.

C3.8.5.4 Equipment Provided by the Employer

It is envisaged that no equipment will be provided by the Employer. In the event that the Employer does provide equipment, the Contractor shall take full

responsibility for the handling, storage, protection and installation of the equipment from the moment that the equipment is handed over to him, as if the Contractor had provided the equipment.

C3.8.5.5 Construction Equipment

All construction equipment used on this contract shall be in good working order, well maintained, of adequate size and fit for purpose. No machinery that leaks oil, fuel or hydraulic fluids may be used on site.

Any plant or equipment that, in the opinion of the Engineer, is not of adequate size or fit for use shall be removed from site and replaced with acceptable plant or equipment, all at the Contractor's cost.

C3.8.6 EXISTING SERVICES

C3.8.6.1 Known Services

Known services in the area are shown on the layout plans and long sections. The information regarding existing services is given in good faith without guarantee.

All known services in the area are indicated on the drawings and/or will be pointed out to the Contractor. There may be services which are unknown or have inadvertently been left out.

C3.8.6.2 Treatment of Existing Services

The relevant authority or other service provider, as applicable, shall be contacted to assist the Contractor in the location of all existing services that cross the Project area.

Immediately after establishing on Site, the Contractor must open up all known services, where they will be affected by construction, by hand and using special equipment where necessary, under strict supervision and with diligent care. An item to provide for this is included in the Schedule of Quantities.

The Engineer must be informed as the services are opened for inspection, to measure the depth and to verify the type, position and dimensions of the service. This must be done early during the contract period so that changes in design, which may become necessary, can be planned and arranged in good time. No extensions of time will be considered by the Engineer arising from the failure of the Contractor to comply with this clause. Damage to existing services must be made good by the Contractor.

Services exposed in the excavations shall be protected from construction damage and vandalism by suitable wrapping or other protective measures.

C3.8.6.3 Damage to Services

Any known services damaged by the Contractor shall immediately be reported to the relevant service authority. The cost of repair of these services will be for the Contractor's account. Known services include those services shown on the drawings as well as services not shown on the drawings but the presence of which can be reasonably expected or determined on site.

Should the Contractor be responsible for repairs to be carried out by an outside organisation, such costs will be recovered from the Contractor. This will be recovered from a monthly Payment Certificate if necessary.

Any unmarked or unknown services that may be damaged shall immediately be reported to the relevant service authority. The repair cost for such services will not be the Contractors' responsibility.

In the event that the Contractor is requested to repair the damaged service, he shall submit the actual cost of repair with his next claim for payment and shall be paid the actual cost plus 10%.

Whenever it is necessary to disrupt essential services e.g. when excavating in the vicinity of a power line, the Contractor must liaise with all relevant authorities and the Engineer to obtain approval for proposed activities and their programming.

C3.8.6.4 Connection to Existing Services

Fourteen (14) days written notice shall be given to the Engineer and to the Employer of intention to connect to any existing service or structure. Such connection may only be undertaken once written approval is granted. The work to connect to existing services may have to be done outside of normal working hours to accommodate the requirements of the Employer. Allowance for this must be made in the tendered rates as no additional payments shall be made in this regard.

C3.8.7 SITE ESTABLISHMENT

C3.8.7.1 Service and Facilities Provided by the Employer

C3.8.7.1.1 Source of Water Supply

Water for construction is available from the existing reticulations and/or the project area. The Contractor shall make his own arrangements with the relevant authority and pay all installation and usage charges for a water supply for his needs. To this end the Contractor shall provide and make use of a metered connection at a position(s) and in a manner agreed with the relevant authority. The meter shall be read on a weekly basis and the usage recorded.

The Employer accepts no responsibility for the shortage of water due to any cause whatsoever, nor additional costs incurred by the Contractor as a result of such shortage.

The Contractor shall make himself thoroughly acquainted with the regulations relating to the use of water and shall take adequate measures to prevent the wastage of water.

The Contractor shall take note that no direct payment will be made for any costs incurred for the provision of a water supply point(s) nor for the cost of water drawn. Payment for the aforementioned shall be deemed to be covered by the rates and prices tendered and paid for the various items of work included under the Contract.

C3.8.7.1.2 Source of Power Supply

Electrical power is only available at the project area. The Contractor shall make his own arrangements with the relevant authority and pay all installation and usage charges for a metered electrical supply for his needs.

The Employer accepts no responsibility for the interruption of the power supply due to any cause whatsoever, nor additional costs incurred by the Contractor as a result of such interruption.

No direct payment, other than provided for under the preliminary and general items, shall be made for any costs incurred for the provision of a power supply. The cost of supplying electrical power will be deemed to be covered by the relevant items.

C3.8.7.1.3 Location of Camp and Materials Storage Area

An area for a campsite and materials storage area shall be agreed with the Employer. Employer will identify a site area near the project area and close to municipal borrow pit if possible.. The Contractor may erect his site offices and materials storage depot within the demarcated boundaries of the area. The Contractor shall confine his camp and storage of materials to the areas designated.

A suitable perimeter fence should be erected to prevent the entry of domestic stock, wild animals or unauthorized entry and to ensure that the camp is adequately secured against theft.

The Contractor shall provide sufficient storage area for all tools, small equipment and materials, and will be responsible for the safekeeping thereof.

The site and materials storage area shall at all times be kept in a clean, dry and tidy condition. Temporary buildings and fencing shall be neat and presentable and the surrounding area shall, at all times, be kept in a neat, clean and orderly condition.

Scavenger-proof litter containers to be provided on site and paper and plastic packaging shall be collected daily and binned so that they cannot be blown onto the surrounding property.

Precautions to be taken against hydrocarbon spillage from heavy equipment such as compressors and generators, e.g. through the use of sand or sawdust filled drip trays. If maintenance and refuelling activities take place in this area, adequate protection and clean-up mechanisms in the event of a spill must be in place. All contaminated material (including soil) to be disposed of at a registered waste site.

All toxic materials (cement, oil, petrol, diesel, etc.) used at or stored in the construction camps should be very strictly controlled and secured against theft at all times.

The Contractor shall not cut down or damage trees without the prior written permission of the Engineer. If any vegetation is damaged or destroyed during

the construction period, the damaged areas should be re-vegetated using indigenous plants that are native to this area.

On completion of the construction works, the area shall be re-instated to its original condition.

No persons, other than a night watchman, may overnight at the campsite.

C3.8.7.1.4 Housing

No housing is available and the Contractor shall make his own arrangements to house his employees and transport them to and from the site.

C3.8.7.1.5 Disposal Site

All material cleared on the site, rubble, spoil and refuse shall be disposed of at the regional general waste site approved by the engineer.

C3.8.8 SITE USAGE

The Contractor shall confine his activities to the site of the works and to the area allocated to him for his site offices and materials storage. The Contractor may not use or damage in any way any area that falls outside the boundaries of the site. Any area damaged by the Contractor outside the site boundaries shall be rehabilitated to the satisfaction of the Engineer at the Contractor's expense.

C3.8.9 SURVEY CONTROL AND SETTING OUT OF THE WORKS

Survey pegs and reference marks shall be pointed out to the Contractor. The Contractor is solely responsible for the setting out of the works from the pegs and reference marks. The Contractor is also solely responsible for the protection of the pegs and reference marks. The Contractor's attention is specifically drawn to the requirements of SANS 1200 A: General, Clause 5.1 Survey, in this regard.

The Contractor shall be responsible for the preservation of all land survey, erf or other pegs, benchmarks and beacons. If damage or disturbance of any such pegs or beacons is caused by the operations of the Contractor or his subcontractors, the pegs are to be replaced by a Registered Land Surveyor at the cost of the Contractor. Benchmarks will be replaced by the Engineer at the Contractor's expense.

Information regarding the position of all such pegs will be made available to the Contractor by the Engineer on request.

The Contractor is to ensure that no spoil is placed over any erf peg or benchmarks and that these are adequately protected for the full duration of the Contract.

Where disturbances of boundary pegs is unavoidable due to excavation or other operations adjacent to the pegs, the Contractor shall advise the Engineer or his Representative immediately, and agreement is to be reached that the disturbance of the peg is unavoidable and a strict record of such disturbed pegs

is to be kept. Such pegs are to be replaced by a Registered Land Surveyor as described above and the Contractor is to submit proof of the cost of replacement of pegs. The Contractor will be reimbursed on a basis pro-rata to the total cost of peg replacement determined on completion of the Works.

C3.8.10 DEALING WITH TRAFFIC AND ACCESS

The Contractor shall liaise with all the relevant authorities/persons regarding construction where it affects public/private right of way on roads, access to properties etc. Where alternative arrangements cannot be made, roads shall be crossed in half widths to allow for safe passage of traffic.

All the relevant requirements regarding the latest edition of the South African Traffic Signs Manual shall be adhered to. Specific attention shall also be paid to the requirements of the OR Tambo District Municipality and the Department of Transport regarding signs for road closures, deviations, warning signs, etc.

C3.8.11 QUALITY CONTROL

An item for independent quality tests required by the Engineer is included in the Schedule of Quantities.

C3.8.12 ACCOMMODATION OF TRAFFIC, ACCESS TO PROPERTIES AND BORROW PITS

The tendered sum for the item 'accommodation of traffic' in the Preliminary and General section of the Schedule of Quantities shall cover all the Contractor's costs of the supply, construction and maintenance of a gravel wearing course on detours, by-passes, existing gravelled roads and access roads to borrow pits required by the Contractor for his construction operations. The sum shall also include removal of all such temporary roads on completion of the Contract plus grassing of these areas and any necessary erosion control measures as determined by the Engineer. All the necessary authorities are to be given adequate advance notice if necessary.

The Contractor shall ensure that all roads adjacent to or crossing the Site and which are affected by the Works and/or Temporary Works and by the Contractor's activities at the borrow area, are kept in a safe condition for pedestrians and vehicular traffic.

Accommodation of vehicular and pedestrian traffic shall be performed in accordance with Sections D and DB of SABS 1200. The Contractor shall organise his work so as to reduce the inconvenience to traffic to a minimum, and no public road shall be completely closed without prior approval by the Engineer. The Contractor shall provide and maintain in proper condition all necessary barricades, lights, warning signals and all direction signs necessary to enable traffic to follow the routes of diversion throughout their length. The Contractor shall provide flagmen at all deviations and/or obstructions.

All signs shall be in two languages as may be advised by the Employer and all traffic signs and control traffic shall be in accordance with the South African Road

Traffic Signs Manual. The Contractor shall provide temporary bypasses where necessary to provide access for vehicular and pedestrian traffic.

It is a condition of this Contract that gravel on detours, bypasses and existing gravelled roads shall only become the subject of payment in terms of the Specifications when such gravel wearing courses are constructed to accommodate public traffic in accordance with a written order from the Engineer.

C3.8.13 DEALING WITH WATER ON THE WORKS

Ground water can be expected in the project area . The Contractor shall provide adequate measures in the form of well points, sumps, pumps, temporary pipework and all other necessary equipment and measures to remove water from the trenches to enable work to take place. Dewatering will most probably be required 24 hours per day until such time as backfilling has been completed in order to prevent the pipes from floating in the trenches.

Where necessary, the Contractor shall construct temporary drainage channels/berms to divert ground water from his excavation and excess water pumped out. No compensation for any variation of the actual conditions during construction from the data will be considered. Neither will additional compensation be considered for data omitted or inaccurately given. The rates tendered shall allow for the requirements of this clause and all incidentals.

C3.8.14 PROTECTION AGAINST FLOODING

The Contractor shall take the necessary temporary precautions to direct storm water away from his excavations.

See Sub-clause 1.3.11.1 of Section A of Part 3 and Sub-clause 3.2.4 of Section D of Part 2 of SANS 0120. The rates tendered shall allow for the requirements of this clause and all incidentals.

C3.8.15 TEMPORARY STOCKPILING AND SPOIL

The Contractor shall remove and stockpile the sandy/clayey soil upper layers (approximately 1 – 1,5m deep) for later reuse, if requested. Care shall be taken to ensure that this soil is not contaminated by any other material. If space is not available to stockpile the sandy/ clayey soil in the project area without danger of the material being contaminated, the soil shall be removed and stockpiled at remote locations approved by the Engineer in writing.

Any shortfall in the sandy soil material due to the stockpiles being contaminated shall be made up with approved imported material at the Contractor's expense.

The Contractor shall obtain the Engineer's written approval prior to the disposal of any surplus or unsuitable material prior to the temporary stockpiling of any selected material from excavation.

Material from excavation shall only be spoiled or temporarily stockpiled on sites approved by the Engineer in writing.

C3.8.16 DUST CONTROL

The Contractor shall apply water using a water tanker at regular intervals to access and construction roads where dust is causing a nuisance. The application rate should be sufficient to keep the routes dust free during the movement of construction equipment.

C3.8.17 FEATURES REQUIRING SPECIAL ATTENTION

C3.8.17.1 Safety Regulations

Both the “Factories, Machinery and Building Work Act (Act 22 of 1941)” and the “Machinery and Occupational Health and Safety Act (Act 6 of 1983)” must wherever they appear in the SABS 1200 standardized specifications, be substituted by the “Occupational Health and Safety Act (Act 85 of 1995)”.

C3.8.17.2 Health and Safety

The Site of the Works is project area. Special care should be taken to instruct workers of the potential health and safety hazards likely to be encountered when working on such a Site.

Venomous snakes and crocodiles, including mambas, cobras and boomslangs, may found on the Site of the Works. Workers must be warned of the possibility of encountering these snakes and warned not to disturb them.

C3.8.18 RECORD DRAWINGS

As the work progresses, the Contractor shall keep full sets of records of all the true levels, sizes and positions of structures as well as all amendments to and deviations from the drawings issue by the Engineer from time to time. This information must be submitted monthly with the Contractor’s claim for payment. A separate set of drawings will be issued to the Contractor for this purpose.

The completion certificate shall only be issued after the Engineer has received a properly completed set of “record” drawings from the Contractor. No separate payment shall be made for this service as all costs related thereto shall be deemed to be included in the rates for the relevant items.

C3.8.19 DAMAGE TO PRIVATE PROPERTY

Sections of the Site will be through private agricultural land (sugar cane fields)

The Contractor will be responsible for any damage to crops, fencing, structures, etc. caused by his activities on Site. The Contractor must obtain permission from land owners where necessary, for the removal of fences and must erect temporary fences or gates in these openings during the construction period. The permanent fencing must be replaced as soon as possible and must comply with at least the original product. It is essential that the least inconvenience to private property be caused during the construction period.

All such sites shall be left in the same condition as they were found initially, on completion of the construction work.

C3.8.20 FELLING OF TREES

There may be trees that are within the proposed site. The Contractor must ensure that all the necessary safety procedures are followed during the felling process. Some of the plants on site may be protected species. These will be identified by the Engineer and may have to be transplanted.

C3.8.21 OVERHAUL AND FREE HAUL

No payment will be made for overhaul on this contract unless provision is made therefore in specific items. All haul inside the boundaries of the site is regarded as free haul. Rates for importation of materials from commercial sources will be deemed to include cost for haulage.

C3.8.22 DISPOSAL OF SPOIL OR SURPLUS MATERIAL

The Contractor is responsible to arrange for the necessary permission and to spoil all surplus and unsuitable material, as well as other objectionable material at a legal site of his choice. He shall be responsible for all arrangements necessary to obtain such spoil sites.

C3.8.23 IMPORTATION OF BEDDING AND BACKFILL MATERIAL

The importation of suitable bedding and backfill material is the sole responsibility of the Contractor. All imported material shall be deemed to be from commercial sources and will be paid for in the rates tendered.

C3.8.24 EXCAVATION MEASUREMENTS

All excavations shall be measured nett. The rates tendered shall therefore include for any overbreak, additional haulage and disposal of overbreak, and filling of overbreak as specified.

C3.8.25 FINISHING AND TIDYING

On no account must rubble and spoil materials, other materials, equipment or unfinished operations be allowed to accumulate in such a manner as to unnecessarily impede the activities of other Contractors or Authorities.

Finishing and tidying must not simply be left until the end of the construction period. The Contractor may, subject to prior agreement with the Engineer and within reasonable limits, request that work in a particular area and/or work of a particular discipline, be inspected for partial completion. Partial completion shall not entitle the Contractor to Practical Completion of the partially completed work. A Certificate of Practical Completion shall only be issued once the entire Works have reached Practical Completion.

On completion of the Contract the Contractor shall ensure that all materials used in the construction of the temporary Site Office, workshop and storage yard are removed from Site. Waste material such as construction debris and soil contaminated with oil and fuel are to be disposed of at a suitable appropriately licenced waste disposal site. Proof of disposal shall be given to the Engineer.

Prior to the Handover of the Site to the Employer, the Contractor and the Engineer will conduct a post construction audit to determine if any additional measures are to be taken. The Completion Certificate will only be issued after this stage.

C3.9 PARTICULAR SPECIFICATIONS

PSA GENERAL

PSA1 DEFINITIONS

PSA2.1 Definitions

Add the following:

Task	-	a quantified activity or operation.
Daily task	-	a task that is required to be completed within a working day.
Task remuneration	-	remuneration as paid for a completed task or job.
Daily rate	-	the remuneration of a day's work.
Daily wage	-	see daily rate.
Daily task remuneration	-	the remuneration for a completed daily task.
Labour-intensive construction	-	the economically efficient employment of as great a

portion of labour as is technically feasible to produce as high a standard of construction as demanded by the specifications and allowed by the funding available, thus the effective substitution of labour for equipment (Note: This definition is not Contract specific, but applies to the project as a whole. This Contract is a part of such a project).

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

Add the following to Clause 4.2:

PSA2.1 Contractor's site facility

The procurement of suitable land and associated costs for the Contractor's site facility is the responsibility of the Contractor.

The sites shall be kept clean at all times during construction and conform to the requirements and regulations of the land owners, authorities and the Environmental Management Plan.

PSA2.2 Source of Water Supply

Except as provided for in of the Particular Conditions of Contract, the Contractor is 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.

Connections to the local municipality's municipal network and the associated meter installations should be arranged with them.

PSA2.3 Source of power supply

The Contractor is 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.

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

The Contractor shall make his own arrangements for the provision of chemical toilets and other sanitary and water disposal facilities for his or his Subcontractor's staff. 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 site along the pipeline so that all employees are at all times within easy reach of sanitary facilities.

PSA2.5 Housing

The Contractor will not be permitted to house any personnel within his camp site(s).

PSA 2.6 FACILITIES FOR CONSTRUCTION WASTE

The Contractor shall make suitable enclosed containers available for the storage of all construction waste (i.e. whether it be in the camp or on the construction site). The Contractor shall ensure that these containers are emptied at the local solid waste site.

PSA 2.7 SECURITY

The cost for providing security against theft and vandalism will be held to be included in the all tendered rates. The contractor is responsible for all the work before the hand-over of the infrastructure. No separate payments will be made for this work.

PSA3 PLANT (Clause 4.3)

The requirements of the applicable SANS 1200 Specification and/or Project Specification shall apply.

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.

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 in terms of Clause 5.11 of the Conditions of Contract, or for him to recommend termination to the Employer in terms of Clause 9 thereof.

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 ADJUSTMENT OF PRELIMINARY AND GENERAL ITEMS DUE TO RAIN

Should the period for completion be automatically extended due to abnormal weather conditions occurring during execution of the Contract as provided for in the Conditions of Contract, no adjustment to the total for time-related preliminary and general items will be applicable.

PSA6 ADJUSTMENT OF PRELIMINARY AND GENERAL TIME-RELATED ITEMS

An approved extension of time will qualify the Contractor to receive additional payment for each relevant time related item at a unit rate based on the sum originally tendered for such item, and which shall be fair and reasonable as contemplated in Clause 6.4 of the General Conditions of Contract.

PSA7 SECURITY

The cost for providing security against theft and vandalism will be held to be included in the all tendered rates. The contractor is responsible for all the work before the hand.

PSA8 HEALTH AND SAFETY

OCCUPATIONAL, HEALTH AND SAFETY ACT 85 OF 1993 AS AMENDED BY THE OCCUPATIONAL HEALTH AND SAFETY AMENDMENT ACT 181 OF 1993.

Contractors must comply with the provisions of the above-mentioned Act and other applicable legislation. Particular attention must be paid to Section 16 of the Act.

Appointment of Responsible Person

- (i) The Contractor shall cause work to be carried out under the general supervision of a Responsible Person appointed by the Contractor in writing in accordance with the provisions of the Regulations made in terms of the Occupational, Health and Safety Act 85 of 1993 as amended the Occupational, Health and Safety Amendment Act 181 of 1993.
- (ii) A copy of the letter of appointment and of the appointees written acceptance thereof shall be lodged with the Engineer BEFORE any work on site shall commence.
- (iii) In addition the Contractor shall provide the Engineer with the name or names of any Health and Safety Representatives appointed in terms of Section 17 of the above-mentioned Act and who has been given the responsibility of any site or sites falling under the terms of the Contract.
- (iv) Whenever the appointed Responsible Person is replaced by another person, the replacement must be appointed and a copy of the appointment submitted to the Engineer.

The maintenance of safe work practice at all times and in all sections of the execution of the works is embedded in the day to day site activities of all the Contractor's management, staff and workforce on the contract.

However, the introduction of the Construction Regulations in 2014 requires from the Employer to ensure that the Contractor has made adequate provision for the execution of the works within the specifications of said regulations. The following items have been identified as critical towards ensuring the minimum standards of safe work practice:

It must be noted that the lists below are not exhaustive and that many items have been traditionally priced by the Contractor as an integral part of his Preliminary and General items or as part of the overhead costs of other items. The tender document, although not detailed with regards the Construction Regulations, requires that the Contractor ensures adherence to the Occupational Health and Safety Act (Act 85 of 1993) the Construction Regulations, 2014.

PSA8.1 Fixed-charge Items

Add the following new Clause (Clause 8.3.5):

Compliance with the Occupational Health and Safety Act
(Act 85 of 1993) and its regulations and with the Employer's
Health and Safety Specification.

Unit

Sum

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

Preparation of Health and Safety Plan,
Establishment of Health and Safety File,
Health and Safety Training
Personal Protective Clothing and Equipment
Fences, Signs and Barricades
Establishment of Safety Administration
Other Health and Safety Fixed-charge Obligations

PSA8.2 Time-related Items

Add the following new Clause (Clause 8.4.6):

Compliance with the Occupational Health and Safety Act
(Act 85 of 1993) and its regulations and with the Employer's
Health and Safety Specification.

Unit

Sum

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 ongoing 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

PSA9 ENVIRONMENTAL MANAGEMENT PLAN

The Contractor shall comply with all the conditions of the Environmental Authority and the Environmental Management Plan (Volume 3) (if applicable).

PSA9.1 Fixed-Charge Items

Add the following Clause (Clause 8.3.6):

Compliance with Environmental Management Plan and
Environment Authority.

Unit

Sum

The sum tendered shall cover all costs, overheads, profits and charges incurred in complying with all the conditions of the Environmental Management Plan and Environment Authority (Volume 3).

PSA9.2 Time-related Items

Add the following Clause (Clause 8.4.7):

	<u>Unit</u>
Compliance with Environmental Management Plan and Environment Authority	<u>Sum</u>

The sum tendered shall cover all costs, overheads, profits and charges incurred in complying with all the conditions of the Environmental Management Plan and Environment Authority (Volume 3).

PSA10SUMS STATED PROVISIONALLY (Clause 8.5)

PSA10.1 Contingencies

A Provisional Sum 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.

PSA10.2 Contract Price Adjustment

A Provisional Sum 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.

PSA10.3 Salary for Labour Desk Officer, Community Liaison Officer, Project Steering Committee

A Provisional Sum has been included in Schedule 2 for a salary to be paid to the Labour Desk Officer and Community Liaison Officer.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid. This mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

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 trenches. 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 R3 500.00 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 facilitators 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 the Contract requirements.
- Investigate and report all labour dispute matters to the PSC, advice site agent on resolution.

The residents of each village being served by the scheme are represented by a PSC. All liaison with the community and the committees is the responsibility of the Social Facilitator in conjunction with the Implementing Agent, the OR Tambo District Municipality, and the Project Manager. The Contractor will be required to liaise through them for any matters to do with the community.

PSA10.4 Relocation of Existing Services

A Provisional Sum has been included in Schedule 2 for the relocation of existing services if and when required.

PSA10.5 Transportation for the Engineer

The Contractor shall pay the Engineer, on the monthly invoice of the Engineer; the rate per month stated in the Bill of Quantities and shall recover the same from the Employer under Items 2.5.7.

The Contractor's overheads and profit on the above monthly payments will be paid under Item 2.5.8 at the tendered percentage mark-up on the payments made.

PSA10.6 Accommodation for the Engineer's staff

The Contractor shall pay the Engineer, on the monthly invoice of the Engineer, the rate per month as stated in the Bill of Quantities and shall recover the same from the Employer under Item 2.5.9.

The Contractor's overheads and profit on the above monthly payments will be paid under Item 2.5.10 at the tendered percentage mark-up on the payments made.

PSA10.7 Telephone / Cellphone

The Contractor shall pay the Engineer on the monthly invoice of the Engineer, the rate per month as stated in Bill of Quantities and shall recover the same from the Employer under Item 2.5.11.

The Contractor's overheads and profit on the above monthly payments will be paid under Item 2.5.12 at the tendered percentage mark-up on the payments made.

PSA11 PRIME COST ITEMS (Clause 8.6)

PSA11.1 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 abovementioned amount, provision is made in Schedule 2 for a mark-up on the materials used during the execution of the dayworks by the Contractor. Payment made shall be regarded as full compensation for overheads, charges and profit on the materials that are used when executing dayworks.

PSA11.2 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.

PSAB ENGINEER'S FACILITIES

PSAB1 OFFICE BUILDING (Clause 3.2)

Add the following to Clause 3.2:

All offices, facilities and equipment shall be new/ refurbished to new standard and be furnished, serviced, cleared and maintained by the Contractor.

The Contractor shall supply and furnish two air-conditioned "IVS Container office" or Similar approved (one for the use of the Engineer and his /her staff and one for the Employers' inspectors) and one air-conditioned "IVS Container office" or Similar approved conference facility for conducting meetings.

Add to the Sub-clause:

In addition to the furnishings listed under sub-items (a) to (i), the following shall be provided and properly maintained:

- one refrigerator of at least 100 litre capacity
- one kettle of at least 2 litre capacity
- one tea set comprising six cups and saucers, six teaspoons, one teapot, one sugar bowl and one milk jug
- covered parking for four vehicles
- un-covered parking space for two vehicles
- two "Barhold" or similar wall mounted racks each with 6 clamps suitable for hanging A0 sized drawings
- one large meeting table
- ten additional chairs

PSAB2TELEPHONE (Clause 4.1)

Delete the Sub-Clause and substitute the following:

The Contractor shall provide a cellular phone for the sole use of the Engineer or his Representative.

PSAB3NAME BOARDS (Clause 3.1)

Add the following to Clause 3.1:

Refer to Volume 2: Contract Drawings for a detailed drawing of the name board. Two name boards shall be supplied by the Contractor which shall conform to the detail drawing appended to this document. The Contractor shall be responsible for the erection thereof, maintenance during the contract period and removal on completion

PSAB4 SURVEY ASSISTANTS (Clause 5.5)

One suitably knowledgeable Survey Assistant shall be made available for the sole use of the Engineer's Representative for the duration of the Contract. The survey assistant will be required to assist the Engineer with verification of monthly measurements.

The assistant may also be required to fulfil the function of Community Liaison Officer during the Contract should the Engineer consider this arrangement to be in the interests of the Employer. The Survey Assistants may therefore have to be appointed from the local communities. Transport shall be supplied for the Survey Assistant/Community Liaison Officer by the Contractor for the duration of the Contract should he be requested to do so.

PSAB5 SURVEY EQUIPMENT

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 2 No.
- (f) Survey books: Level 3 No.
- (g) 2kg hammer with rubber handle 1 No.
- (h) Steel pegs, 300mm long and 12mm dia 10 No.
- (i) Aluminium tags, 100mm long, 15mm wide and 2mm thick 10 No.
- (j) Measuring wheel 1 No.
- (k) Tripod holders for ranging rods (heavy duty) 2 No.
- (l) Optical square (Sokkisha or Wild), complete with telescopic aluminium rod and bubble 1 No.
- (m) Triangular change plate with chain 2 No.
- (n) 100m long 50 kg strength fish line 1 No.

- (o) One metre long spirit level 1 No.
- (p) Three metre aluminium straight edge 1 No.

PSAB6 Electronic Equipment

The Contractor shall also supply the following equipment for the duration of the Contract.

A Troxler nuclear system complete with accessories and stored in a suitable transit case as supplied by the manufacturer. A detailed description of each unit and principles of operation should be given in the manual for the nuclear instrument.

The Contractor shall also provide, insure and maintain for the full duration of the contract an approved digital camera complete with data zoom features.

PSAB7 CARPORTS

The Contractor shall provide and maintain two carports with waterproof roofing for the duration of the Contract. The floor shall consist of crushed aggregate to alleviate dusty and muddy conditions.

PSC SITE CLEARANCE

PSC1 DISPOSAL OF MATERIAL (Subclauses 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. Trees and stumps necessarily removed shall not be burnt unless authorised by the Engineer but shall be cut and stacked at areas designated by the Engineer for collection and use by the local community.

PSC2 AREAS TO BE CLEARED AND GRUBBED (Clause 5.1)

The areas to be cleared and grubbed will be indicated by the Engineer. All trees outside the designated area to be cleared shall be preserved.

PSC3 PRESERVATION OF TREES (Subclause 5.2.3)

The penalty in respect of every individual tree, designated as a tree to be preserved, that is damaged or removed unnecessarily by the Contractor, shall be R1000. Trees that fall within areas upon which the Works are to be constructed or within areas that the Contractor must occupy for the proper construction of the Works will not be designated for preservation.

PSC4 CONSERVATION OF TOPSOIL (Clause 5.6)

Add to the Sub-Clause:

The topsoil, where approved by the Engineer, shall be conserved for later use by stockpiling in stockpiles clear of the working area.

PSC5 RESTORATION OF FENCES ONTO SERVITUDE BOUNDARY (Sub-Clause 8.2.11)

Where existing fencing is encroaching on the pipeline servitude, such fencing shall be removed prior to construction and re-erected to a condition no worse than that pertaining prior to the removal, on the formal cadastral boundary all as indicated on the respective land plans (if applicable). For the period that the fence or wall is dismantled and not yet re-erected, the Contractor shall erect, at the end of each day's operations, a temporary fence to close the gap in the existing fence or wall and shall maintain security adequate to prevent use of the temporary fence as a point of access by unauthorised persons.

PSC6 FREEHAUL AND OVERHAUL

No overhaul will be payable on the disposal of material arising from clearing and grubbing and/or removing existing fences.

PSDA EARTHWORKS

PSDA 1 DISPOSAL OF SURPLUS MATERIAL (Sub-Clause 5.1.4.3 and 5.2.2.3)

All surplus or unsuitable materials arising from the works shall be spoiled and neatly spread and levelled so as not to interfere with future works or 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 the pipeline is laid within a 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. Clause 5.6.7 of 1200DB shall apply to the cleaning of roadways.

PSDA2 EXCAVATION CLASSIFICATION

No extra over payment will be made for excavation in material classified in terms of Subclause 3.1.2 as intermediate excavation and boulder excavation. The tendered rate for excavation in all materials will include for the cost of this excavation. Rock quantities are to be measured and agreed with the Engineer prior to backfilling. In the event that backfilling has taken place before rock quantities have been agreed with the Engineer then no rock payment will be made.

PSDA 3 ACCOMMODATION OF TRAFFIC (Sub-Clause 5.1.6 and Sub-Clause 8.3.12)

Traffic must be accommodated across the pipeline servitude at all existing crossings with public and private roads. All roads shall remain continuously open to traffic at all times. In addition to the above requirement, the Contractor shall not cut off pedestrian access to any residential stand for excavation, pipe-laying, backfilling or any other purpose at any stage and shall not cut off traffic access to any residential stand for excavation, pipelaying, backfilling or any other purpose for more than 48 hours, without written approval from the Engineer. The Contractor shall make provision to ensure pedestrian access to all residential stands and shall at all times observe proper and adequate safety precautions regarding open trenches near residential stands. The Contractor shall make provision to ensure the safe

passage of traffic using public and private roads for the entire duration of the Contract, and to ensure that any disruption to the public is kept to a minimum by crossing in half widths, or by providing safe detours where shown on the Drawings or instructed by the Engineer. Non-compliance with the above requirements shall entitle the Engineer to order that the trench be backfilled to provide access, in which case the Contractor shall re-excavate the trench at a later stage to complete the work at his own expense. Written notice (in terms of SABS 1200DB) shall be served to property owners to notify them of the discontinuation of access for the period allowed. All detours and signs shall be erected and maintained in accordance with the latest issue of Road Signs Note 13 as issued by CSRA and CUTA.

The Contractor shall include in the tender rates accommodating traffic during all his obligations in this regard, including but not limited to temporary barricades, the erection and re-erection of existing and/or temporary traffic signs, lights and flagmen for the guarding and protection of the Works, and for making all necessary arrangements with the applicable traffic authorities.

PSDA 4 BORROW PITS (Sub-Clause 5.2.2.2)

The Contractor shall be responsible for making his own arrangement regarding the provision of pipe bedding material, if required, from commercial borrow pits. The Contractor shall provide in his tender prices for all royalties payable and for the transport of the material to site.

PSDA 5 HAUL AND SPOIL ROADS

The Contractor shall be responsible for the provision of all haul and spoil roads that may be required for the construction of the works and that the engineer may approve. No additional payment will be made in this regard.

PSDA 6 SOILCRETE (Sub-Clause 5.2.5.1)

Soilcrete backfilling shall be a G5 material as specified in SABS 1200m, stabilised with 5% cement and compacted to 93% modified AASHTO maximum density.

PSDA 7 FREEHAUL AND OVERHAUL (Sub-Clause 5.2.5)

All haul shall be considered as free haul and no payment will be made for haul.

PSDB EARTHWORKS (PIPE TRENCHES)

PSDB1 MATERIALS (Clause 3)

Notwithstanding Subclause 3.7, in terms of which the Contractor has a choice regarding methods of selection, the Contractor is required to use selective methods of excavation. The Contractor shall selectively remove and keep separate the sandy material from unsuitable material and place it adjacent to the trench for reuse as backfill, selected fill, selected granular material or for other use as ordered by the Engineer.

Material which, in terms of Subclause 6.2 of SANS 1200 D or Subclause 6.1 or SANS 1200 LB, is too wet for immediate use in the trench (but which is otherwise suitable) will not be regarded as “unsuitable” material and, if so ordered by the Engineer, the Contractor shall spread such material in a suitable area until it has dried sufficiently for later use. Should the material which is replaced in the trench become too wet again, due to the fact that the Contractor made insufficient provision for the handling and removal of groundwater in accordance with Subclause 5.5 of SANS 1200 A, the Contractor shall replace the material at his own cost with material which is, in the opinion of the Engineer, suitable.

When preparing his programme and construction methods, the Contractor shall make allowance for selective excavation and the handling and drying out of material which is too wet for immediate use.

PSDB2 ACCOMMODATION OF TRAFFIC (Sub-Clause 5.1.3)

Traffic must be accommodated across the pipeline servitude at all existing crossings with public and private roads. All roads shall remain continuously open to traffic at all times. In addition to the above requirement, the Contractor shall not cut off pedestrian access to any residential stand for excavation, pipe-laying, backfilling or any other purpose at any stage and shall not cut off traffic access to any residential stand for excavation, pipelaying, backfilling or any other purpose for more than 48 hours, without written approval from the Engineer. The Contractor shall make provision to ensure pedestrian access to all residential stands and shall at all times observe proper and adequate safety precautions regarding open trenches near residential stands. The Contractor shall make provision to ensure the safe passage of traffic using public and private roads for the entire duration of the Contract, and to ensure that any disruption to the public is kept to a minimum by crossing in half widths, or by providing safe detours where shown on the Drawings or instructed by the Engineer. Non-compliance with the above requirements shall entitle the Engineer to order that the trench be backfilled to provide access, in which case the Contractor shall re-excavate the trench at a later stage to complete the work at his own expense. Written notice (in terms of SABS 1200DB) shall be served to property owners to notify them of the discontinuation of access for the period allowed. All detours and signs shall be erected and maintained in accordance with the latest issue of Road Signs Note 13 as issued by CSRA and CUTA.

The Contractor shall include in the tender rates accommodating traffic during all his obligations in this regard, including but not limited to temporary barricades, the erection and re-erection of existing and/or temporary traffic signs, lights and flagmen for the guarding and protection of the Works, and for making all necessary arrangements with the applicable traffic authorities.

PSDB3 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 day works 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.

PSDB4 TRENCH WIDTHS (Sub-Clauses 4.1 and 5.2)

Trenches in general shall not exceed the widths laid down in Sub-Clause 5.2. 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.

PSDB5 EXCAVATION (Sub-Clause 5.4)

The Contractor will be required to follow a procedure, whereby laying jointing, testing and backfilling for each section of the pipeline will follow soon after trenching, and he will not be permitted to open up lengths of trench far in advance of pipelaying and backfilling operations. If in the opinion of the Engineer, trenching has proceeded too far ahead of pipelaying, the Engineer shall have the right to stop trenching until the pipelaying and backfilling has caught up and the Contractor shall not be entitled to any extra payment due to this instruction.

PSDB6 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 90% of modified AASHTO maximum density 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.

PSDB7 DISPOSAL OF EXCAVATED MATERIAL (Sub-Clauses 5.6.3 and 5.6.4)

All surplus or unsuitable materials arising from excavation shall be disposed of in accordance with Clause PSDA 2.

PSD8 NO PAYMENT FOR INTERMEDIATE EXCAVATION CLASSIFICATION

No extra over payment will be made for excavation in material classified in terms of Subclause 3.1.2 as intermediate excavation and boulder excavation. The tendered rate for excavation in all materials will include for the cost of this excavation. Rock quantities are to

be measured and agreed with the Engineer prior to backfilling. In the event that backfilling has taken place before rock quantities have been agreed with the Engineer then no rock payment will be made.

PSDB9 FREEHAUL AND OVERHAUL (Sub-Clause 5.6.8)

No payment for overhaul.

PSDB10 AREAS SUBJECTED TO TRAFFIC LOADS (Clause 5.7.2)

The requirements of Clause 5.7.2 shall apply to all pipes crossing roads and streets whether the roads and streets are to be constructed under this Contract or to be constructed at some time in the future. Compaction of pipe trenches running parallel to the roadway shall be considered areas subject to traffic loads where instructed by the engineer.

PSLB BEDDING (PIPES)

PSLB1 MATERIAL (Sub-Clause 3)

PSLB1.1 Selected Granular Material (Sub-Clause 3.1)

Selected granular material shall be regarded as clean river or any other granular, non-cohesive material of an acceptable nature and a PI less than 6. Stones shall not be in excess of 19mm.

PSLB1.2 Selected Fill Material

Selected fill material shall be material that has a PI less than 6 and does not contain vegetation or stones exceeding 30mm.

PSLB1.3 Ordinary Backfilling

Ordinary backfilling will consist of material less than 200mm in diameter. All material above the selected fill blanket (drawing SABS LB-1, LB-2) will be measured as ordinary backfill and shall be compacted to at least 90% modified AASHTO maximum density.

PSLB2 BEDDING (Sub-Clause 3.3)

PSLB2.1 Rigid Pipes

All Steel, Ductile Iron, clay and concrete pipes shall be laid on a class C bedding as shown on Drawing LB-1 of SABS 1200LB.

PSLB2.2 Flexible pipes

uPVC, mPVC, GRP, HDPE and other polyethylene pipes will be regarded as being flexible and shall be bedded as per Drawing LB-2 of SABS 1200 LB.

PSLB3 TOLERANCE ON COMPACTION OF BEDDING MATERIAL

Degree of accuracy II shall prevail.

PSLB4 BORROW PITS / COMMERCIAL SOURCES

The Contractor shall be responsible for making his own arrangement regarding the provision of backfill or bedding material, if required from borrow pits or commercial sources. The Contractor shall provide in his tender prices for all royalties payable and for the transport of material to site.

PSLB5 SUITABLE MATERIAL FROM TRENCH EXCAVATION (Clause 3.4.1)

For the purpose of providing bedding materials, the contractor shall use selective methods of excavating.

PSLB6 MATERIAL NOT AVAILABLE FROM TRENCH EXCAVATION (Clause 3.4.2)

Bedding and selected fill materials shall be obtained from trench excavation, other necessary excavations, commercial sources or from borrow pits in accordance with the provisions of Clause PSLB4. The engineer reserves the right to designate alternative sources. He also reserves the right to make a ruling whether special efforts must be made to construct specifically separate bedding for pipes where the in-situ material proved to be of good quality.

PSLB7 CLASS A BEDDING (Sub-Clause 5.2.1)

Concrete to be used in class A bedding to pipes shall be of grade 20/19.

PSLB8 CONCRETE CASING TO PIPES (Sub-Clause 5.4)

Concrete to be used in the casing of pipes shall be of grade 20/19. The volume of concrete will be computed from the dimensions given in standard drawings for varying sized of pipe.

Concrete encasement will be measured per linear meter along the centreline of the trench. The rate shall cover the cost of dealing with any excavation (in all materials including disposal of surplus that is additional to that measured) under the item for pipe trench excavation, the cost of encasing the pipe in concrete including the cost of formwork (if any), etc. and the cost of formwork to form flexible joints at 4m centres.

PSLB9 STONE BEDDING

Stone bedding will be measured per cubic metre 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 centreline of the trench. The provision, operation and removal of (a) de-watering pump where authorised by the Engineer will be measured as day works under the appropriate item in Schedule 2.

PSLB10 MEASUREMENT AND PAYMENT

PSLB10.1 Volume of Bedding Material (Sub-Clause 8.1.3)

The volume of bedding material will be measured net, excluding the volume occupied by the pipe.

END OF SECTION

PSL MEDIUM PRESSURE PIPELINES

PSL1 MATERIALS – WATER SUPPLY MAINS (Clause 3)

The materials and construction of all pipes, fittings, valves and specials shall comply with the appropriate SANS, SABS, BS or other equivalent specification, whether stated or not, and shall be approved by the Engineer. Only full-length pipes bearing the relevant standard's mark will be acceptable. Cut pipes shall only be used at pipe junctions to position valves and specials as shown on the drawings, and at connections to structures. When laying the pipes the markings shall be visible from above.

The Engineer shall at all reasonable times have free access to the place where the goods are manufactured for the purpose of examining and sampling the materials and goods, and if necessary for supervising the testing and marking of goods. The manufacturer shall supply free of charge every facility and all labour required for such examination, sampling, inspection, testing and marking before delivery and shall provide and maintain in good order suitable, convenient and accurate apparatus for testing goods.

PSL 1.1 uPVC pipes

uPVC pipes shall comply with the requirements of SABS 966 Part 1(latest edition) for pressure pipes, with rubber seal ring integral socket joints.

Seal rings shall comply with SABS974.

Quality management systems shall comply with ISO 9001:2000.

PSL1.2 MPVC Pipes (Clause 3.7.3)

Add a new clause:

MPVC pipes and fittings shall be fitted with spigot and socket rubber ring joints and shall comply with the requirements of SANS 966-2: 2010 (MPVC).

PSL1.3 Glass fibre reinforced polyester (GRP) pipes

GRP pipes shall comply with the following specifications:

AWWA C950-95
ASTM D3262
ASTM 3754
SABS 141:1992
SABS 1748-1:1998

Quality management systems shall comply with ISO 9001:2000.
The stiffness class shall be 5000N/m² minimum with Double Bell couplings.

PSL1.4 HDPE Pipes (Clause 3.7.3)

Add a new clause:

HDPE pipes and fittings shall be fitted with compression fitting joints or Buttwelding and electrofusion shall comply with the requirements of SANS 4427 and SABS 533

Quality management systems shall comply with ISO 9001:2000.

PSL1.5 Steel pipes, fittings and specials (Clauses 3.4.2 and 3.4.3)

All steel pipes and specials, irrespective of diameter, shall be fabricated from plain ended pipes. The use of screwed flanges and fittings shall not be permitted, except for use on air-valve assemblies. All fabrication shall take place in a suitable workshop prior to galvanising, and no cutting or welding of pipes on site shall be permitted.

The Contractor shall, when called upon to do so, make available to the Engineer the manufacturer's certificates covering the chemical analysis and physical properties of the steel used in the manufacture of the pipes. The pipes shall be hydraulically tested before leaving the factory to the test pressure specified in sub-clause 7.3 of SANS 1200 L. The methods of sampling and testing of the manufactured pipes shall comply with Sections 6 and 7 of SANS 719. Tests shall be carried out at the place of manufacture and at the expense of the Contractor. On delivery of the goods concerned the Contractor shall supply a signed certificate giving results of the tests and certifying that the goods have been manufactured in accordance with the Specification.

Steel pipes of nominal bore over 150 mm shall comply with the applicable requirements of SANS 719 and shall be Grade B. The minimum wall thickness of steel pipes, fittings and specials up to 660mm external diameter shall be 6,0 mm, and above 660mm to 914mm external diameter shall be 8mm.

The ends of pipes, fittings and specials used with uPVC pipes shall be suitably spigotted. Pipes shall be longitudinally and circumferentially butt-welded by the submerged arc welding process. Spirally welded pipes will also be accepted. The welding processes and materials used for the fabrication of the pipes shall conform to SANS 1 0044-1. The Contractor shall, when called upon to do so, provide written confirmation that welding has been carried out by coded welders.

Plain ends shall be machined to suit the outside dimensions of connecting pipework.

Steel pipes shall be cement mortar lined and bitumen/glassfibre coated or similar approved.

The Contractor shall be responsible for the structural design of all steel bends, tees, fittings and specials, which design shall be carried out by a registered Professional Engineer. Costs for design shall be included in the rates for design, supply and laying. The Contractor shall submit certification of the designs and manufacture to the Engineer prior to delivery to site.

All steel specials shall be lined and coated with Copon EP 2300 or approved equivalent to the manufacturer's specifications and to a minimum dry film thickness of 350 micron unless otherwise indicated on the drawings or scheduled.

PSL1.6 Flanges and accessories (Clause 3.8.3)

All flanges shall be to BS 4504 (16 Bar) or SANS 1123 Table 2500/3 unless otherwise specified or shown on the drawings. The contractor shall be responsible for ensuring that the flange drillings on all pipeline components including valves, fittings, specials and fixtures etc. are compatible

Where used with mild steel pipes underground, the connections shall be bitumen mastic wrapped. All gaskets for flanged joints shall be 3 mm thick, full face rubber insertion in accordance with the requirements of BS 3063.

Where services are relocated or connected to existing pipes, the dimensions of existing flanges and pipes shall be verified by the Contractor prior to ordering of materials.

All bolts and nuts for jointing of pipe flanges shall be in accordance with SANS 1700.

PSL1.7 Jointing Materials (Flexible Couplings) (Clause 3.8.2.1)

Detachable couplings shall be of the "Viking - Johnson" or other similar and approved type without central register unless otherwise specified. Coupling flanges shall be designed to withstand the hydrostatic test pressures and all stresses due to tightening of the bolts, and the rubber rings shall generally comply with BS 2494 Class D. Detachable couplings shall suit the outside dimensions of pipe-work complying with either BS 2035 or the relevant SANS specification as the case may be.

Mild steel "Viking – Johnson"-type couplings shall be lined and coated with Copon EP 2300 or approved equivalent to the manufacturer's specification, and a minimum dry film thickness of 350 micron.

PSL2 VALVES (Clause 3.10)

PSL2.1 Gate valves

Gate valves shall be clockwise closing with non-rising spindles. The valve shall conform with the requirements of the latest edition of SABS 664 or BS 5163.

The valves are required to seal drop tight from zero to a test pressure of 1,5 times the rated working pressure under test and field conditions.

The valves shall be capable of being opened and closed under an unbalanced pressure equal to the rated working pressure.

An arrow on the valve shall indicate the direction of closure.

Valves 150mm and smaller shall be provided with a plain thrust collar. All other valves shall be provided with ball thrust collars.

PSL2.2 Non-return valves

Non-return valves up to 350mm dia shall be approved single door swing check valves with left hand (LH) or right hand (RH), as specified, side mounted counter weight (facing valve from upstream end). Valves can be double-flanged or wafer type, as specified, and must comply with SABS 144, BS 5153.

Non-return valves larger than 350mm dia shall be VAG slanted seat swing check valves with internal damper or similar approved.

Valve bodies and seals shall be free of pockets that will allow dirt accumulation and prevent the doors from closing fully.

Stops or an approved resilient material shall be fitted into the body to prevent the doors from fluttering under full flow conditions.

Valves shall be designed to allow for rapid but non-slamming closing characteristics.

Valve bodies and valve doors shall be of cast iron.

The valve body and doors or disc shall be fitted with replaceable stainless steel body and door seat rings.

PSL2.3 Air Valves

Air release and vacuum break valves shall be double orifice with anti-shock orifice mechanism, of type "Vent-O-Mat Series RBX" or similar approved with flanged inlets and rated for a minimum of 16 or 25 bar working pressure as specified.

The valve shall have an integral surge alleviation mechanism which shall operate automatically to limit transient pressure rise or shock induced by closure due to high velocity air discharge or the subsequent rejoining of separated water columns. The limitation of pressure rise must be achieved by deceleration of approaching water prior to valve closure.

The intake/discharge orifice area shall be equal to the nominal size of the valve. The inlet shall be fitted with an isolating valve with vertical spindle, key operated from above. Air valves shall be able to withstand twice the maximum rated pressure and must provide a positive drop tight closure from a minimum pressure of 50 kPa up to the maximum rated pressure.

PSL2.4 Water Meters

Add the following clause:

The meters shall be of the semi-positive rotary piston volumetric type and be to Class C specification.

Bulk water meters shall be supplied and built into the meter chambers as detailed in the drawings. Fittings and the construction of the chambers will be measured elsewhere. Water meters must comply with the SANS Specification No. 1529-1: 2006 and must be approved

in terms of Section 18 of the Trade Metrology Act, Act No. 77 of 1973, as amended by the Trade Metrology Amendment Act, Act No. 42 of 1994.

All water meters offered must be tested and sealed by an authorised official in an SANS 17025 accredited laboratory, situated within the borders of the Republic of South Africa.

PSL3 WELDING (Clause 5.2.3)

Initially 100% of the site welds of each welder shall be examined radiographically in accordance with API 1104. When a 100% success rate of at least ten consecutive welds are achieved by a welder, the frequency of testing may be reduced to 10%. When a weld defect occurs again, the previous ten welds of the welder must also be radiographically examined and the frequency of further tests shall immediately increase to 100%. Any defect in the previous ten welds will activate the testing of ten further welds until a 100% success rate of the ten welds is achieved. The testing rate may always be reduced to 10% after a 100% success rate of ten consecutive welds.

Steel pipes with diameters larger than 500mm shall be butt welded on site. Steel pipes smaller than and including 500mm shall have spigot and socket joints, to be fillet welded on site.

PSL4 PIPELINE MARKERS

Pipeline markers shall be installed at the following positions:

Horizontal bends

Servitude boundaries of provincial roads and railway lines

Between horizontal bends and valve chambers where distances in between exceed 300m.

PSL5 HANDLING AND RIGGING (Clause 4.1)

PSL5.1 Transportation

Fittings, specials and valves shall be protected during transportation and handling against damage caused by impact, dropping, etc.

PSL5.2 Off-loading and storage

Pipes, fittings and specials shall at no time be laid, stacked or rolled directly onto the ground but shall be supported on suitable padded cradles or other approved material near each end of the pipe, fitting or special. Particular care shall be taken where pipes with fitted couplings are handled or stacked to prevent any pressure on the couplings.

PSL5.3 Inspection on delivery

The Contractor shall thoroughly inspect all pipes, fittings and specials delivered to the site.

Materials rejected by the Engineer shall be removed from the site within 30 days and shall be replaced by other approved materials by the Contractor at his own expense.

PSL6 DISINFECTION OF POTABLE WATER PIPELINE (Clause 5.10)

The disinfection shall be done in accordance with SABS 1200L with the exemption that the concentration of calcium hypochlorite can be reduced to 60mg/l.

The pipeline shall be tested hydraulically in sections including all the valves, fittings and specials.

All site welds that are not subject to the hydraulic testing, shall be 100% radiographically examined.

PSL7 FLEXIBLE CONNECTIONS AT STRUCTURES

In order to avoid damage to rigid pipes entering structures or other chambers caused by differential movement, all pipes built, cast or grouted into structures or other chambers shall be provided with flexible connections to the type details shown on Drawing LD-2 of SABS 1200 LD.

PSL8 STANDARD HYDRAULIC PIPE TEST (Clause 7.3)

The field test pressure shall be as specified in clause 7.3 unless otherwise specified in the project specification or on the drawings.

PSLD SEWERS (SANS 1200 LD)

PSLD 3 MATERIALS

PSLD 3.1.5 uPVC Pipes

Add the following to Sub-clause 3.1.5:

uPVC Pipes shall be the uPVC Class 34 heavy duty solid wall type.

PSLD 3.5 MANHOLES, CHAMBERS, ETC.

PSLD 3.5.2 Precast Concrete Sections

Add the following to Sub-clause 3.5.2:

Precast concrete sections with an inside diameter of at least 1 000 mm shall be used for manholes.

Where the angle between the inlet and outlet of the manhole deviates by more than 45 ° from the straight or where more than one inlet enter a manhole, the invert level of the outlet shall be 30 mm lower than the lowest inlet invert level.

Dolomitic aggregate and dolomitic sand shall be used for the manufacture of precast concrete sections and for concrete, mortar, benching and plaster used in manholes.

PSLD 3.5.4 Concrete

Add the following to Sub-clause 3.5.4:

Dolomitic aggregate and dolomitic sand, complying with the requirements of SANS 1200G Sub-clause PSG 3.4. Dolomitic aggregate shall be used for the manufacture of precast concrete sections and for concrete, mortar, benching and plaster used in manholes.

PSLD 3.5.7 Step Irons

Replace Sub-clause 3.5.7 with the following:

Step irons shall be installed in all manholes deeper than 1,2 m. Step irons shall consist of polypropylene coated 12 mm high tensile steel, such as Calcamite or similar. The installation of the step irons shall be in accordance with the specification of the manufacturer.

PSLD 3.5.8 Manhole covers and frames

Replace Sub-clause 3.5.8 with the following:

Manhole covers and lids are to be precast concrete. Lids shall be alternative concrete type with an integral galvanized mild steel surround, as detailed on the drawings. Where specified manhole covers and frames shall be Type 2A (SANS 558) as amended regardless of whether or not the manholes are subject to traffic loads.

PSLD 3.6 Marker posts

Replace Sub-clause 3.6 with the following:

Marker posts shall be manufactured from 150 mm diameter x 1,5 m FC pipe filled with concrete. The half-length of pipe protruding above the ground shall be painted using approved exterior white enamel paint.

PSLD 5 CONSTRUCTION

PSLD 5.4 CONNECTIONS TO MANHOLES

Add the following to Clause 5.4:

If the gradient of a pipe is more than 1:10, a vertical bend shall be used to connect up to the manhole. The Contractor shall take care that no low point is formed in the pipe as a result of the bend. If a pipe lies at a gradient of 1:10 (5,71°), a 11,25° bend cannot be used since a bend with an angle larger than the grade of the pipe will result in a low point. It is

the responsibility of the Contractor to shorten the bend in order to create the required angle.

For pipes with a gradient of up to 1:10, the angle can be taken up by a joint in the manhole and if required, also by the joint between the short-length and first full pipe.

PSLD 5.6 MANHOLES, INSPECTION CHAMBERS, ETC

PSLD 5.6.4 Brick Manholes

Add the following to Sub-clause 5.6.4.3:

Walls of brick manholes shall be plastered internally as shown on drawing LD-3. External plaster work shall extend to at least 150 mm below ground level. Manholes shall not be extended above the concrete roof slab by more than 300 mm with brickwork.

If manhole covers are raised with bricks, a half-brick recess, as a foothold, shall be left directly above the concrete slab above the step irons.

PSLD 5.6.5 Precast Concrete Manholes

Add the following to Sub-clause 5.6.5:

Precast concrete manholes shall be constructed using precast concrete rings with sealed joints as detailed on drawing and shall be installed according to the manufacturer's specifications. After the joints have been sealed with an approved sealant in accordance with Sub-clause 3.5.2 the joints shall be covered on the outside by a double wrapping of polyethylene adhesive tape.

Manhole cover levels are to be 200 mm above natural ground level except in carriageways where they are to be flush with the surfacing, unless otherwise specified or ordered.

PSLD 5.9.2 Marker posts

Add the following to Sub-clause 5.9.2:

At the time of backfilling the marker posts shall be installed at each manhole vertically above the pipeline centreline and not more than 1,5m from the manhole. The post shall protrude 0,9 m above ground level or as otherwise specified by the Engineer.

PSLD 5.9 CONNECTING SEWERS

PSLD 5.9.1 Location and Details

Add the following to Sub-clause 5.9.1:

Erf connections shall be installed on the exact positions as indicated on the drawings and shall extend at least 1 m into the erf where it shall be blanked off with an end cap. Danger tape shall be used to locate the sewer end and extend from the pipe end to final ground level.

All house connecting sewers shall be laid at a gradient of 1:60, except where otherwise ordered by the Engineer.

This excludes midblock sewers where connections on the topographical high side can be laid at steeper gradients to end at a minimum depth of 1,2 m or at such greater depth that any point on the erf is able to be connected.

PSLD 7 TESTS

PSLD 7.1 GENERAL

Add the following to Sub-clause 7.1.5:

All tests shall be repeated after the completion of backfilling of pipe trenches and the Engineer's approval shall be based on these second set of tests.

PSLD 7.2.6 Watertightness of manholes

Add the following to Sub-clause 7.2.6:

Watertightness tests shall be carried out on the completed manhole after backfilling has been completed where instructed by the Engineer.

The manhole shall be completely filled with water and allowed to stand for 24 hours. At the end of this period enough water shall be added to refill the manhole and in the subsequent period of 24 hours the water level shall not drop by more than 75 mm per meter of depth of the manhole measured from the channel invert to the underside of the concrete cover slab. Rectification, if necessary, will be carried out at the Contractor's expense.

PSLD 8 MEASUREMENT AND PAYMENT

PSLD 8.2 SCHEDULED ITEMS

PSLD 8.2.6 Erf Connections Unit : No

Substitute Sub-clause 8.2.6 with the following:

Erf connections shall be laid up to 1,0 m within the front erf boundary and a side boundary, unless otherwise agreed to by the Engineer.

There will be distinguished between long, medium and short connections.

A long connection consists of a 100 mm dia. x 45° junction, a 100 mm dia. x 45° bend and a 10 m length of 100 mm dia. pipe with a 100 mm dia. end cap with marker.

A medium connection consists of a 100 mm dia x 45° junction, a 100 mm dia x 45° bend and a 2 m length of 100 mm dia pipe with a 100 mm dia end cap with marker.

A short connection consists of a 100 mm dia x 45° junction and a 1 m of 100 mm dia pipe with a 100 mm dia end cap with marker.

150 mm connections shall be the same as above, but 150 mm dia. pipes, fittings shall be used.

There will be distinguished between the various connections to different main-pipe diameters, as well as between the various depth increments. The depth increment for the connection shall be determined by the depth of the junction.

The rate shall be all inclusive and shall cover the cost of excavation, backfilling, bedding, pipes and fittings and danger tape. An extra-over item for variation in pipe lengths is provided for connections, shorter or longer than specified and shall include the necessary excavation, bedding, backfilling, all material, etc. and will be also be measured under depth increments in the schedule of quantities.

The depth increment for the extra pipe lengths shall be determined by the depth of the end caps. If the deviations are negative, payment shall be reduced accordingly.

The rate for new erf connections on existing sewers shall also cover the cost of additional excavation and backfilling around the mains, cutting of pipes, handling of sewage flow, etc.

Imported material for bedding, fill blanket and main fill shall be measured and paid for under the relevant items for mains.

PSLD 8.2.8 Anchor Blocks Unit : m3

Add the following to Sub-clause 8.2.8:

Payment for anchor blocks shall be made for pipes with gradients steeper than 1:10 and shall be measured in m3.

PSLD 8.2.11 Connection To Existing Sewers Unit : No

Add the following to Sub-clause 8.2.11:

Separate items will be scheduled for each diameter of connecting pipe.

The tendered rate shall include full compensation for connecting the proposed pipe into an existing manhole, any additional channelling and benching associated with the connection, cutting the pipe to suit the connection, supplying and building in the short junction pipe, extra couplings, dealing with existing flow, preventing foreign material from entering the sewer and making the connection.

The excavation for pipelines, pipes, backfilling and manholes shall be measured separately.

Where a direct connection is made to an existing pipe, the rate covers all labour involved in opening the existing pipe, the removal of the existing end cap and disconnection at the pipe.

Add the following Payment Clause:

PSLD 8.2.13 Marker posts Unit : No

Marker posts will be measured by number and shall include the danger tape and marker at the pipe ends.

The rate shall cover the cost of supply and installation of markers as set out in PSLD5.9.2.

PSG CONCRETE (Structural)

PSG1 SCOPE

This specification covers the requirements for water retaining structural concrete for civil engineering work

PSG2 INTERPRETATIONS

PSG2.1 Definition

For purpose of this Contract, all reservoirs and break pressure tanks will be regarded as water retaining structures unless stated otherwise. The standard specification shall be applicable to all other concrete structures not mentioned above.

PSG2.2 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 specification.

PSG3 CEMENTITIOUS MATERIALS

PSG3.1 Applicable standards

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

SANS 1491 – 1:2005 Ground granulated blast furnace slag

SANS 1491 – 2:2005 Portland cement extenders Part 2 : *Fly ash*

SANS 1491 – 3:2005 Condensed Silica Fume

PSG3.2 Type

Only CEM 11B-V shall be used in water retaining structures. 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/m³.

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 (Subclause 5.1.2)

The use of plastic spacer blocks will not be allowed.

PSG5.1.2 Cover (Subclause 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.

Concrete cover to reinforcement to be 50 mm, unless otherwise specified on the drawings.

The soffit of a slab suspended above the water (eg. a reservoir roof) will be treated as being a contact with the water for the purpose of determining the cover.

PSG5.2 Strength concrete (Subclause 5.5.1.7)

It is a requirement that the Contractor employ the services of an approved specialist to obtain design mixes compatible with the specification. The preferred specialist is CCI who has to confirm in writing that:

- a: The proposed concrete mix was designed by CCI
- b: The proposed concrete mix is suitable for water retaining structures with aggressive water (soft water) being retained.
- c: The proposed concrete mix is of grade 35/19

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 35MPa/19mm concrete and shall have a cement / water ratio not less than 2.2 and a cement content of 420 kg/m³. 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.

PSG5.3 Placing (Subclause 5.5.5)

Panels between construction joints shall be cast alternatively.

PSG5.4 Construction Joints (Subclause 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.

PSG5.4.1 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.

PSG5.4.2 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:

Remove all surface water with an air hose and dry sprinkle waterproofing additive (Vandex Premix or similar approved) at 9,8 kg per m².

Place a layer of approximately 10 mm thickness consisting of cement, sand and water mixed in the same proportions as used in the concrete.

Place concrete within 30 minutes.

PSG5.5 Curing and Protection (Subclause 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:

For floors:

Ponded water with a minimum depth of 30 mm.

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.

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 wheel-barrows, monorails, material or scaffolding, etc., until permission is obtained from the Engineer."

PSG5.6 Adverse Weather Conditions

PSG5.6.1 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.

PSG5.6.2 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.

PSG6 CONCRETE SURFACES (Subclauses 5.2.1 and 5.5.10)

PSG6.1 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.

PSG6.2 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.

PSG6.3 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.

PSG7 CONCRETE JOINTS (Subclause 5.5.11)

PSG7.1 Construction Joints (Subclause 5.5.7)

Joints in the concrete structure 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 coarse 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 utilised and the Contractor's methods for the application of the same.

PSG7.2 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.

PSG8 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:

- Waterproofing with Hypalon Bandage System
- Waterproofing with waterbars
- Waterproofing with surface sealants

PSG8.1 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 2mm thick Cambiflex Hypalon Sheeting, 200mm and 250mm wide, as shown on the drawings. The Hypalon sheeting shall have a tensile strength of 6N/mm² and an elongation at failure if not less than 400%.

The Hypalon sheeting shall be banded to the concrete with Sikadur 31 two component, solvent free, moisture intensive, high viscosity, epoxy paste adhesive.

PSG8.2 Waterbars (Waterbars will not be used on this contract)

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 1 m 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 75 mm 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.

PSG8.3 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.

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.

Poli-urethane 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.

PSG9 MISCELLANEOUS

PSG9.1 Porous concrete

Porous 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 5 mm 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.

PSG9.2 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 2 sheets of 250 micron tear resistant damp proof membrane to SANS 952:1985 having 150 mm laps and pierced at 1 m intervals to allow the passage of water.

PSG9.3 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.

PSG9.4 Holding Down Bolts

All holding down bolts and nuts, other than those used in structures retaining liquid shall be galvanised in accordance with SANS 121:2000. Threaded surfaces to be greased before placing the nuts.

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.

PSG9.5 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.

PSG9.7 Testing for Water tightness

Water for the initial filling will be supplied free of charge by the Employer.

The structure shall be filled with water at a uniform rate not exceeding 2.0 m 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 liability 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.

Should the failure of the reservoir to pass the first or any subsequent test for water tightness necessitate the drainage of the structure, the Employer reserves the right to utilise the water by discharging it into its water-reticulation network, in which case the Contractor –

- a) shall not have to pay for the subsequent refilling of the reservoir;
- b) shall, if applicable, reimburse the Employer for any additional costs incurred to make the water fit for consumption; and
- c) shall not be entitled to claim for extra time whilst waiting for the water to be discharged into the network.

The costs of re-testing the reservoir for water tightness shall be borne by the Contractor.

PSDK GABIONS AND PITCHING

PSDK 3 MATERIALS

PSDK 3.1.1 Stone

Add the following to this clause and its sub-clauses:

The stone shall be clean, hard, unweathered and free from fissures and flaking. It shall have a relative density of 2.65 and should pass the requirements of the standard specification in terms of size, durability and finish.

No stone shall be of a size such that it will pass through a ring of diameter 88 mm.

No stone shall be of a size:

- exceeding 250 mm, and at least 85% of the stones shall be of a size equal to or exceeding 120 mm, in the case of gabion boxes, and,
- exceeding 150 mm, and at least 85% of the stones shall be of a size equal to or exceeding 100 mm, in the case of mattresses.

PSDK 3.1.2 Gabion Basket/Cage

Replace Clause 3.1.2 with the following:

Gabion boxes shall consist of double twisted, hexagonal wire mesh of nominal 80 mm mesh, with 4,4 mm o/d frame wire and 2,7 mm o/d mesh wire. Complete with partitions at 1 m centres. All wire to be mild steel to SANS 1580 – 2010, zinc coated by hot-dip galvanizing to SANS 675 – 2009.

Mattresses shall consist of double twisted, hexagonal wire mesh of nominal 80 mm mesh, with 4.0 mm o/d frame and 2.5 mm o/d mesh wire. Complete with partitions at 1 m centres. All wire to be mild steel to SANS 1580 – 2010, zinc coated by hot dip galvanizing to SANS 675 – 2009.

PSDK 3.1.3 Geotextile Material

Add the following to Clause 3.1.3:

“Filter fabric for groundwater drains shall be a non-woven continuous filament, pun-bounded polyester geotextile having the following physical characteristics:

- Mass per unit surface 150 g/m² (min)
- Porosity under 0,5 KPa 93%
- Porosity under 200 KPa 82%
- Normal permeability under 2 KPa 3 x 10⁻³ m/s
- Normal permeability under 200 KPa 7 x 10⁻⁴ m/s
- Normal through flow under constant head of 400mm 270 ℓ /m²/s

The material shall be placed as directed and shall not be exposed to direct sunlight for prolonged periods.”

PSDK 5 CONSTRUCTION

PSDK 5.2.1 Preparations of the foundations and surface for bedding

Add the following to this clause:

Where poor in-situ material is encountered below the concrete base, rock fill or 19 mm stone or a crusher-run or material complying with the requirements of Clause 3.3.3 of SANS 1200 MF, shall be used as bedding material. Where concrete bases are not required for low height revetment, the bed for the gabion cages shall be constructed using similar quality crusher-run material, or on suitable in-situ material as directed by the Engineer.

PSDK 7 TESTING

Add the following clause:

PSDK 7.6 Testing

The requirements of SANS 1200GA shall apply to the testing of concrete used in the footings where applicable.

PSHA STRUCTURAL STEELWORK (SMALL WORKS)

PSHA 1 CONTRACTOR TO PROVIDE SHOP DETAILS (Sub-clause 5.1.2)

The Contractor shall be responsible to provide shop details for all structural steel elements for the Engineer's approval prior to manufacturing. Design drawings in terms of sub-clause 5.1.1 will be provided to the Contractor at site handover.

PSHA 2 HANDRAILS (Sub-clause 5.2.10)

All handrails shall be of the ball type tubular handrails and shall be manufactured by a reputable firm specialising in the manufacturing of this type of handrailing.

Tubular handrailing shall be manufactured from mild steel tubing, unless otherwise specified on the Drawings. The minimum yield strength of the mild steel tubing shall be 300 MPa. The tubing shall have a minimum outside diameter of 33mm and a minimum wall thickness of 2,5mm. The knee rail shall have a height of 500mm above floor level and the top rail shall have a height of 1000mm above floor level.

Stanchions shall be manufactured from mild steel tubing, unless otherwise specified on the Drawings. The tubing shall have a minimum outside diameter of 42mm and a minimum wall thickness of 3,0mm. The stanchions shall be placed at 1,0m centres on stairs and at a maximum of 1,8m of platforms and walkways.

Rails shall be tack-welded to stanchions (bottom of rail) at adequate intervals to ensure a rigid installation. Welded areas shall be repaired on site in accordance with the specification for corrosion protection.

PSHA 3 GRADE OF STEEL (Sub-clause 3.1.1)

Structural cold-formed steelwork to be to Grade 43A or 43B with the minimum properties as tabled in Table B-2 of SABS 0162-1982.

Structural hot-rolled steelwork to be Grade 300W with the minimum properties as tables in "Steel design date: No. 6" of the South African Rolled Steel Producers Co-ordinating Council and the South African Institute of Steel Construction.

PSHA4 WELDING (Clause 5.2.6)

Delete this clause in its entirety and add the following clause:

Welding shall be done in accordance with the relevant recommendation of SABS 0162 BS5135 and AWS.D.1/18 (American Welding Society)

Welding shall be Grade B welding.

The qualification of welders shall be accordance with the relevant clauses of the above standards, and specifically SABS 044 Part III and shall be Grade I welders. Grade 2 welders shall be permitted only with the Engineer's approval.

The Contractor shall provide evidence, acceptable to the Engineer, that welding procedures and welders have been tested in accordance with the requirements of AWS D1.1.

PSHA5 PROTECTIVE TREATMENT (Sub-Clause 5.3.9)

PSHA5.1 Shop Painting

- a.) Steelwork after fabrication shall be wire brushed to a finished equal to or better than Grade St3 or SIS 05 59 00.
- b.) Within 4h after completion of wire brushing, 2 coats of an approved primer such as a Type 11. Grade 2 red lead, on a zinc chromate or red oxide (see Subclause 3.7 of SABS 1200H) shall be applied to provide a dry film of thickness between 25 and 30 micron. Except that red lead shall not be sprayed, a primer may be applied by means of brush, roller, or spray.

PSHA5.2 Painting after erection

- a.) After the erection of steelwork, all areas where the primer coat has been damaged shall be touched up as specified in PSH2.1
- b.) An intermediate coat of an approved general-purpose alkyd undercoat shall then be applied to provide a dry film of thickness between 25 and 30 micron. The paint may be applied by means of brush, roller, or airless or conventional spray.
- c.) Provided that the undercoat is touch-dry within 2 hours, the finishing coat may be applied the following day. One coat of an approved alkyd enamel, the non-volatile vehicle of which contains at least 24% phthalic anhydride, shall be applied to provide a dry film of thickness between 25 and 30 micron.
- d.) The total dry film thickness of the paint and primer coats shall be between 70 and 100 micron.

PSHA5.3 Galvanising

Where galvanising is specified, it shall be carried out by the hot dip process in accordance with SABS 763-1977 (or latest amendment).

The minimum thickness of the zinc coating shall be for general application and shall in all cases be at least 65 micron, thus giving a minimum equivalent mass per unit area of 455 g/m².

PSHA6 SITE WELDING

No welding shall be permitted on site without the express approval of the Engineer, with the exception of those details shown on the drawings as site welded.

PSHA7 CUTTING

No oxy-acetylene or other gas cutting and bending will be permitted on site without the Engineers approval.

The Engineer will have no hesitation in condemning any relevant component, member or unit should oxy-acetylene or other gas cutting and bending, processes be carried out by the Contractor without the Engineers approval.

PSHA8 ERECTION PROCEDURE

The setting-out of all holding-down bolts shall be accurately checked by the Contractor. Any discrepancies in excess of the permissible deviations of the positions of these bolts shall be reported immediately to the Engineer.

The Contractor shall not be permitted to make any relevant adjustment in the steelwork without the Engineers approval (Refer to PSHA5)

PSHA9 MEASUREMENT & PAYMENT

PSHA9.1 Pipe Support Brackets

The Unit of measurement shall be per number (No.) of brackets erected on site in its final position as shown on the drawings and is to include for all holding down bolts, washers, brackets, shims and fasteners which are necessary to fix the steelwork in place as specified and which shall not be measured separately

SDPDA QUALITY CONTROL & QUALITY ASSURANCE SYSTEM (SPEC PDA)

SDPDA 3 QUALITY PLAN

SDPDA 3.6* Quality Assurance System

The Contractor shall institute a Quality Assurance System to demonstrate compliance with the requirements of the Contract. 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 (if specified) and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.

The Contractor shall:

- (i) supply a Quality Plan and Quality Program at the time of tendering, both of which are subject to acceptance by the Engineer,
- (ii) maintain Quality Control records in accordance with the Quality Plan during execution of the contract. Such records shall be available to the Engineer or his representative at each Quality Surveillance visit,
- (iii) mark or securely label each component with a unique identification; and
- (iv) carry out such tests as are required to ensure compliance with the Specification.

Compliance with the Quality Assurance System shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

Any approval, check, certificate, consent, examination, inspection, instruction, notice, observation, proposal, request, test or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

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 (Engineer) to recommend termination of the contract to the Employer in terms of the Conditions of Contract.

The Contractor shall supply all items with a guarantee valid for a period of 12 months after final acceptance of the items after installation of such items on site by the installation contractor.

SDPDA 3.7* Independent Inspectorate

The Contractor may nominate an independent inspectorate, to be approved by the Engineer, which approval shall not be unreasonably withheld, to carry out any tests to verify compliance with the corrosion protection specifications on behalf of the Contractor. The independent inspectorate shall not be employed by, or associated in any way with, the person or firm applying the corrosion protection systems.

The inspectorate shall inspect the work to verify that at least the following are in accordance with the specifications :

- i) Preparation of steel prior to welding,
- ii) Welding and jointing,
- iii) Surface preparation prior to painting and/or galvanizing,
- iv) Coating thickness,
- v) Holiday testing, and
- vi) Paint quality, type and method of application,
- vii) Compaction densities.

The Contractor shall :

- i) Draw up a quality control programme together with the inspectorate, showing appropriate “hold-points” which the Engineer may elect to witness,
- ii) Contact the inspectorate timeously to make arrangements for him to inspect the various items to be tested both prior to and after surface preparation, painting or galvanizing,
- iii) Submit copies of the quality control program to the Engineer for approval before proceeding with any surface preparation or coating or galvanizing, and
- iv) Submit all the inspectorate’s reports to the Engineer.

SDPDA 4 MEASUREMENT AND PAYMENT

SDPDA 4.2* Cost of Independent Inspectorate

The Contractor shall be liable for all costs incurred and fees charged by the independent inspectorate appointed by him. The tendered rates for items shall cover the costs thereof and no separate payment will be made in this regard.

SDPDA 4.3* Corrosion Protection and Painting

The cost of the corrosion protection and painting shall be included in the tendered rate for an item. No separate payment shall be made for corrosion protection and painting.

PAM: OHSA1993 HEALTH AND SAFETY SPECIFICATION

PAM-1: SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2014, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHSA Agreement in Section 9 (Forms to be Completed by Successful Tenderer) of the tender document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2014.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2014, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

PAM-2: DEFINITIONS

For the purpose of this contract the following shall apply:

- (a) "Employer" where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as "client" as defined in the Construction Regulations 2014. "Employer" and "client" is therefore interchangeable and shall be read in the context of the relevant document.
- (b) "Contractor", wherever used in the contract documents and in this specification, shall have the same meaning as "Contractor" as defined in the General Conditions of Contract. In this specification the terms "principal contractor" and "contractor" are replaced with "Contractor" and "subcontractor" respectively.

For the purpose of this contract the Contractor will, in terms of OHSA 1993, be the mandatory, without derogating from his status as an employer in his own right.

- (c) "Engineer" where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

PAM-3: TENDERS

The Contractor shall submit the following with his tender:

- (a) a documented Health and Safety Plan as stipulated in Regulation 5 of the Construction Regulations. The Safety Plan must be based on the Construction Regulations 2014 and will be subject to approval by the Employer;
- (b) a declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2014;
- (c) a declaration to the effect that he made provision in his tender for the cost of the health and safety measures envisaged in the Construction Regulations.
- (d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

PAM-4: NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 3, notify the Provincial Director of the Department of Labour in writing if the following work is involved:

- (a) the demolition of structures and dismantling of fixed plant of height of 3,0 m or more;
- (b) the use of explosives;
- (c) construction work that will exceed 30 days or 300 person-days;
- (d) excavation work deeper than 1,0 m; or
- (e) working at a height greater than 3,0 m above ground or landings.

The notification must be done in the form of the pro forma included under Section 9 (Forms to be Completed by Successful Tenderer) of the tender document.

A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

PAM-5: RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor shall have a risk assessment performed and recorded in writing by a competent person.

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The risk assessment shall be available on site for inspection by inspectors, Employer, Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

PAM-6: APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

PAM-6.1 Health and Safety Plan

The Contractor shall appoint his employees and any subcontractors to be employed on the contract, in writing, and he shall provide them with a copy of his documented Health and Safety

Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

PAM-6.2 Health and Safety Induction Training

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

PAM-7: APPOINTMENT OF SAFETY PERSONNEL

PAM-7.1: Construction Supervisor

The Contractor shall appoint a full-time Construction Supervisor with the duty of supervising the performance of the construction work.

He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

PAM-7.2: Construction Safety Officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time Construction Safety Officer if so decided by the Inspector of the Department of Labour. The Safety Officer shall have the necessary competence and resources to perform his duties diligently.

Provision will be made in the schedule of quantities to cover the cost of a dedicated construction safety officer appointed after award of the contract if so ordered by the Engineer.

PAM-7.3: Health and Safety Representatives

In terms of Sections 17 and 18 of the Act (OHSA 1993) the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a health and safety representative whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 100 employees.

The function of the health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular base, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

PAM-7.4: Health and Safety Committee

In terms of Sections 17 and 18 of the Act (OHSA 1993) the Contractor (as employer), shall establish one or more health and safety committee(s) where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, and to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

PAM-7.5: Competent Persons

In accordance with the Construction Regulations the Contractor has to appoint in writing competent persons responsible for supervising construction work on each of the following work situations that may be expected on the site of the works.

- Risk assessment and induction training as described in Regulation 7 of the Construction Regulations;
- Fall protection as described in Regulation 8;
- Formwork and support work as described in Regulation 10;
- Demolition work as described in Regulation 12;
- Scaffolding work as described in Regulation 14;
- Suspended platform operations as described in Regulation 15;
- Batch plant operations as described in Regulation 18;
- Construction vehicle and mobile plant inspections on a daily basis by a competent person as described in Regulation 21(1);
- Control of all temporary electrical installations on the construction site as described in Regulation 22.
- Stacking and storage on construction sites as described in Regulation 26; and
- Inspections of fire equipment as described in Regulation 27.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with all requirements of the Construction Regulations.

PAM-8: RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

1. A copy of the OHSA 1993 Construction Regulations 2014;
2. A copy of this Health and Safety Specification;
3. A copy of the Contractor's Health and Safety Plan (Regulation 4);
4. A copy of the Notification of Construction Work (Regulation 3);
5. A health and safety file in terms of Regulation 5(7) with inputs by the Construction Safety Officer [Regulation 6(7)];
6. A copy of the risk assessment described in Regulation 7;
7. A full protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 8;
8. Drawings pertaining to the design of structures [Regulation 9(3)] and formwork and support work structures [Regulation 10(d)] must be kept on site;
9. Pronouncement of the safety of excavations must be recorded in a register to be kept on site [Regulation 11(3)(h)];
10. A copy of the certificate of the system design for suspended platforms [Regulation 15(3)];
11. A notice must be affixed around the base towers of material hoists to indicate the maximum mass load, which may be carried at any one time by material hoists [Regulation 7(5)].
12. Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site [Regulation 17(8)];
13. A record of any repairs to or maintenance of a batch plant must be kept on site [Regulation 18(9)];
14. A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used [Regulation 19(2)];
15. A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant [Regulation 21(1)(j)].

PAM-9: CONTRACTOR'S RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2014.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatory (employer) for the contract under consideration.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2014, and are not repeated in detail but some important aspects are highlighted hereafter,

without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

(a) Contractor's position in relation to the Employer (Client) (Regulation 4)

In accordance with Section 4 of the Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all requirements of the Act and the Regulations are met and complied with.

(b) The Principal Contractor and Contractor (Regulation 5)

The Contractor is in terms of the definition in Regulation 2(b) the equivalent of Principal Contractor as defined in the Construction Regulations, and he shall comply with all the provisions of Regulation 5.

Any subcontractors employed by the Contractor must be appointed in writing, setting out the terms of the appointment in respect of health and safety. An independent subcontractor shall however provide and demonstrate to the Contractor a suitable, acceptable and sufficiently documented health and safety plan before commencement of the subcontract. In the absence of such a health and safety plan the subcontractor shall undertake in writing that he will comply with the Contractor's safety plan, the health and safety specifications of the Employer and the Construction Regulations 2014.

(c) Supervision of construction work (Regulation 6)

The Contractor shall appoint the safety and other personnel and employees as required in terms of Regulation 6 and as set out in paragraph 7 above. Appointment of those personnel and employees does not relieve the Contractor from any of the obligations under Regulation 6.

(d) Risk assessment (Regulation 7)

The Contractor shall have the risk assessment made as set out in paragraph 7 above before commencement of the work, and it must be available on site for inspection at all times. The Contractor shall consult with the health and safety committee or health and safety representative(s) etc. on a regular basis to ensure that all employees, including subcontractors under his control, are informed and trained by a competent person regarding health hazards and related work procedures.

No subcontractor, employee or visitor shall be allowed to enter the site of works without prior health and safety induction training, all as specified in Regulation 7.

(e) Fall protection (Regulation 8)

Fall protection, if applicable to this contract shall comply in all respects with Regulation 8 of the Construction Regulations.

(f) Structures (Regulation 9)

The Contractor will be liable for all claims arising from collapse or failure of structures if he failed to comply with all the specifications, project specifications and drawings related to the

structures, unless it can be proved that such collapse or failure can be attributed to faulty design or insufficient design standards on which the specifications and the drawings are based.

In addition the Contractor shall comply with all aspects of Regulation 9 of the Construction Regulations.

(g) Formwork and support work (Regulation 10)

The Contractor will be responsible for the adequate design of all formwork and support structures by a competent person.

All drawings pertaining to formwork shall be kept on site and all equipment and materials used in formwork, shall be carefully examined and checked for suitability by a competent person.

The provisions of Regulation 10 of the Construction Regulations shall be followed in every detail.

(h) Excavation work (Regulation 11)

It is essential that the Contractor shall follow the instructions and precautions in the Standard Specifications and Project Specifications as well as the provisions of the Construction Regulations to the letter as unsafe excavations can be a major hazard on any construction site. The Contractor shall therefore ensure that all excavation work is carried out under the supervision of a competent person, that inspections are carried out by a Professional Engineer or Technologist, and that all work is done in such a manner that no hazards are created by unsafe excavations and working conditions.

Supervision by a competent person will not relieve the Contractor from any of his duties and responsibilities under Regulation 11 of the Construction Regulations.

(i) Demolition work (Regulation 12)

Whenever demolition work is included in a contract, the Contractor shall comply with all the requirements of Regulation 12 of the Construction Regulations. The fact that a competent person has to be appointed by the Contractor does not relieve the Contractor from any of his responsibilities in respect of safety of demolition work.

(j) Tunnelling (Regulation 13)

The Contractor shall comply with Regulation 13 wherever tunnelling of any kind is involved.

(k) Scaffolding (Regulation 14)

The Contractor shall ensure that all the provisions of Regulation 14 of the Construction Regulations are complied with. [Note : Reference in the Regulations to “Section 44 of the Act” should read “Section 43 of the Act”]

(l) Suspended platforms (Regulation 15)

Wherever suspended platforms will be necessary on any contract, the Contractor shall ensure that copies of the system design issued by a Professional Engineer are submitted to the Engineer for inspection and approval. The Contractor shall appoint competent persons as supervisors and competent scaffold erectors, operators and inspectors and ensure that all work related to suspended platforms are done in accordance with Regulation 15 of the Construction Regulations.

(m) Boatswain's chairs (Regulation 16)

Where boatswain's chairs are required on the construction site, the Contractor shall comply with Regulation 16.

(n) Material Hoists (Regulation 17)

Wherever applicable, the Contractor shall comply with the provisions of Regulation 17 to the letter.

(o) Batch plants (Regulation 18)

Wherever applicable, the Contractor shall ensure that all lifting machines, lifting tackle, conveyors, etc. used in the operation of a batch plant shall comply with, and that all operators, supervisors and employees are strictly held to the provisions of Regulation 18.

The Contractor shall ensure that the General Safety Regulations (Government Notice R1031 of 30 May 1986), the Driven Machinery Regulations (*Government Notice R295 of 26/2/1988*) and the Electrical Installation Regulations (*Government Notice R2271 of 11/10/1995*) are adhered to by all involved.

In terms of the Regulations, records of repairs and maintenance shall be kept on site.

(p) Explosive powered tools (Regulation 19)

The Contractor shall ensure that, wherever explosive-powered tools are required to be used, all safety provisions of Regulation 19 are complied with.

It is especially important that warning notices are displayed and that the issue and return of cartridges and spent cartridges be recorded in a register to be kept on site.

(q) Cranes (Regulation 20)

Wherever the use of tower cranes becomes necessary, the provisions of Regulation 20 shall be complied with.

(r) Construction vehicles and mobile plant (Regulation 21)

The Contractor shall ensure that all construction vehicles and plant are in good working condition and safe for use, and that they are used in accordance with their design and intended use. The vehicles and plant shall only be operated by workers or operators who have received appropriate training, all in accordance with all the requirements of Regulation 21.

All vehicles and plant must be inspected on a daily basis, prior to use, by a competent person and the findings must be recorded in a register to be kept on site.

(s) Electrical installation and machinery on construction sites (Regulation 22)

The Contractor shall comply with the Electrical Installation Regulations (Government Notice R2920 of 23 October 1992) and the Electrical Machinery Regulations (Government Notice R1953 of 12 August 1993). Before commencement of construction, the Contractor shall take adequate steps to ascertain the presence of, and guard against dangers and hazards due to electrical cables and apparatus under, over or on the site.

All temporary electrical installations on the site shall be under the control of a competent person, without relieving the Contractor of his responsibility for the health and safety of all workers and persons on site in terms of Regulation 22.

(t) Use of temporary storage of flammable liquids on construction sites (Regulation 23)

The Contractor shall comply with the provisions of the General Safety Regulations (Government Notice R1031 of 30 May 1986) and all the provisions of Regulation 23 of the Construction Regulations to ensure a safe and hazard-free environment to all workers and other persons on site.

(u) Water environments (Regulation 24)

Where construction work is done over or in close proximity to water, the provisions of Regulation 24 shall apply.

(v) Housekeeping on Construction sites (Regulation 25)

Housekeeping on all construction sites shall be in accordance with the provisions of the environmental Regulations for workplaces (Government Notice R2281 of 16 October 1987) and all the provisions of Regulation 25 of the Construction Regulations.

(w) Stacking and storage on construction sites (Regulation 26)

The provisions for the stacking of articles contained in the General Safety Regulations (Government Notice R1031 of 30 May 1986) as well as all the provisions of Regulation 26 of the Construction Regulations shall apply.

(x) Fire precautions on construction sites (Regulation 27)

The provisions of the Environmental Regulations for Workplaces (Government Notice R2281 of 16 October 1987) shall apply.

In addition the necessary precautions shall be taken to prevent the incidence of fires, to provide adequate and sufficient fire protection equipment, sirens, escape routes etc. all in accordance with Regulation 27 of the Construction Regulations.

(y) Construction welfare facilities (Regulation 28)

The Contractor shall comply with the construction site provisions as in the Facilities Regulations (*Government Notice R1593 of 12 August 1988*) and the provisions of Regulation 28 of the Construction Regulations.

(z) Non-compliance with the Construction Regulations 2014

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings related to non-conformance to the Act and the Regulations.

PAM-10: MEASUREMENT AND PAYMENT

PAM-10.1: Principles

It is a condition of this contract that Contractors, who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process.

(a) Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clauses PAM-7.1 to 7.5 shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

However, should it be necessary to appoint a dedicated Construction Safety Officer in terms of Clause PAM-7.2 on the instruction of the Inspector of the Department of Labour, as ordered by the Engineer, payment will be considered for such appointment.

(b) Records and Registers.

The keeping of health and safety-related records and registers as described in PAM-8 is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be included in the Contractor's tendered rates and prices.

PAM-10.2: Scheduled Items

PAM-10.2.1 Appointment of a Construction Health and Safety Officer Unit: As per BoQ

The stated provisional sum shall be employed to cover the cost for the appointment of a full-time or part-time dedicated Construction Health and Safety Officer as directed by an Inspector of the Department of Labour, and as ordered by the Engineer.

Should the Construction Health and Safety Officer be selected from the Contractor's own personnel, payment will only be considered for proven additional cost claimed by the Contractor due to the additional duties of the appointee.

PS 1- INFORMATION REQUESTED FOR THE PACKAGE PLANT

The information is requested from the sewage package plant suppliers who will be interested in offering proposals and showcasing their products:

- General Arrangement and elevations
- Layout indicating how modules will be phased within the given footprint
- Level of automation and control
- Details on power usage, and control hardware
- Hydraulic profile
- Chemical usage where required list of chemicals, concentrations and dosage rates information indicating desludging mechanism and frequency of sludge withdrawal
- Brochure, product information, case studies
- References of actual installations in South Africa

Parameter	Unit	Typical Domestic	SA	Influent (Adopted for Design)
pH		6.0-8.5		7.3
Chemical Oxygen Demand (COD)	mgCOD/l	500-800		800
Total Kjeldahl Nitrogen (TKN)	mgN/l	35-80		57
Ammonia (NH ₃)	mgN/l	30-60		45
Nitrate/Nitrite (NO ₃ /NO ₂)	mgN/l			
Total Phosphorous (TP)	mgP/l	8-18		13
Ortho Phosphate (PO ₄)	mgP/l			
Total Suspended Solids (TSS)	Mg/l	270-450		360

Chlorine as Free Chlorine (mg/l)			
Soap, oil and grease	Mg/l		
Faecal Coliforms (per 100ml)	Counts		
Electrical Conductivity	mS/m		
Min Temp	°C	10-15	12
Max Temp	°C	20-30	28
Alkalinity (as CaCO ₃)	Mg/l	200-300	250

- **END OF SECTION** -

C4: SITE INFORMATION

C4.1 SITE INFORMATION

For the purposes of the Contract it will be deemed that, prior to submitting his Tender, the Contractor has acquainted himself fully with the information and data provided within the specifications.

The Contractor shall have no claim against the Employer in respect of geotechnical or subsurface conditions encountered during the course of the Contract.

C4.2 NATURE OF GROUND AND SUBSOIL CONDITIONS

The ground conditions were not predetermined. It must be assumed, however, that excavations will be unstable and that these excavations will require shoring or other means of protection.

C4.3 FINISHING-OFF THE SITE

The site shall be finished-off in accordance with the specifications and to the satisfaction of the Employer's Agent.

APPENDIX A

LABOUR REPORTING

15.1.1 Actual Number of persons employed

Occupational Category	Total		Adult				Youth				Disabled			
			Women		Men		Female		Male		Female		Male	
	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days
Clerical														
Labourer														
Managerial														
Semi-skilled														
Skilled														
Supervisor														
Total														

Please note: - The definition of youth is any person under the age of 35 years. (18-35 Years)

- Each person may only be counted once. If a person falls into more than one category, disabled persons take preference, then youth, then adults.
- Must include all occupational categories (Clerical, Labourer, Managerial, Semi-skilled, Skilled and Supervisor).

15.1.1 Actual Number of persons employed

Occupational Category	Total		Adult				Youth				Disabled			
			Women		Men		Female		Male		Female		Male	
	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days
Clerical														
Labourer														
Managerial														
Semi-skilled														
Skilled														
Supervisor														
Total														

Please note: - The definition of youth is any person under the age of 35 years. (18-35 Years)

- Each person may only be counted once. If a person falls into more than one category, disabled persons take preference, then youth, then adults.
- Must include all occupational categories (Clerical, Labourer, Managerial, Semi-skilled, Skilled and Supervisor).

15.1.2. Average daily wage per category

Please note that the totals are calculated averages for the number of records submitted per category.

Occupational Category	Category Average	Adult		Youth		Disabled	
		Women	Men	Female	Male	Female	Male
		Daily wage	Daily wage	Daily wage	Daily wage	Daily wage	Daily wage
Clerical							
Labourer							
Managerial							
Semi-skilled							
Skilled							
Supervisor							
Average of the Daily Wage							

15.2.1 Non-Accredited Training

Training Type	Total		Adult				Youth				Disabled			
			Women		Men		Female		Male		Female		Male	
	Persons Trained	Training Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days
Administration														
Technical														
Life skills/ ISD														
Literacy & Numeracy														
Vocational Skills														
Business Skills														
Total Training														

15.2.2 Accredited Training

Training Type	Total		Adult				Youth				Disabled			
			Women		Men		Female		Male		Female		Male	
	Persons Trained	Training Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days	Persons	Person Days
Administration														
Technical														
Life skills/ISD														
Literacy & Numeracy														
Vocational Skills														
Business Skills														
Total Training														

Training Type	If Accredited		
	NSB Number	NQF Level	ETQA/CETA
Administration			
Technical			
Life skills / ISD			
Literacy & Numeracy			
Vocational Skills			
Business Skills			
Total Training			

Note:

NQF Level of Training

Level 1 – General Education and Training
Level 2,3,4 - Further Education and Training
Level 5 - Higher Education and Training

NSB Number:

NSB 01: Agriculture and Nature Conservation
NSB 02: Culture and Arts
NSB 03: Business, Commerce and Management Studies
NSB 04: Communication Studies and Language
NSB 05: Education, Training and Development
NSB 06: Manufacturing, Engineering and Technology
NSB 07: Human and Social Studies

NSB 08: Law, Military Science and Security

NSB 09: Health Science and Social Services

NSB 10: Physical, Mathematical, Computer and Life Sciences

NSB 11: Services

NSB 12: Physical Planning and Construction

Please remember to include all the EME's that worked on the project since it started. Then add all the person days and all the funds paid to each EME since the start of the project, and only record the latest total in the table.

For example, if an EME completed all their work during the first reporting period, the name and details of that EME must be added to every subsequent report.

EME	Information about the EME. (If it is a subsidiary: provide information for whole group and not for the EME only)		Information about the work on the PROJECT				
	Name of EME	No. of permanent employees	Turnover previous 12 months	Total no. of person days to date	Amount paid to EME to date. (Total)	Person days locally sourced: 0-25% 26-50% 51-75% 75-100%	Total value of work: EME Involvement

Note that Black Economic Empowerment (BEE) Organisations are referred to in the table below as Affirmable Business Enterprises (ABE's).

The definition of an ABE is as per the Department of Public Works definition: *A sole trader, partnership or legal entity which adheres to statutory labour practises, is registered with South African revenue Services and is a continuing and independent enterprise for profit, providing a commercially useful function and for which at least two thirds (67%) is owned by one or more PDI's and whose management and daily business operations are in control of one or more PDI's who effectively own it, and provided that the annual average turnover excluding VAT, does not exceed the maximum values given for each respective ABE category.*

Please remember to include all the ABE's that worked on the project since it started. Then add all the person days and all the funds paid to each ABE since the start of the project, and only record the latest

ABE	Information about the abe. (If it is a subsidiary: provide information for whole group and not for the ABE only)		Information about the work on the PROJECT				
	Name of ABE	No. of permanent employees	Turnover previous 12 months	Total no. of person days to date	Amount paid to ABE to date. (Total)	Person days locally sourced: 0-25% 26- 50% 51-75% 75-100%	Total value of work: EME Involvement

LABOUR MONTHLY SUMMARY SHEET													
Name of Contractor													
Project Name													
Project Number		No of Working Days: Maximum including training = 23 days per month											
Applicable Month													
Number of workers	Initials	First Name	ID Number	Birth Date	(M)ale / (F)emale	(D)isabled	Rate per day	Number of days worked this month	Number of training days this month	Total amount paid to beneficiary	Course name	Course Code	
1										0			
2										0			
3										0			
4										0			
5										0			
6										0			
7										0			
8										0			
9										0			
10										0			
11										0			
12										0			
13										0			
14										0			
15										0			
16										0			
17										0			
18										0			
19										0			
20										0			
20	Totals for month							0	0	0			
Signature Consultant													

BENEFICIARY LIST

Name of Contractor
Project Name
Project Number
Month:

Youth = 35yrs and less

Number of workers	Surname	Initials	Name	ID Number	Date of Birth	Male/Female	Has Disability (Y?N)	Is Youth (Y/N)	Education Level*	Date Start	Contact Number
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											

Signature of CLO

Contractor Name _____
Period _____
Project Number _____
Month: _____

Signature of CLO

Signature of Contractor to verify accuracy

Signature of Consultant

Signature of Contractor for receipt of monies



P-No: P900 7299

SL=Sick Leave

Signature of CLO

Week 3-4: Signature of Contractor Organisation

TRAINING DATA

Contractor
Project Name
Project Number
Month:

	Surname	Initials	ID Number	Birth Date	Training Pprovider	Course Name	Course code	Cost of course	Accredited/ non-accredited	Number of training days
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
20										0

Signature CLO

APPENDIX B

DRAWINGS