



JOE MOROLONG LOCAL MUNICIPALITY

INVITATION TO BID (INFRASTRUCTURE DELIVERY)

(In terms of the Supply Chain Management Regulations (Government Gazette 27636 of 30 May 2005))

BID NO: B215-2021

PANEL OF CONTRACTORS FOR THE PROVISION OF CONSTRUCTION OF WATER STORAGE RETICULATION AND EQUIPPING OF BOREHOLE SERVICES FOR RURAL WATER PROJECTS (3 YEARS PERIOD) (RE-ADVERT)

Closing Date and Time: Tuesday, 18 January 2022 at 12h00

NAME OF BIDDER:		Bidder VAT registered? – (Please tick appropriate box)			
JOE MOROLONG LOCAL MUNICIPALITY SUPPLIER REGISTRATION NO:			<table border="1"> <tr> <td>Yes</td> <td></td> </tr> </table>	Yes	
Yes					
CENTRAL SUPPLIER DATABASE (CSD) SUPPLIER NO:		<table border="1"> <tr> <td>No</td> <td></td> </tr> </table>	No		
No					
TOTAL BID PRICE (INCL VAT): (Brought forward from Pricing Schedule MBD3)	RATES ONLY BID				

Please note that it is compulsory for all service providers to complete the above required information

Local Municipality physical address:
 D320 Cardington Road, Churchill Village
 KURUMAN
 8460

Local Municipality contact details:
 Telephone no: (053) 773 9300
 Fax no: (053) 773 9350

Local Municipality postal address:
 Private Bag X117
 MOTHIBISTAD
 8474

Bid contact details:
 Technical Director: Mr. L. Moinwe
 (053) 773 9300 / (079) 552 9563 /
 registry@joemorolong.gov.za

JOE MOROLONG LOCAL MUNICIPALITY

Bid no	Description
B215-2021	Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

SUMMARY FOR BID OPENING PURPOSES

Name of bidder:	
Address:	
Telephone number:	
Fax number:	
E-mail address:	
Closing date:	Tuesday, 18 January 2022 at 12h00
Total bid price: (VAT Incl.)	RATES ONLY BID

(Amount brought forward from the Pricing Schedule **MBD3**) *

Signed by an authorized representative of the Bidder:

Date	Signature

* Should any discrepancy occur between this figure and that stated in the Pricing Schedule (**MBD3**, the latter shall take precedence and apply).

BID GENERAL DATA

Item	Description
Bid no:	B215-2021
Bid Description:	Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)
Bid type:	Infrastructure delivery
PPPFA preferential points system:	90/10
CIDB minimum grade required:	8CE or Higher
Functionality evaluation bid:	Minimum functionality score of 70.00/100.00 is required
Pre-qualifying criteria bid:	N/A
Local production bid:	N/A
Sub-contracting bid:	Minimum sub-contracting of 30.00% is required to: EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships
Project manager:	Technical Director: Mr. L. Moinwe
Department:	Technical Services
Advert date:	Sunday, 21 November 2021
Bid document fee (VAT Incl.):	R1 284.00
Bid document availability date and time:	Monday, 29 November 2021 at 08h00
Advert closing date and time:	Tuesday, 18 January 2022 at 12h00
Bid validity days:	90
Contact name and details:	Technical Director: Mr. L. Moinwe at (053) 773 9300 / (079) 552 9563 / registry@joemorolong.gov.za
Bid document pickup location:	Cashiers office in the Finance Department
Bid document submission location:	Tender box situated in the foyer of Joe Morolong Local Municipality, D320 Cardington Road, Churchill Village
Bid briefing details:	N/A

FOR MORE INFORMATION PLEASE CONTACT:

Joe Morolong Local Municipality	
Telephone number:	(053) 773 9300
E-mail address:	registry@joemorolong.gov.za

Bid contact details	
Name:	Technical Director: Mr. L. Moinwe
Details:	(053) 773 9300 / (079) 552 9563 / registry@joemorolong.gov.za

Municipal Manager
T Tlhoaele
Joe Morolong Local Municipality
Private Bag X117 MOTHIBISTAD 8474

INDEX

Section	Description	Page
PORTION 1	THE BID	
PART T1	Bid Procedures	1
Part T1	Very Important Notice on Evaluation	2
Section T1.1	Bid Advert	4
Section T1.2	Bid Notice	6
Section T1.3	Invitation to Bid (MBD1)	8
Section T1.4	Bid Data	11
Section T1.5	Bid Evaluation Criteria	19
Section T1.6	Standard Conditions of Tender	21
PART T2	Returnable Documents	41
Section T2.1	List of Returnable Documents	42
Section T2.2	Returnable Schedules	44
Section T2.2.1	Authority for Signatory	46
Section T2.2.2	Certificate of Authority for Joint Venture	47
Section T2.2.3	Schedule of Construction Plant	48
Section T2.2.4	Schedule of Work Carried Out by Bidder	51
Section T2.2.5	Present Commitments	53
Section T2.2.6	Amendment or Qualifications by the Bidder	54
Section T2.2.7	Schedule of Proposed Subcontractors	55
Section T2.2.8	Estimated Monthly Expenditure	56
Section T2.2.9	Details of Proposed Structured Training Programme	57
Section T2.2.10	Labour Utilization	58
Section T2.2.11	Supervisory and Safety Personnel	61
Section T2.2.12	Compliance with OHSA (Act 85 of 1993)	62
Section T2.2.13	Record of Addenda to Bid Documents	63

Section	Description	Page
Section T2.2.14	Compulsory Enterprise Questionnaire	64
Section T2.2.15	Preference points claim i.t.o. Preferential Procurement Regulations 2017 (MBD6.1)	67
Section T2.2.16	Financial References	73
Section T2.2.17	Rates for Special Materials	74
Section T2.2.18	Declaration of interest (MBD4)	75
Section T2.2.19	Declaration of Bidder's past Supply Chain Management Practices (MBD8)	78
Section T2.2.20	Form of Bid	80
Section T2.2.21	Construction Industry Development Board (CIDB) Registration	83
Section T2.2.22	Company Registration	84
PORTION 2	THE CONTRACT	
PART C1	Agreements and Contract Data	85
Section C1.1	Form of Offer and Acceptance	87
Section C1.2	Contract Data	93
Section C1.3	Occupational Health and Safety Agreement	106
Section C1.4	Form of Guarantee	111
Section C1.5	Protection of the Environment Declaration	116
Section C1.6	Insurance Broker's Warranty	118
Section C1.7	Contract of Temporary Employment as Community Liaison Officer	120
PART C2	Pricing Data	125
Section C2.1	Pricing Instructions	127
Section C2.2	Bill of Quantities	132
Section C2.3	Summary of Schedules	210
PART C3	Scope of Work	212
Section C3.1	Description of Works	214
Section C3.2	Engineering	217
Section C3.2A	List of Bid Drawings	218

Section	Description	Page
Section C3.3	Procurement	281
Section C3.4	Construction	282
Section C3.5	Management	419
Section C3.5.1	Management of the Works	420
Section C3.5.2	Occupational Health and Safety Specification	423
PART C4	Site Information	476
PART C5	MBD Forms	477
Section C5.1	Declaration for procurement above R10 million (MBD5)	478
Section C5.2	Declaration certificate for local production (MBD6.2)	480
Section C5.3	Certificate of Independent Bid Determination (MBD9)	485
PART C6	Supply Chain Management Policy	488
Section C6.1	SCM Policy adopted by Council for the 2020/21 Financial Year	489

JOE MOROLONG LOCAL MUNICIPALITY

BID NO : B215-2021

**Panel of Contractors for the Provision of Construction of Water
Storage Reticulation and Equipping of Borehole Services for Rural
Water Projects (3 Years Period) (Re-Advert)**

PORTION 1: THE BID

PART T1 Bid Procedures

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Part T1: Very Important Notice on Evaluation:

A bid not complying with the peremptory requirements stated hereunder will be regarded as not being an "Acceptable bid", and as such will be rejected.

"Acceptable bid" means any bid which, in all respects, complies with the conditions of bid and specifications as set out in the bid documents, including conditions as specified in the Preferential Procurement Policy Framework Act (Act 5 of 2000) and related legislation as published in Government Gazette number 40553, dated 20 January 2017, in terms of which provision is made for this policy.

1. If a valid **Tax Clearance Certificate** and **SARS PIN** (or in the case of a joint venture, of all the partners in the joint venture) has not been submitted with the bid document on closing date of the bid.
2. If any pages have been removed from the bid document, and have therefore not been submitted, or a copy of the original bid document has been submitted.
3. Failure to complete the schedule of quantities as required, i.e. only lump sums provided.
4. Scratching out, writing over or painting out rates, without initialling next to the amended rates or information, affecting the evaluation of the bid.
5. The use of correction fluid (i.e. tippex) or any erasable ink, e.g. Pencil.
6. Non-attendance of mandatory/compulsory:
 - o Information/Clarification meetings
7. **THE BID HAS NOT BEEN PROPERLY SIGNED BY A PARTY HAVING THE AUTHORITY TO DO SO ACCORDING TO THE EXAMPLE OF "AUTHORITY FOR SIGNATORY"**
8. No authority for signatory submitted – See example, where it is stated that a duly signed and dated original or certified copy of the company's relevant resolution (for each specific bid) of their members or their board of directors, must be submitted T2 (T2.2.1).
9. The bid has been submitted either in the wrong bid box or after the relevant closing date and time.
10. If any municipal rates and taxes or municipal service charges owed by the bidder or any of its directors to the municipality, or any other municipal entity, are in arrears for more than three months. The bidder has failed to submit paid up letters or proofs from their Municipalities that they do not owe any rates or taxes.
11. The accounting officer must ensure that irrespective of the procurement process followed, no award may be given to a Person -
 - (a) who is in the service of the state, or;
 - (b) if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder, is a person in the service of the state; or;
 - (c) who is an advisor or consultant contracted with the municipality in respect of contract that would cause a conflict of interest.
12. Failure to provide:
 - (a) Written proof of registration with the CIDB, in an appropriate contractor grading designation **8CE or Higher or higher**, as required in the bid document.
13. Failure to attach a copy of a valid signed Joint Venture/Consortium agreement (if applicable) to the bid document.
14. If an Accredited Certified Copy or Original **BBBEE Certificate** by SANAS or IRBA accreditation has not been submitted with the bid document on closing date of the bid

N.B – Bids containing any or more of the following errors or omissions will be deemed non responsive:

1. Certified Copy of **Company Registration Certificate** from the Registrar of Companies.
2. Proof of shareholding documents
3. Proof of Banking Details and Bank Grading of C or higher. Certification from Bank to be submitted with Tender.
4. A Valid **Tax Clearance certificate** and **SARS PIN**. In the event of a JV, Tax Clearance and SARS PIN for all parties
5. An Accredited Certified Copy or Original **BBBEE Certificate** by SANAS or IRBA accreditation
6. Recent statement as proof of payment of municipal services (rates and taxes) for both company and all directors of the company. Not older than three months
7. Proof of company addresses or lease agreements whichever applies obtainable from your local municipality, tribal authority or landlord

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

8. Proof of residence of all Directors as they appear on the company registration certificate obtainable from your local municipality or tribal authority
9. Postal address and contact details
10. Contact person for correspondence
11. Attendance of Clarification Meeting
12. Late Submissions after 12h00 on Tuesday, 18 January 2022
13. Written proof of Registration with the CIDB.
14. Valid JV Agreement if Tenderer is tendering as a Joint Venture.
15. In the case of a Joint Venture Agreement, it must be tender specific.
16. Changes and correction in the tender documents not signed by tenderer.
17. Non completion or partially completed form as under Part T2 – Returnable Documents.
18. Certified copies of identity documents (ID's) of all directors/members.
19. No copies of the certified copies will be accepted
20. Proof of Company Registration on the Central Database (CSD) must be submitted. (Both JV Partners).

NOTE:

IN THIS DOCUMENT AND OTHER DOCUMENTS REFERRED TO BUT NOT ATTACHED, THE FOLLOWING WORDS ARE SYNONYMOUS WITH EACH OTHER.

- 1.CLIENT, EMPLOYER, JOE MOROLONG LOCAL MUNICIPALITY.
- 2.BID, TENDER AND VARIATIONS THEREOFF
- 3.JOINT VENTURE / CONSORTIUM

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T1.1 –BID ADVERT



JOE MOROLONG
LOCAL MUNICIPALITY

JOE MOROLONG LOCAL MUNICIPALITY INVITATION FOR PROSPECTIVE BIDDERS

Prospective service providers with proven track records are invited to tender as follows:

Bid No.	Bid Description	CIDB Grading	Availability of Documents & Non-Refundable Fee	Briefing / Site Inspection Date Time and Venue	Closing date	Points System	Contact Person for Technical Enquiries
B215-2021	PANEL OF CONTRACTORS FOR THE PROVISION OF CONSTRUCTION OF WATER STORAGE RETICULATION AND EQUIPPING OF BOREHOLE SERVICES FOR RURAL WATER PROJECTS (3 YEARS PERIOD) (RE-ADVERT)	8CE or Higher	Monday, 29 November 2021 from 08h00 for R1 284.00	N/A	Tuesday, 18 January 2022 at 12h00	90/10	Technical Director: Mr. L. Moinwe at (053) 773 9300 / (079) 552 9563 / registry@joemorolong.gov.za

Minimum Specifications and other conditions are detailed in the bid documents. Bid documents with detailed bid specifications and detailed information are obtainable at the Cashiers office in the Finance Department (office hours: Monday to Friday 07h30 to 16h15) of the Joe Morolong Local Municipality, D320 Cardington Road, Churchill Village.



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

Bids will be adjudicated according to the Joe Morolong Local Municipality's Supply Chain Management Policy, the Preferential Procurement Policy Framework Act (Act 5 of 2000) and the Preferential Procurement Regulations, 2017, as well as the Broad Based Black Economic Empowerment Act (Act 53 of 2003). This bid will be evaluated in terms of the Functionality criteria as set forth in the bid document and the 90/10 preferential points system shall apply. A validity period of **90** calendar days is applicable for this bid. Sealed Bids and supporting documents clearly marked with the above reference and description must be placed in the Tender box situated in the foyer of Joe Morolong Local Municipality, D320 Cardington Road, Churchill Village.

Please note that it is a requirement of the Local Municipality that all service providers are to be registered on the Joe Morolong Local Municipality's Vendor Database. The submission of a valid up to date SARS tax clearance certificate / copy of the Tax Compliance reference pin issued by SARS are compulsory. Vendor Registration Forms are available from the SCM Section in the Finance Department of the Local Municipality at D320 Cardington Road, Churchill Village.

In terms of MFMA Circular No 81, issued by National Treasury, it is compulsory as from 1 July 2016 for all prospective service providers to Local Municipalities to be registered on the web based **Central Supplier Database (CSD)**. Bids received from service providers not registered on the **CSD** shall therefore be regarded as non-responsive and will not be further evaluated. Prospective service providers can utilise the following link to register on the **CSD**: www.csd.gov.za.

The Joe Morolong Local Municipality does not bind itself to accept the lowest or any bid and the Local Municipality reserves the right to accept the whole or part of any bid and further reserves the right to re-advertise if it so wishes to.

Please note that late, electronic, couriered, postal or faxed bid documents will not be accepted.

T TLHOAELE
MUNICIPAL MANAGER

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T1.2 –BID NOTICE



JOE MOROLONG LOCAL MUNICIPALITY

TENDER NO: B215-2021

Joe Morolong Local Municipality hereby invites registered, experienced and suitably qualified service providers to submit bids for Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert).

The bid document with detailed specifications and detailed information are obtainable at the Cashiers office in the Finance Department during office hours (Monday to Friday 07h30 to 16h15) and e-Tender Portal www.etender.gov.za from 08h00 on Monday, 29 November 2021.

Bid briefing details:

N/A

Tender closing:

Tuesday, 18 January 2022

Time:

12h00

A non- refundable cash deposit fee of R1 284.00 is required on collection of the bid document and for bid documents downloaded from the e-Tender Portal

General Conditions of the bid

1. The prices must be valid for at least 90 days after closing date
2. Proof of payment must be attached to the Bid document (including bid documents downloaded from the e-Tender Portal website)
3. Bid prices must be inclusive of VAT
4. A copy of the Tax Compliance Status reference PIN issued by SARS, to enable the municipality to verify the bidder's tax compliance must be supplied

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

5. A certified copy of a B-BBEE Level Verification Certificate (only SANAS accredited or Sworn Affidavit will be accepted)
6. The 90/10 principle will be applied, in terms of the Supply Chain Management Policy of Council when bids are evaluated which is available upon request
7. The bidders are required to complete MBD forms (in case of Joint Venture agreement for both companies needs to complete MBD forms separately)
8. The Joe Morolong Local Municipality does not bind itself to accept the lowest or any bid and the municipality reserves the right to accept the whole or part of any bid. No reasons for the acceptance or rejection of any bid will be given
9. Bids will be adjudicated according to the Joe Morolong Local Municipality's Supply Chain Management Policy, the Preferential Procurement Policy Framework Act (Act of 2005) and the Preferential Procurement Regulations, 2017, as well as the Broad Base Black Economic Empowerment Act (Act 53 of 2003)
10. A copy of the company registration certificate (CK) obtainable from the Companies and Intellectual Property Commission must be attached
11. Proof of Rates and Taxes or lease agreement obtainable from the relevant local authority for each Director/s of the Company as they appear on the Companies and Intellectual Property Commission(CIPC) registration certificate and Central Suppliers Database summary report (CSD)
12. If the business is operated from the residence of a director/s a certified affidavit must be submitted stating the address of the business premises. If the premises from where business is conducted or where a director is residing, is leased a copy of the leased agreement must be submitted
13. Certified copies of identity documents (IDs) of all directors / members must be submitted
14. No Copies of certified copies will be accepted
15. In case of a Joint venture agreement, the agreement must be specific to this bid and not a generic / general agreement
16. Recognisable proof of company addresses or lease agreement whichever applies obtainable from your local municipality, tribal office or landlord
17. Proof of residence of all directors as they appear on the company registration certificate obtainable from your local municipality or tribal authority

The Bid document and supporting documentation must be enclosed in an envelope clearly endorsed with the Bid number and Description (B215-2021 - Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)). The Bid document is to be placed in Tender box situated in the foyer of Joe Morolong Local Municipality, D320 Cardington Road, Churchill Village not later than the prescribed time and date when Bids will be opened in public. The Bid will be evaluated and adjudicated in accordance with the Joe Morolong Local Municipality's Supply Chain Management Policy, Preferential Procurement Policy Framework Act No 5 of 2000 using 90/10 points system. The validity period of this Bid is 90 days.

NOTE:

- The Municipality is not bound to accept the lowest or any bid and reserve its rights in this regard
- Please note that late, electronic, couriered, posted or faxed Bid documents will not be accepted

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T1.3 - INVITATION TO BID (MBD1)

PART A

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE JOE MOROLONG LOCAL MUNICIPALITY					
BID NUMBER:	B215-2021	CLOSING DATE:	18 January 2022	CLOSING TIME:	12h00
DESCRIPTION	Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).					

Bids must be properly received and deposited in the Tender box situated in the foyer of Joe Morolong Local Municipality, D320 Cardington Road, Churchill Village on or before 12h00 on Tuesday, 18 January 2022 at which time the bids will be opened in public. Bid offers must be submitted in a sealed envelope properly marked in terms of the bid number (B215-2021) and bid description (Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)). No bid offers will be accepted via e-mail, facsimile (fax) or telegram. NO LATE BIDS WILL BE ACCEPTED.

SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		CSD No:		
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	☐ Yes ☐ No	
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES, ANSWER PART B:3]	
TOTAL NUMBER OF ITEMS OFFERED			TOTAL BID PRICE	R	
SIGNATURE OF BIDDER	.....		DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		TECHNICAL INFORMATION MAY BE DIRECTED TO:	
DEPARTMENT	Finance	CONTACT PERSON	Technical Director: Mr. L. Moinwe
CONTACT PERSON	SCM Manager	TELEPHONE NUMBER	(053) 773 9300 / (079) 552 9563 / registry@joemorolong.gov.za
TELEPHONE NUMBER	(053) 773 9300	FACSIMILE NUMBER	(053) 773 9350
FACSIMILE NUMBER	(053) 773 9350	E-MAIL ADDRESS	registry@joemorolong.gov.za
E-MAIL ADDRESS	scm@joemorolong.gov.za		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART B
TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED-(NOT TO BE RE-TYPED) OR ONLINE**
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

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

3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

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

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

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

JOE MOROLONG LOCAL MUNICIPALITY

BID NO : B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

BID DATA

The conditions of bid are the Standard Conditions of Tender as contained in Annex F of the Construction Industry Development Board's Board Notice 12 of 2009 (contained in Government Gazette No. 31823 of 30 January 2009), bound into section T1.6.

The Standard Conditions of Tender makes several references to the bid data. The bid 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.

Clause	Addition or Variation to Standard Conditions of Tender
1.1	The Employer is JOE MOROLONG LOCAL MUNICIPALITY.
1.2	The Bid documents issued by the employer comprise one volume.
1.3	Replace the 2 nd paragraph of the clause with the following: These Conditions of Bid, the Bid Data, List of Returnable Documents and Returnable Schedules which are required for bid evaluation purposes, shall form part of the Contract arising from the invitation to bid.
1.4	The Employer's agent is (also known as the Engineer): Name: BVi CONSULTING ENGINEERS Address: 17 President Steyn Ave Westdene Bloemfontein 9301 Contact person: Mr Pieter Rossouw Tel: (051) 447 2137

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Addition or Variation to Standard Conditions of Tender
	Fax: (051) 447 6056 E-mail: lm2@bvi.co.za
2.1	Only those bidders who are registered with the CIDB at the time of closing of bids, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 8CE or Higher or higher class of construction work, are eligible to have their bids evaluated. Joint ventures are eligible to submit bids provided that: - every member of the joint venture is registered with the CIDB; - the lead partner has a contractor grading designation of contractor grading designation 8CE or Higher or higher class of construction work; and - the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 8CE or Higher or higher class of construction work.
2.2	Add the following to the clause: Accept that the Employer will not compensate the bidder for any costs incurred in attending interviews in the office of the employer or the employer's agent (if required).
2.7	Bid documents will not be made available at the site visit or clarification meeting. Details relating to the collection of bid documents is indicated in the Bid Notice and Invitation to Bid (Section T1.3 of the document)
2.10.5	Add the following to the clause: A digital copy of the Schedule of Rates can be obtained from the Client's agent at the office of the Engineer upon sufficient notice.
2.11	Add the following to the clause: To correct errors made, draw a line through the incorrect entry and write the correct entry above in black ink and place the full signatures of the authorised signatories next to the correct entry.
2.12.1	Add the following to the clause: All alternative bid offers shall be referred to in Section T2.2.6 – Amendment or Qualifications by the Bidder.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Addition or Variation to Standard Conditions of Tender
2.12.2	Should the Bidder wish to offer alternative designs and/or construction materials, he shall include with this Bid full details thereof, including a complete Schedule of Rates, formal design calculations, and full details of all alternative components proposed to be included in the Works. Refer also to the Contract Data in this regard. Failure to properly comply with this clause, thereby preventing the Employer and/or the Engineer to properly assess the full implications of the alternative bid, is likely to disqualify the alternative offered from further consideration. No submission by the Contractor after award for additional payment or time for completion of Works relating to the alternative offer will be considered, the tendered rates submitted shall be considered to reflect the full and final cost implications of the alternative offer.
2.13	Add the following to the clause: No claim will be entertained for faults in the bid price resulting from any discrepancies, omissions or indistinct figures.
2.13.2	Replace the contents of the clause with the following: Each bidder is required to return the complete set of documents as listed in the bid data with all the required information supplied and completed in all respects.
2.13.3	No copies of the bid offer are required.
2.13.4	Add the following to the clause: Only authorised signatories may sign the original and all copies of the bid offer where required in terms of 2.13.3.
2.13.5	The Employer's address for delivery of bid offers and identification details to be shown on each bid offer package are: Tender box location : Joe Morolong Local Municipality Physical address : D320 Cardington Road, Churchill Village, KURUMAN, 8460 Identification details : Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert) The name and address of the bid shall be entered on the back of the envelope.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Clause	Addition or Variation to Standard Conditions of Tender
2.13.6	A two-envelope procedure will not be followed.
2.13.9	Add the following to the clause: Accept that all conditions, which are printed or written upon any stationary used by the Bidder for the purpose of or in connection with the submission of a bid offer for this Contract, which are in conflict with the conditions laid down in this document shall be waived, renounced and abandoned.
2.14	Add the following to the clause: The Bidder is required to enter information in the following sections of the document: Section T2.2 : Returnable Schedules Section C1.1 : Form of Offer and Acceptance Section C1.2 : Contract Data (Part 2) Section C2.2 : Bill of Quantities The above sections shall be signed by the Bidder (and witnesses where required). Individual pages should only be initialled by the successful Bidder and by the witnesses after acceptance by the Employer of the Bid Offer. The Bidder shall complete and sign the Form of Offer (Section C1.1) prior to the submission of a Bid Offer. The Schedule of Deviations (if applicable) shall be signed by the successful Bidder after acceptance by the Employer of the Bid Offer. Accept that failure on the part of the Bidder to submit any one of the Returnable Documents listed in clause 2.23 within the period stipulated, shall be just cause for the Employer to consider the bid offer as being regarded as non-responsive. Accept that the Employer shall in the evaluation of bid offers take due account of the Bidder's past performance in the execution of similar engineering works of comparable magnitude, and the degree to which he possesses the necessary technical, financial and other resources to enable him to complete the Works successfully within the contract period. Satisfy the Employer and the Engineer as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, and furnish details in section T2.2.2 of contracts of a similar nature and magnitude which they have successfully executed in the past. Accept that the Employer is restricted in accordance with clause 4.(4) of the Construction Regulations, 2003, to only appoint a contractor whom he is satisfied

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Addition or Variation to Standard Conditions of Tender
	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 2.23) shall be regarded as justifiable and compelling reasons not to accept the Bid Offer of the Bidder scoring the highest number of bid evaluation points. The Employer may appoint more than one Service Provider in this Programme.
2.15.1	The closing time and location for the submission of bid offers are: Time : Tuesday, 18 January 2022 at 12h00 Location : Tender box situated in the foyer of Joe Morolong Local Municipality, D320 Cardington Road, Churchill Village
2.16.1	The bid offer validity period is 90 days.
2.16.1	Add the following to the clause: If the bid validity expires on a Saturday, Sunday or public holiday, the bid shall remain valid and open for acceptance until the closure of business on the following working day.
2.16.3	Add the following new clause: Accept that should the Bidder unilaterally withdraw his bid during this period, the Employer shall, without prejudice to any other rights he may have, be entitled to accept any less favourable bid for the Works from those received, or to call for fresh bids, or to otherwise arrange for execution of the Works, and the Bidder shall pay on demand any additional expense incurred by the Employer on account of the adoption of the said courses, as well as either the difference in cost between the bid withdrawn (as corrected in terms of clause 3.9 of the Conditions of Bid) and any less favourable bid accepted by the Employer, or the difference between the bid withdrawn (as corrected) and the cost of execution of the Works by the Employer as well as any other amounts the Employer may have to pay to have the Works completed.
2.18.1	Add the following to the clause: Accept that if requested, the Bidder shall within 7 days of the date upon which he is requested to do so, submit a full report from his banker as to his financial standing. The Employer may, in its discretion, and subject to the provisions of Section 4(1)(d) of the State Tender Board Act 86 of 1968, condone any failure to comply with the foregoing condition. Accept that the Employer or his agent, reserves the right to approach the Bidder's

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Addition or Variation to Standard Conditions of Tender
	banker or guarantor(s) as indicated in the bid document, or the bankers of each of the individual members of any joint venture that is constituted for purposes of this Contract, with a view to ascertaining whether the required guarantee will be furnished, and for purposes of ascertaining the financial strength of the Bidder or of the individual member of such venture.
2.22	Return all retained bid documents prior to the closing time for the submission of Bid Offers.
2.23	The following certificates / information are to be provided with the bid offer: a. A valid Tax Clearance Certificate and SARS PIN issued by South Africa Revenue Services. In terms of Joint Ventures, original valid tax clearance certificates and SARS PIN must be submitted by each joint venture partner, b. An Accredited Certified Copy or Original BBBEE Certificate by SANAS or IRBA accreditation, c. Recent statement as proof of payment of municipal services (rates and taxes) for both company and all directors of the company. Not older than three months, d. Certified copy of Certificate of Incorporation (if bidder is a Company), e. Certified copy of Founding Statement (if bidder is a Closed Corporation), f. Certified copy of Partnership Agreement (if bidder is a Partnership), g. Proof of company address or lease agreement whichever applies obtainable from your local municipality, tribal authority or landlord, h. Proof of residence of all directors as they appear on the company registration certificate, obtainable from your local municipality or tribal authority, i. Certified copies of Identity Documents (ID's) of all directors/members, j. Joint Venture Agreement, bid specific (if bidder is a Joint Venture), k. Proof of Company Registration on Central Supplier Database (CSD), l. CIDB registration certificate in the grading designation stipulated in clause 2.1 above, m. Certified copy of a Workmen's Compensation Certificate, Act 4 of 2002, n. Proof of bank rating from bidder's bank. Grading of C or higher. NOTE: No copies of certified copies will be accepted. All the above to be submitted with Bid. Courier or emailed forms will not be accepted
3.1	Replace the contents of the clause with the following: Respond, to a request for clarification received in accordance with clause 2.8, within 7 days prior to the closing time stated in clause 2.15 and notify all bidders

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



Clause	Addition or Variation to Standard Conditions of Tender
	who drew procurement documents.
3.4	Bids will be opened immediately after the closing time for bids, at the same venue.
3.5	A two-envelope procedure will not be followed.
3.8.1	Add the following to the clause: Failure on the part of the Bidder to submit any one of the returnable documents or certificates listed in clause 2.23 within the period stipulated shall be just cause for the Employer to consider the bid offer as being non-responsive.
3.9.1	Replace the contents of the clause with the following: Check responsive bid offers for arithmetical errors, correcting them in the following manner: a) If a Schedule of Rates (or schedule of quantities or schedule of rates) applies and there is an error in the line item total resulting from the product of the unit rate and the quantity, the unit rate shall govern and the line item total 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 bidder's addition of prices, the corrected total of the prices shall govern. c) Where there is a discrepancy between the amount indicated in the Bidders's bid offer and the corrected amount obtained after completing the above steps, the corrected amount shall govern.
3.11.1	Method 2 will be used to evaluate all responsive bid offers, where the value for W_1 is: 90 where the financial value inclusive of VAT of all responsive bids received have a value above R50 million; or 80 where the financial value inclusive of VAT of one or more responsive bid offers is equal to or above R30 000 and up to R50 million.
3.11.6	The financial offer will be scored in terms of formula 2 option 1 of the Standard Conditions of Bid (Section T1.5 of the document).
3.11.7	Add the following new clause: Scoring preference Up to $(100-W_1)$ bid evaluation points (W_p) will be awarded to bidders who complete the preferencing schedule (bound into Section T2.2.15) and who are

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Addition or Variation to Standard Conditions of Tender
	found to be eligible for the preference claimed. Refer to the Employer's Supply Chain Management Policy (Section C6.1).
3.12	Replace the contents of the clause with the following: If requested by any Bidder, submit for the Bidders' information the policies or certificates of insurance (or both) which the conditions of contract identified in the Contract Data require the Employer to provide.
3.13.1	A Bid offer will only be accepted on condition that such acceptance is not prohibited in terms of clause 44 of the Municipal Supply Chain Management Regulations published in terms of the Municipal Finance Management Act, 2003.
3.14	Replace the contents of the clause with the following: Notice of non-acceptance of bid will not be sent to individual unsuccessful bidders. Particulars of the accepted bid can be obtained from the Engineer.
3.18	The successful bidder/s shall receive one copy of the signed contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T1.5 –BID EVALUATION CRITERIA

1. Bid to be evaluated on Functionality (Regulation 5 of the Preferential Procurement Regulations 2017)

This bid will be evaluated on functionality in terms of section 5 of the Preferential Procurement Regulations (2017). The evaluation criteria for measuring functionality is objective. The minimum qualifying score for functionality on this bid is 70.00/100.00. A bid that fails to obtain the minimum qualifying score for functionality will be regarded as non-responsive. All bids that obtain the minimum qualifying score for functionality shall be evaluated further in terms of price and the preference point system. The evaluation criteria for measuring functionality and the points for each criteria and each sub-criterion are listed below:

No	Functionality criteria	Sub score weight	Main score weight	Reference
01	PREVIOUS PROJECT EXPERIENCE (NB: Bidders to submit valid contact details of completed projects. Non submission will result in loss of points)		40.00	
01.01	Two (2) Similar project > R5 million completed successfully	10.00		
01.02	Three (3) Similar projects > R5 million completed successfully	15.00		
01.03	Two (2) Similar projects > R10 million completed successfully	20.00		
01.04	Three (3) Similar projects > R10 million completed successfully	30.00		
01.05	Four (4) Similar projects > R10 million completed successfully	40.00		
02	FINANCIAL CAPACITY (NB: Bidders to submit proof. Non submission will result in loss of points)		20.00	
02.01	Bidder submitted only proof of banking details	5.00		
02.02	Bank rating worse than a "C"	8.00		
02.03	Bank rating of "C"	15.00		
02.04	Bank rating better than a "C"	20.00		
03	EXPERIENCE OF CONTRACT DIRECTOR / MANAGER (NB: Bidders to submit Curriculum Vitae and Certificates of Contract Director / Manager. Non submission will result in loss of points)		10.00	
03.01	Award 10 points for an acceptable CV content and positive feedback from references	10.00		
03.02	Award 6 points for the qualification of the Contract Director / Manager with National Diploma or higher	6.00		
03.03	Award 4 points if the Contract Director / Manager was involved in similar projects, at least three, at Manager level	4.00		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

No	Functionality criteria	Sub score weight	Main score weight	Reference
04	EXPERIENCE OF SITE AGENT (NB: Bidders to submit Curriculum Vitae and Certificates of Site Agent. Non submission will result in loss of points)		10.00	
04.01	Award 10 points for an acceptable CV content and positive feedback from references	10.00		
04.02	Award 6 points for the qualification of the Site Agent with National Diploma or higher	6.00		
04.03	Award 4 points if the Site Agent was involved in similar projects, at least three, at Site Agent level	4.00		
05	EXPERIENCE OF FOREMAN (NB: Bidders to submit Curriculum Vitae and Certificates of Foreman. Non submission will result in loss of points)		5.00	
05.01	Foreman more than 2 years' relevant experience in building works and refurbishment	2.00		
05.02	Foreman more than 5 years' relevant experience in building works and refurbishment	5.00		
06	LOCATION OF BIDDER (NB: The registered address as per the company registration documents (CIPC - Company Intellectual Property Commission) will be used. Only the single highest point allocation will apply to any bidder)		15.00	
06.01	Bidder located outside Northern Cape Province, but still in RSA	5.00		
06.02	Bidder located inside Northern Cape Province	10.00		
06.03	Bidder located inside John Taolo Gaetsewe District Municipality area	15.00		
TOTAL SCORE			100.00	

2. Preference points system for acquisition of goods or services (Regulation 6 of the Preferential Procurement Regulations 2017)

The evaluation of this bid is based on the Preferential Procurement Point System stipulated in the bid document where a maximum of 90 points are scored for price and a maximum of 10 points for achieving the specific BBBEE participation goals

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Joe Morolong Local Municipality

Contract No: **B215-2021**

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and
Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

STANDARD CONDITIONS OF TENDER

CONTENTS

Item	Description	
1.	GENERAL.....	T1.6.3
1.1	Actions	T1.6.3
1.2	Tender Documents.....	T1.6.4
1.3	Interpretation	T1.6.4
1.4	Communication and employer's agent.....	T1.6.5
1.5	The employer's right to accept or reject any tender offer	T1.6.5
2.	TENDERER'S OBLIGATIONS	T1.6.5
2.1	Eligibility	T1.6.5
2.2	Cost of tendering	T1.6.6
2.3	Check documents	T1.6.6
2.4	Confidentiality and copyright of documents	T1.6.6
2.5	Reference documents	T1.6.6
2.6	Acknowledge addenda.....	T1.6.6
2.7	Clarification meeting.....	T1.6.6
2.8	Seek clarification	T1.6.6
2.9	Insurance	T1.6.7
2.10	Pricing the tender offer.....	T1.6.7
2.11	Alterations to documents.....	T1.6.7
2.12	Alternative tender offers.....	T1.6.7
2.13	Submitting a tender offer	T1.6.8
2.14	Information and data to be completed in all respects.....	T1.6.9
2.15	Closing time	T1.6.9
2.16	Tender offer validity.....	T1.6.9
2.17	Clarification of tender offer after submission.....	T1.6.10
2.18	Provide other material	T1.6.10

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2.19	Inspections, tests and analysis	T1.6.10
2.20	Submit securities, bonds, policies, etc.	T1.6.10
2.21	Check final draft	T1.6.10
2.22	Return of other tender documents	T1.6.10
2.23	Certificates	T1.6.11
3.	THE EMPLOYER'S UNDERTAKINGS.....	T1.6.11
3.1	Respond to requests from the tenderer	T1.6.11
3.2	Issue Addenda	T1.6.11
3.3	Return late tender offers	T1.6.11
3.4	Opening of tender submissions.....	T1.6.12
3.5	Two-envelope system	T1.6.12
3.6	Non-disclosure	T1.6.12
3.7	Grounds for rejection and disqualification	T1.6.13
3.8	Test for responsiveness	T1.6.13
3.9	Arithmetical errors, omissions and discrepancies	T1.6.13
3.10	Clarification of a tender offer	T1.6.14
3.11	Evaluation of tender offers	T1.6.14
3.12	Insurance provided by the employer	T1.6.18
3.13	Acceptance of tender offer	T1.6.19
3.14	Prepare contract documents	T1.6.19
3.15	Complete adjudicator's contract.....	T1.6.20
3.16	Notice to unsuccessful tenderers	T1.6.20
3.17	Provide copies of the contracts	T1.6.20
3.18	Provide written reasons for actions taken	T1.6.20

These standard conditions of tender are identical to those published in Annex F of the Construction Industry Development Board's Board Notice 86 of 2010.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Joe Morolong Local Municipality

Contract No: **B215-2021**

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

STANDARD CONDITIONS OF TENDER

1. GENERAL

1.1 Actions

- 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 Section 2 and Section 3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anti competitive practices.
- 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.

The employer shall not seek and a tenderer shall not submit a tender without having a firm

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

intention and the capacity to proceed with the contract.

1.2 Tender Documents

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

1.3 Interpretation

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.

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

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 fulfil his or her duties impartially;
 - ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - iii) Incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- b) **comparative offer** means the tenderer's financial offer after all tendered parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- e) **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body
- f) **quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

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.

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

- 1.5.1 The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.
- 1.5.2 The employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer.

2. TENDERER'S OBLIGATIONS

2.1 Eligibility

- 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.
- 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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2.2 Cost of tendering

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.

2.3 Check documents

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

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.

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.

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.

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.

2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

five working days before the closing time stated in the tender data.

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.

2.10 Pricing the tender offer

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

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

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

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.

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. Erasures and the use of masking fluid are prohibited.

2.12 Alternative tender offers

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.

2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

the tender data or criteria otherwise acceptable to the employer.

2.13 Submitting a tender offer

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outpackage is not sealed and marked

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

as stated.

- 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.

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.

2.15 Closing time

- 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.
- 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.
- 2.15.3 Tender submitted after closing on **Tuesday, 18 January 2022 at 12h00** will not be considered.

2.16 Tender offer validity

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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 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.

2.18 Provide other material

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.

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

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.

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.

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.

2.22 Return of other tender documents

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

2.23 Certificates

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

3. THE EMPLOYER'S UNDERTAKINGS

3.1 Respond to requests from the tenderer

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

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.

3.2 Issue Addenda

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

3.3 Return late tender offers

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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.

3.4 Opening of tender submissions

- 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.
- 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, preferences claimed and time for completion for the main tender offer only.
- 3.4.3 Make available the record outlined in 3.4.2 to all interested persons upon request.

3.5 Two-envelope system

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

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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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.

3.8 Test for responsiveness

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.

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.

3.9 Arithmetical errors, omissions and discrepancies

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.

3.9.2 Check the highest ranked tender or tenderer with the highest number of tender

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

evaluation points after the evaluation of tender offers in accordance with 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.

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.

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.

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.

3.11 Evaluation of tender offers

3.11.1 General

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

3.11.2 Method 1: Financial offer

In the case of a financial offer:

- a) Rank tender offers from the most favourable to the least favourable comparative offer.
- b) Recommend the highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- c) Re-rank all tenderers should there be compelling and justifiable reasons not to recommend the highest ranked tenderer and recommend the highest ranked tenderer, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

3.11.3 Method 2: Financial offer and preference In the case of a financial offer and preferences:

In the case of a financial offer and preferences:

- a) Score each tender in respect of the financial offer made and preferences claimed, if any, in accordance with the provisions of 3.11.7 and 3.11.8.
- b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_p$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with 3.11.7; and
 N_p is the number of tender evaluation points awarded for preferences claimed in accordance with 3.11.8.

- c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

out in this subclause is repeated

3.11.4 Method 3: Financial offer and quality

In the case of a financial offer and quality:

- a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of 3.11.7 and 3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
- b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_q$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with 3.11.7; and

N_q is the number of tender evaluation points awarded for quality offered in accordance with 3.11.9.

- c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- d) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

3.11.5 Method 4: Financial offer, quality and preferences

In the case of a financial offer, quality and preferences:

- a) Score each tender in respect of the financial offer made, preference claimed, if any, and the quality offered in accordance with the provisions of 3.11.7 to 3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
- b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

following formula, unless otherwise stated in the Tender Data:

$$T_{EV} = N_{FO} + N_p + N_q$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with 3.11.7;

N_p is the number of tender evaluation points awarded for preferences claimed in accordance with 3.11.8; and

N_q is the number of tender evaluation points awarded for quality offered in accordance with 3.11.9.

- c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

3.11.6 Decimal places

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

3.11.7 Scoring Financial Offers

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

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

Where: N_{FO} is the number of tender evaluation points awarded for the financial offer; and
 W_1 is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the tender data; and
 A is the number calculated using the formula and option described in table 1 as stated in the tender data.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Table 1 – Formula for calculating the value of A^a

Formula	Basis for comparison	Option 1 ^a	Option 2 ^a
1	Highest price or discount	$A = \left(1 + \frac{(P - P_m)}{P_m} \right)$	$A = P/P_m$
2	Lowest price or percentage commission/fee	$A = \left(1 - \frac{(P - P_m)}{P_m} \right)$	$A = P_m/P$
^a P_m is the comparative offer of the most favourable comparative offer. P is the comparative offer of the tender offer under consideration.			

3.11.8 Scoring preferences

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

3.11.9 Scoring quality

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

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

$$N_Q = W_2 \times S_o / M_s$$

where: S_o is the score for quality allocated to the submission under consideration; and
 M_s is the maximum possible score for quality in respect of a submission; and
 W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data

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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

3.13 Acceptance of tender offer

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

3.14 Prepare contract documents

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.

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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.

3.16 Notice to unsuccessful tenderers

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

3.16.2 The successful tenderer will be notified of the employer's acceptance of the tender, the other unsuccessful tenderer's can visit the website of Joe Morolong Local Municipality where the notification will be posted.

3.17 Provide copies of the contracts

3.17.1 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.

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 offender, 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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

JOE MOROLONG LOCAL MUNICIPALITY

BID NO : B215-2021

**Panel of Contractors for the Provision of Construction of Water
Storage Reticulation and Equipping of Borehole Services for Rural
Water Projects (3 Years Period) (Re-Advert)**

PORTION 1: THE BID

PART T2 Returnable Documents

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

BID NO: B215-2021

Section T2.1 LIST OF RETURNABLE DOCUMENTS

T2.1.1 Returnable Schedules required for bid evaluation purposes

Bidders must complete these forms and/ or submit them with the bid documents.

- Documentary proof of registration of the company
- Proof of shareholding documents
- Proof of Banking Details and Bank Grading of C or Higher. Certification from Bank to be submitted with Bid.
- BBBEE certificate if registered
- Proof of physical address
- Certificate of Authority for Signatory (also submit for joint ventures where applicable)
- Compulsory Enterprise Declaration Questionnaire
- Record of Addenda to Bid Documents
- Proposed Amendments and Qualifications
- Schedule of Plant and Equipment
- Schedule of the Bidder's Experience
- Previous Works carried out
- CIDB Registration Certificate
- Schedule for Labour Content

T2.1.2 Other Documents required for bid evaluation purposes

- Tax Clearance Certificate issued by South African Revenue Services and SARS PIN (**valid**)
- An Accredited certified copy or original BBBEE Certificate by SANAS or IRBA accredited
- Contract Participation Goal
- Schedule of Subcontractors
- Form of Bid
- Appendix to Form of Bid
- Financial References
- Preferencing Schedules
- Declaration of Interest
- Declaration of Bidders Past Supply Chain Management Practices
- Proof of company address or lease agreement whichever applies obtainable from your local municipality, tribal authority or landlord
- Proof of residence of all directors as they appear on the company registration certificate obtainable from your local municipality or tribal authority
- Recent statement as proof of payment of municipal services (rates and taxes) for both company and all directors of the company. Not older than three months
- Certified copies of identity documents (ID's) of all directors/members
- Joint Venture Agreement. Must be bid specific
- Proof of company registration on Central Supplier Database (CSD)

T2.1.3 Returnable Schedules that will be incorporated into the contract

- Record of Addenda to Bid Documents
- Preferencing Schedules
- BBBEE level of contribution
- CIDB Registration
- Tax Clearance Certificate issued by South African Revenue Services (**original valid**)
- Form of Bid

T2.1.4 Other Documents that will be incorporated into the contract

- Appendix to form of Bid
- General Conditions of Contract 2015

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



- Project Specifications as issued by the Employer's Agent
- Drawings as issued by Employer's Agent
- C1.1 Agreements
- C1.2 Contract Data
- C2.2 Bills of Quantities
- C6.1 Supply Chain Management Policy

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Section T2.2 Returnable Schedules

BIDDERS ARE INSTRUCTED TO COMPLETE ALL THE SCHEDULES ATTACHED HEREIN. FAILURE TO COMPLETE ANY OF THE SCHEDULES WILL RESULT IN AUTOMATIC DISQUALIFICATION OF THE BID AS THE BID WILL BE CONSIDERED NOT RESPONSIVE. IF THE SCHEDULE IS NOT APPLICABLE BIDDERS ARE INSTRUCTED TO INDICATE NOT APPLICABLE AND SIGN THE SCHEDULE.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

T.2.2.1

JUNE 2020

	Description	Compulsory	Tick
T2.2.1	Authority for Signatory	Yes	
T2.2.2	Certificate of Authority for Joint Venture	Yes	
T2.2.3	Schedule of Construction Plant	Yes	
T2.2.4	Schedule of Work Carried Out by Bidder	Yes	
T2.2.5	Present Commitments	Yes	
T2.2.6	Amendment or Qualifications by the Bidder	Yes	
T2.2.7	Schedule of Proposed Subcontractors	Yes	
T2.2.8	Estimated Monthly Expenditure	Yes	
T2.2.9	Details of Proposed Structured Training Programme	Yes	
T2.2.10	Labour Utilisation	Yes	
T2.2.11	Supervisory and Safety Personnel	Yes	
T2.2.12	Compliance with OHSA (Act 85 of 1993)	Yes	
T2.2.13	Record of Addenda to Bid Documents	Yes	
T2.2.14	Compulsory Enterprise Questionnaire	Yes	
T2.2.15	Preference points claim i.t.o. Preferential Procurement Regulations 2017 (MBD6.1)	Yes	
T2.2.16	Financial References	Yes	
T2.2.17	Rates for Special Materials	Yes	
T2.2.18	Declaration of interest (MBD4)	Yes	
T2.2.19	Declaration of Bidder's past Supply Chain Management Practices (MBD8)	Yes	
T2.2.20	Form of Bid	Yes	
T2.2.21	Construction Industry Development Board (CIDB) Registration	Yes	
T2.2.22	Company Registration	Yes	

Bidder..... **Sign**.....

Date.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.1 : AUTHORITY FOR SIGNATORY

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

Signatories for companies shall confirm their authority by attaching to this form a copy of the relevant resolution of the board of directors, duly signed and dated.

An example is shown below:

"By resolution of the board of directors taken on

Mr

has been duly authorized to sign all documents in connection with the Bid for Bid No

B215-2021 and any contract which may arise there from on behalf of

(BLOCK CAPITALS)

.....

.....

SIGNED ON BEHALF OF THE COMPANY:.....

IN HIS / HER CAPACITY AS:

DATE :

SIGNATURE OF SIGNATORY.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.2 : CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this bid offer in Joint Venture and hereby authorise:

FULL NAME

, authorised signatory of the company:

COMPANY

, acting in the capacity of lead partner, to sign all documents in connection with the bid offer and any contract resulting from it on our behalf.

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

The Joint Venture Agreement must be bid specific. All parties must be registered on the Central Supplier Database (CSD).

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Give details of arrangements made, with date of delivery. Proof to be provided with bid.

[illegible]

Contractor

Page 10

Witness 1

Page 10

Witness 2

Employer

11

Witness 1

Witness 2

Give details of delivery arrangements. Certification from Supplier that the plant will be available must be supplied with the bid.

[illegible]

DATE.....

Page 10

Page 10

11

11

Witness 2

SECTION T2.2.4 : SCHEDULE OF WORK CARRIED OUT BY BIDDER

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

The Bidder shall list below the last ten civil engineering contracts of a similar nature awarded to him. This information is material to the award of the Contract.
Attach Completion Certificates for the projects listed.

EMPLOYER (NAME, TEL NO AND FAX NO)	CONSULTING ENGINEER (NAME, TEL NO AND FAX NO)	NATURE OF WORK	VALUE OF WORK	YEAR COM- PLETED

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SIGNED ON BEHALF OF BIDDER : DATE.....

Page 52 of 543

SECTION T2.2.5 : PRESENT COMMITMENTS

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

EMPLOYER (NAME, TEL NO AND FAX NO)	CONSULTING ENGINEER (NAME, TEL NO AND FAX NO)	NATURE OF WORK	VALUE OF WORK	YEAR COM- PLETED

SIGNED ON BEHALF OF BIDDER : DATE.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

BID NO: B215-2021

[illegible]

SIGNED ON BEHALF OF BIDDER :

DATE.....

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

SECTION T2.2.7 : SCHEDULE OF PROPOSED SUBCONTRACTORS

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

The Bidder shall list below the subcontractors he wishes to employ for part(s) of the work.

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

PART OR TYPE OF WORK	PROPOSED SUBCONTRACTOR	WORK RECENTLY EXECUTED BY SUBCONTRACTOR

SIGNED ON BEHALF OF TENDERER :

DATE.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.8 : ESTIMATED MONTHLY EXPENDITURE

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

The Bidder shall state below the estimated value of work to be completed every month, based on his preliminary programme and his tendered unit rates.

The amounts for Contingencies and Contract Price Adjustment must not be included.*

MONTH	VALUE
1	R
2	R
3	R
4	R
5	R
6	R
7	R
8	R
9	R
10	R
11	R
12	R
13	R
Final Certificate etc	R..... COMPLETION OF CONTRACT
TOTAL	R

SIGNED ON BEHALF OF BIDDER:

DATE.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.9 : DETAILS OF PROPOSED STRUCTURED TRAINING PROGRAMME

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

Health and Safety training

Training organization:

Address:

Tel number:

Contact person:

Number and details of trainers to be utilised:.....

Venue of training:

Course name				
Course duration				
Course venue				
Course content				

SIGNED ON BEHALF OF BIDDER :

DATE.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.10 : LABOUR UTILISATION

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

Labour Categories – Definitions

NOTE: These definitions serve as a guideline to complete the following table and will in no respect after the Project Specifications or Standardised Specifications.

1. General Foreman / Foreman

An employee who gives out work to and directly co-ordinates and supervises employees. His duties encompass any one or more of the following activities:

- a) Supervision;
- b) Maintaining discipline;
- c) Ensuring safety on the workplace;
- d) Being responsible to the Contractor for efficiency and production for his portion of the works and;
- e) Performing skilled work, whether in an instructional capacity or otherwise.

2. Charge hand

An employee engaged in any one or more of the following activities;

- a) Being primarily employed in a supervisory capacity, but who may also be doing the work of an artisan;
- b) Giving out work to other employees under his control and supervision;
- c) Ensuring safety on the workplace;
- d) Maintaining discipline; and
- e) Being directly responsible to a general foreman or foreman or the Contractor or the Contractor's representative for efficiency and production for his portion of the works.

3. Artisan

An employee who has successfully completed all prescribed courses at a practical institutional training centre for a particular trade and who has successfully completed the on-site period of training as prescribed and who has successfully passed the prescribed trade tests.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

4. Team Leader

An employee engaged in any one or more of the following activities:

- a) Being employed in a supervisory capacity, but who may also be doing the work of a skilled person;
- b) Giving out work to other employees under his control and supervisory;
- c) Maintaining discipline;
- d) Being directly responsible to a Charge hand or a foreman or a general foreman or the employer's authorised representative for efficiency and production for his portion of the works.

5. Skilled Employee

An employee engaged in an ancillary trade or an assistant artisan.

6. Semi-Skilled Employee

An employee with any specified skills, an apprentice or a trainee-artisan.

7. Unskilled Employee

An employee engaged on any task or operation not specified above.

8. Imported Employee

Personnel permanently employed by Contractor.

9. Local Employee

Temporary workforce employed through Labour Desk

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

MAN DAYS

Categories	No. Of Man Days	
	Imported	Local
1. Contracts Manager		
2. Site Agent		
3. Foreman/Supervisors (specify type)		
3.1 _____		
3.2 _____		
3.3 _____		
4. Safety Inspectors (specify type)		
4.1 _____		
4.2 _____		
5. Charge hands		
6. Artisans		
7. Operators/Drivers		
8. Clerks/Storeman		
9. Team Leader		
10. Skilled Labour		
11. Semi-skilled Labour		
12. Unskilled Labour		

SIGNED ON BEHALF OF BIDDER :

DATE.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.11 : SUPERVISORY AND SAFETY PERSONNEL

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

PREVIOUS EXPERIENCE ON WORKS OF A SIMILAR NATURE DURING THE LAST FIVE YEARS

Name	% Time on Site	Position (Current)	Service (Years)	Name of Project And year executed	Value of Works	Position Occupied
Contracts Manager						
Contractor's Site Agent						
Contractor's Foremen						
Constructional Health and Safety Officer						

Bidders shall indicate the percentage of working time these persons will be engaged on site. Bidders are required to provide copies of curriculum vitas of all supervisory and safety personnel.

SIGNED ON BEHALF OF TENDERER :

DATE.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.12 : COMPLIANCE WITH OHSA (ACT 85 OF 1993)

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

Bidders are required to satisfy the Employer and the engineer as to their ability and available resources to comply with the above by answering the following questions and providing the relevant information required below.

1. Is the Contractor familiar with the OHSA (ACT 85 OF 1993) and its Regulations? **YES / NO**

2. Who will prepare the Contractor's Health and Safety Plan? (Provide a copy of the person/s curriculum vitae/s or company profile).

3. Does the Contractor have a health and safety policy? (If yes, provide a copy). **YES / NO**

How is this policy communicated to all employees?

4. Does the Contractor keep records of safety aspects of each construction site? **YES / NO**
If yes, what records are kept?

5. Does the Contractor conduct monthly safety meetings? If yes, who is the chairperson of the meeting, and who attends these meetings? **YES / NO**

6. Does the Contractor have a safety officer in his employment, responsible for the overall safety of his company? **YES / NO**
If yes, please explain his duties and provide a copy of his CV

7. Does the Contractor have trained first aid employees? If yes, indicate who. **YES / NO**

8. Does the Contractor have a safety induction training in place? **YES / NO**
(If yes, provide a copy)

SIGNED ON BEHALF OF BIDDER :

DATE.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.13 : RECORD OF ADDENDA TO BID DOCUMENTS

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

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

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

Attach additional pages if more space is required.

Signed _____ Date _____

Name _____ Position _____

Bidder _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.14 : COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record of service of the state

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

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

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

*insert separate page if necessary

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

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

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

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

*insert separate page if necessary

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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

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

Signed

Date

Name

Position

Enterprise name

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.15 - PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017 (MBD6.1)

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

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

1. GENERAL CONDITIONS

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

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

1.2 The value of this bid is estimated to exceed R50 000 000 (all applicable taxes included) and therefore the 90/10 system shall be applicable.

1.3 Points for this bid shall be awarded for:

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

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

	POINTS
PRICE	90
B-BBEE STATUS LEVEL OF CONTRIBUTOR	10
Total points for Price and B-BBEE must not exceed	100

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

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

2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Economic Empowerment Act, 2003 (Act No. 53 of 2003);

- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
 - 1) B-BBEE Status level certificate issued by an authorized body or person;
 - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
 - 3) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

3. POINTS AWARDED FOR PRICE

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

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

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

Where

- P_s = Points scored for price of bid under consideration
- P_t = Price of bid under consideration
- $P_{\min}$ = Price of lowest acceptable bid

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

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

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

5. BID DECLARATION

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

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

- 6.1 B-BBEE Status Level of Contributor: . = ...(maximum of 10 or 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

7. SUB-CONTRACTING

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

(Tick applicable box)

YES		NO	

7.1.1 If yes, indicate:

i) What percentage of the contract will be subcontracted.....%

ii) The name of the sub-contractor.....

iii) The B-BBEE status level of the sub-contractor.....

iv) Whether the sub-contractor is an EME or QSE

(Tick applicable box)

YES		NO	

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

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

8. DECLARATION WITH REGARD TO COMPANY/FIRM

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

8.2 VAT registration number:.....

8.3 Company registration number:.....

8.4 TYPE OF COMPANY/ FIRM

☐ Partnership/Joint Venture / Consortium

☐ One person business/sole propriety

☐ Close corporation

☐ Company

☐ (Pty) Limited

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

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

8.6 COMPANY CLASSIFICATION

☐ Manufacturer

☐ Supplier

☐ Professional service provider

☐ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

8.7 MUNICIPAL INFORMATION

Municipality where business is situated:

Registered Account Number:

Stand Number:.....

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

8.9 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

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

WITNESSES

1.
2.

 SIGNATURE(S) OF BIDDERS(S)

DATE:

ADDRESS:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.16 : FINANCIAL REFERENCES

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

(a) **FINANCIAL STATEMENTS**

I/We agree, if required, to furnish an audited copy of the latest set of financial statements together with my/our Directors' and Auditors' report for consideration by the Employer.

(b) **DETAILS OF COMPANY'S BANK**

I/We hereby authorise the Employer/Engineer to approach all or any of the following banks for a reference:

DESCRIPTION OF BANK DETAIL	BANK DETAIL APPLICABLE TO COMPANY HEAD OFFICE	BANK DETAIL APPLICABLE TO THE SITE OF THE WORKS
Name of bank		
Branch name		
Branch code		
Street address		
Postal address		
Name of manager		
Telephone number	()	()
Fax number	()	()
Account number		
Bank Rating Attach Proof to Tender Document		

SIGNED AT ON THIS DAY OF 200.....

SIGNED ON BEHALF OF BIDDER :

NAME OF SIGNATORY :

NAME OF COMPANY :

AS WITNESSES : 1

2

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.17 : RATES FOR SPECIAL MATERIALS

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

Each material dealt with as a special material in terms of Clause 4 of the Contract Price Adjustment Schedule of the General Conditions of Contract is stated in the list below. The rates and prices for the special materials shall be furnished by the Bidder, which rates and prices shall not include VAT but shall include all other obligatory taxes and levies.

SPECIAL MATERIAL	UNIT	DELIVERY*	RATE OR PRICE FOR THE BASE MONTH **

* Indicate whether the material will be delivered in bulk or in containers.

** Rate or price for the base month shall be for residual bitumen content.

SIGNED ON BEHALF OF BIDDER :

Notes to Bidder:

1. When called upon to do so, the bidder shall substantiate the above rates or prices with acceptable documentary evidence.
2. Refer to clause 49(3) of the General Conditions of Contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.18 : DECLARATION OF INTEREST (MBD4)

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

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

3.2 Identity Number:

3.3 Position occupied in the Company (director, trustee, shareholder²):.....

3.4 Company Registration Number:

3.5 Tax Reference Number:.....

3.6 VAT Registration Number:

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

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

3.8.1 If yes, furnish particulars.....

.....

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

3.9.1 If yes, furnish particulars.....

.....

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

3.10.1 If yes, furnish particulars.....

.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- 3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
- 3.11.1 If yes, furnish particulars.....
-
- 3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**
- 3.12.1 If yes, furnish particulars.....
-
- 3.13 Are any spouse, child or parent of the company's directors trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**
- 3.13.1 If yes, furnish particulars.....
-
- 3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract. **YES / NO**
- 3.14.1 If yes, furnish particulars.....
-

¹MSCM Regulations: "in the service of the state" means to be –

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

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

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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

Full Name	Identity Number	State Employee Number

CERTIFICATION

I, THE UNDERSIGNED

FULL NAME

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

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

..... Signature	 Date
..... Capacity	 Name of Bidder

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.19 : DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES (MBD8)

1. This serves as a declaration in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
2. The bid of any bidder may be rejected if that bidder or any of its directors have:
 - a. abused the municipality's supply chain management system or committed any improper conduct in relation to such system;
 - b. been convicted for fraud or corruption during the past five years;
 - c. wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
3.1	Is the bidder or any of its directors listed on the National Treasury's database as a company or person prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied). The Database of Restricted Suppliers now resides on the National Treasury's website (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
3.1.1	If so, furnish particulars:		
3.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
3.2.1	If so, furnish particulars:		
3.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
3.3.1	If so, furnish particulars:		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Question	Yes	No
3.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
3.4.1	If so, furnish particulars:		
3.5	Was any contract between the bidder and the municipality or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
3.5.1	If so, furnish particulars:		

CERTIFICATION**I, THE UNDERSIGNED****FULL NAME****CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TO BE TRUE AND CORRECT.****I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.**

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.20 : FORM OF BID

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

1. I/We hereby bid to supply all or any of the supplies and/or to render all or any of the services described in the attached documents to the Joe Morolong Local Municipality on the terms and conditions and in accordance with the specifications stipulated in the bid documents (and which shall be taken as part of, and incorporated into, this bid) at the prices and on the terms regarding time for delivery and/or execution inserted therein.
2. I/We agree that -
 - (a) the offer herein shall remain binding upon me/us and open for acceptance by the Joe Morolong Local Municipality during the validity period indicated and calculated from the closing hour and date of the bid;
 - (b) This bid and its acceptance shall be subject to the terms and conditions contained in the General Conditions and Procedures in regard to Bid, Contract and Order and Preference Certificate with which I am/we are fully acquainted;
 - (c) If I/we withdraw my/our bid within the period for which I/we have agreed that the bid shall remain open for acceptance, or fail to fulfil the contract when called upon to do so, the Joe Morolong Local Municipality may, without prejudice to its other rights, agree to the withdrawal of my/our bid or cancel the contract that may have been entered into between me/us and the Joe Morolong Local Municipality and I/we will then pay to the Joe Morolong Local Municipality any additional expense incurred by the Joe Morolong Local Municipality having either to accept any less favourable bid or, if fresh bids have to be invited, the additional expenditure incurred by the invitation of fresh bids and by the subsequent acceptance of any less favourable bid; the Joe Morolong Local Municipality shall also have the right to recover such additional expenditure by set-off against moneys which may be due or become due to me/us under this or any other bid or contract or against any guarantee or deposit that may have been furnished by me/us or on my/our behalf for the due fulfilment of this or any other bid or contract and pending the ascertainment of the amount of such additional expenditure to retain such moneys, guarantee or deposit as security for any loss the Joe Morolong Local Municipality may sustain by reason of my/our default;
 - (d) If my/our bid is accepted the acceptance may be communicated to me/us by letter or order by ordinary post or registered post or by telegram and that SA Post Office Ltd shall be regarded as my/our agent, and delivery of such acceptance to SA Post Office Ltd shall be treated as delivery to me/us;
 - (e) The law of the Republic of South Africa shall govern the contract created by the acceptance of my/our bid and that I/we choose domicilium citandi et executandi in the Republic at (full address of this place)

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

3. I/We furthermore confirm that I/we have satisfied myself/ourselves as to the correctness and validity of my/our bid, that the price(s) and rate(s) quoted cover all the work/item(s) specified in the bid documents and that the price(s) and rate(s) cover all my/our obligations under a resulting contract and that I/we accept that any mistakes regarding price(s) and calculations will be at my/our risk.
4. I/We hereby accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me/us under this agreement as the Principal(s) liable for the due fulfilment of this contract.
5. I/We agree that any action arising from this contract may in all respects be instituted against me/us and I/we hereby undertake to satisfy fully any sentence or judgement which may be pronounced against me/us as a result of such action.
6. I/We declare that I/we have participation*/no participation* in the submission of any other offer for the supplies/services described in the attached documents. If in the affirmative, state name(s) of bidders(s) involved.

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

* Delete whichever is not applicable.

7. Are you duly authorised to sign the bid? * YES/NO
8. Has the Declaration of Interest (Section 2.2.18) been duly completed and included with the other bid forms? * YES/NO

SIGNATURE (S) OF BIDDERS OR ASSIGNEE (S)	:
DATE	:

Capacity and particulars of the authority :
under which this bid is signed :

Name of tenderer	}	:	.....
Postal address	}	(In block letters)	.....
			
			

Telephone No.(s) (Toll free if applicable) :

Facsimile No. :

Bid No. :

Name of contact person (In block letters) :
: ...

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

I/we offer to construct, complete and maintain the Works, and remedy defects in the whole of the said Works in conformity with the Contract Documents for the sum of

.....
(Amount in Words)

.....

..... (R *)
or such other sum as may be determined in accordance with the Contract. Our tendered

Goal Declaration is.....%.

* Including VAT

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**SECTION T2.2.21 : CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB)
REGISTRATION**

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

The Bidder is to affix to this page :-

- Written proof of his registration with the CIDB as a Category 8CE or Higher or higher Contractor.

Note:-

1. Failure to affix such documentation as prescribed to this page shall result in this bid not being further considered for the award of the Contract.
2. All subcontractors are required to be registered in the relevant categories for them to participate in this contract

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.22 : COMPANY REGISTRATION

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

The Bidder is to affix to this page :-

- Certified copy of Company/Close corporation registration documents from Registrar of Companies (eg. CK1, CM1, CM29 etc).
- Certified copy of Partnership Agreement (if bidder is a Partnership)
- Certified copy of deed of Trust (if a Trust is involved)
- Certified copies of Identity documents for all directors/members.
- Recent statement as proof of payment of municipal services (rates and taxes) for both company and all directors of the company. Not older than three months.
- Proof of company address or lease agreement whichever applies obtainable from your local municipality, tribal office or landlord.
- Proof of residence of all directors as they appear on the company registration certificate obtainable from your local municipality or tribal authority.
- Proof of company registration on the Central Supplier Database (CSD).

Note:-

1. Failure to affix such documentation as prescribed to this page shall result in this bid not being further considered for the award of the Contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

JOE MOROLONG LOCAL MUNICIPALITY

BID NO : B215-2021

**Panel of Contractors for the Provision of Construction of Water
Storage Reticulation and Equipping of Borehole Services for Rural
Water Projects (3 Years Period) (Re-Advert)**

PORTION 2: THE CONTRACT

PART C1 Agreements and Contract Data

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

LIST OF CONTRACT DOCUMENTS

The following documents form part of this contract:

- Volume 1: The General Conditions of Contract for Construction Works, 3rd Edition (2015), published by the South African Institution of Civil Engineering, is applicable to this Contract. The General Conditions of Contract are not bound into this document, but are available at the Contractor's expense from the Secretary of South African Institution of Civil Engineering, Private Bag X200, Halfway House, Midrand, 1685.
- Volume 2: The SANS Standard Specifications for Engineering Construction prepared by the Standards South Africa. These publications are available and bidders must obtain copies at their own cost from Standards South Africa, Private Bag X191, PRETORIA, 0001.
- Volume 3: The Project Document containing the Bid Notice, Conditions of Tender, Bid Data, Returnable Schedules, Form of Offer, General and Particular Conditions of Contract, Pricing Schedule, Project Specifications and Site Information, issued by the Employer (See note 1 below). The Employer's Form of Acceptance and any correspondence from the selected Bidder, performance security-demand guarantee and all addenda issued during the period of tender will also form part of this volume once a Bidder has been appointed.

Notes to Tenderer

- Volume 3 is issued at tender stage in paper format.**

At contract stage Volume 3 will be a bound signed paper copy containing the following documents:

- **Returnable schedules relevant to the project**
- **Agreements and Contract Data**
- **Pricing Data**
- **Scope of Work**
- **Site Information**

- SUBMISSION OF BID – Refer to clause 2 in the Bid Data**

Information provided by a Bidder over and above the above elements of Volume 3 shall be treated as information only and will only be bound into the document if the Bidder notes on Section T2.2.6 – Amendment or Qualifications by the Bidder that the information has a bearing on the Bid price.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C1 : AGREEMENTS AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE

A. OFFER

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

Contract No: **B215-2021** for the **Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)**

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

By the representative of the Bidder, deemed to be duly authorized, signing this part of this Form of Offer and Acceptance, the Bidder 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:

R _____ (in
words) _____

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 Bidder before the end of the period of validity stated in the Bid Data, whereupon the Bidder becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Signature (of person authorized to sign the bid): _____

Name (of signatory in capitals): _____

Capacity (of signatory): _____

Name of Bidder (organisation): _____

Address: _____

Telephone Number: _____

Fax Number: _____

Witness:

Signature: _____

Name (in capitals): _____

Date: _____

[Failure of a Bidder to sign this form will invalidate the bid]

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

B. ACCEPTANCE

By signing this part of the Form of Offer and Acceptance, the Employer identified below accepts the Bidder's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract as set out in the General and Special Conditions of Contract, and identified in the Contract Data. Acceptance of the Bidder's Offer shall form an agreement between the Employer and the Bidder 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 Agreement, and Contract Data, (which include this Agreement)

Part C2 Pricing Data, including the Bill of Quantities

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 1 to 4 above.

Deviations from and amendments to the documents listed in the Bid Data and any addenda thereto listed in the Bid Schedules as well as any changes to the terms of the Offer agreed by the Bidder 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 Bidder shall deliver the Guarantee in terms of Clause 7 of the General Conditions of Contract 2004 within the period stated in the Contract Data, and he shall, immediately after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any other bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data, within 14 days of the date on which this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Bidder receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Bidder (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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Signature: _____

Name (in
capitals): _____

Capacity: _____

Name of Employer
(organization): _____

Address: _____

Witness: Signature: _____ **Name:** _____

Date: _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C. SCHEDULE OF DEVIATIONS

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

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

Any other matters arising from the process of offer and acceptance either as a confirmation, clarification or change to the bid 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 bid documents arising from the above agreements 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: _____

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Bidder agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Bid Data and addenda thereto as listed in the Bid Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Bidder 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 bid documents and the receipt by

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

the Bidder 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 BIDDER:

Signature: _____

Name: _____

Capacity: _____

Bidder (*Name and address of* _____
_____)

Witness:

Signature: _____

Name: _____

Date: _____

FOR THE EMPLOYER:

Signature: _____

Name: _____

Capacity: _____

Employer (*Name and address of* _____
_____)

Witness:

Signature: _____

Name: _____

Date: _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Joe Morolong Local Municipality

BID NO: B215-2021

Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

CONTRACT DATA

GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract for Construction Works, 3rd Edition (2015), published by the South African Institution of Civil Engineering, is applicable to this Contract.

The General Conditions of Contract are not bound into this document, but are available at the Contractor's expense from the Secretary of South African Institution of Civil Engineering, Private Bag X200, Halfway House, Midrand, 1685 or www.saice.org.za.

CONTRACT DATA

The terms of Appendix 2 of the General Conditions of Contract for Construction Works, 3rd Edition (2015), the following Contract Data apply to this Contract.

The Contract Data consists of two parts. Part 1 contains information provided by the Employer, while Part 2 contains information to be provided by the Contractor.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Part 1: Data 1: Data provided by the Employer and amendments to the General Conditions of Contract

	CLAUSE	
Defects Liability Period	1.1.1.13	12 months
Name of Employer	1.1.1.15	JOE MOROLONG LOCAL MUNICIPALITY
Name of the Engineer	1.1.1.16	BVi Consulting Engineers
Contractor	1.1.1.9	Name: Address: Contact:
Contract sum	1.1.1.10	"Contract sum" means the Price tendered by the Contractor and accepted by FUNDING AGENT: JOE MOROLONG LOCAL MUNICIPALITY and arithmetic errors has been corrected.
Commencement	1.1.1.5	"Commencement Date" means the date of receipt by the Contractor of the following whichever date of receipt is the earliest: 1. Letter of appointment 2. Handover of site 3. Order to commence "Commencement of Work" will only take place once the following documentation was submitted to the office of the Consulting Engineer" 1. Letter of acceptance 2. Original Construction Guarantee 3. Letters of Appointment of Site Agent and OHS Person 4. Registration of Project at Department of Labour 5. Original Tax Clearance Certificate 6. Letter of Good standing – Workman's compensation 7. No commencement of work will be allowed unless there is a signed service level agreement between the main and sub-contractor with letter of appointment, with stated scope of work and budget allocated to the sub-contractor.
Address of Employer	1.2.1.2	Joe Morolong Local Municipality D320 Cardington Road Churchill Village KURUMAN 8460 Tel : (053) 773 9300 Fax : (053) 773 9350

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Address of Engineer	1.2.1.2	17 President Steyn Avenue Westdene Bloemfontein 9301 Tel: 051 – 447 2137 Fax: 051 – 447 6056
Year end break	1.6	If applicable during the duration of the construction period.
Workmen's Compensation	4.3	The Contractor shall also provide proof, that he has paid all contributions required in terms of the provision s of the Act.
Labour costs	4.3	The minimum statutory labour rates as set by the Department of Labour for the area where the site is located must be adhered to by the contractor or as per JOE MOROLONG LOCAL MUNICIPALITY
Cession Subcontractors and Material Suppliers	4.4	Add the following to the Clause: The Employer may, in order to avoid seizure by the owner, material supplier, subcontractor, at the Employer's option, pay to such owner, material supplier, subcontractor, the amount of any overdue installment, or any other sum payable under the agreement for purchase or services, and, in the event of so doing, any amount so paid by the Employer shall be a debt due from the Contractor to the Employer, and may be deducted by the Employer from any money due, or that may become due, to the Contractor in terms of the Contract, or may be recovered by the Employer from the Contractor by law. The Retention money due to the Contractor will not be payable to the contractor until all works are completed as per GCC 2015 and will only be paid to the Contractor once all cession suppliers and subcontractors and any other payments due has been paid in full.
Patent Rights	4.6	The following Sub clause is added to Clause 4.6: "The copyright in all documents, drawings and records related to the purpose and scope of the Works or related in any other manner to the Works, shall vest in the Employer and the Contractor shall not furnish any information in connection with the Works to anybody without the approval of the Employer."
Contractor's Employees	4.10	Add the following to Clause" The Contractor is to utilize labour where possible (Refer to Project Specifications)
	4.10	Add the following :

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		"The Contractor is responsible for the behavior and performance of his own and his Sub-contractor's personnel and shall at his own cost, for the duration of the contract and maintenance period of Works, make the necessary arrangement to prevent unlawful or inappropriate behavior, and shall indemnify the Employer and the Engineer against any claims in connection with non-compliance with the act, for any loss or injury, or any other claim, for any action or neglect to act on the part of the Contractor's or his Sub-contractor's personnel."
Community Liaison Officer (CLO)	4.10 4.8.1.2	A CLO will be appointed by the Municipality for this contract and will be paid by the Municipality via the contractor on a monthly basis. In the event of different contractors appointed for different works, it is possible to appoint more than one CLO where it is deemed practical to do so by the employer. The CLO will be responsible for liaison between the contractor and community, with regard to labour, access, safety, etc.
Contractor's Employees	4.10 4.8.1.2	It is a specific condition of this Tender that the Contractor must employ all unskilled labour from the local communities and as many as possible skilled labour. All work specified in Schedule of Quantities and Project Specifications except excavations in hard rock and not applicable material must be done utilizing labour based construction methods. The requirement that all unskilled labour must be obtained from the local communities does not relieve the Contractor of any of his responsibilities under the clause. Add the following to the clause: "The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety. The Contractor shall do nothing to dissuade targeted labour from participating in training programs and shall take reasonable steps to ensure that nominated labour is provided with two days formal training for every 30 days worked. Proof of compliance will be required from the

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		Contractor prior to the submission of the final payment certificate.” All Supervisory Staff of the contractor will be in possession of an associated NQF qualification or certification from an accredited training institution. (Minimum NQF level 2 for supervisory personnel i.e. team leaders and safety officer and Project Managers NQF 5). Where personnel are found not to be competent as per their qualification the personnel will be replaced on request of the Engineer/Project Manage.
Contractor's Obligations	4.12	Add to the clause: “All cost in complying with the provision of complying with Clause 4.8; 4.9; 4.10 and 4.11 shall be allowed for the rates tendered”
Contractor's superintendence	4.12	Add the following new clause: “The Contractor or his representative shall attend al site meeting with the Employer and/ or Engineer on the dates as nominated by the Engineer. The purpose of the meetings shall be to evaluate the progress of work and to discuss the matters relevant to the contract as required by the parties concerned. Unless specifically invited by the Engineer, the Sub-contractors of the Contractor may not attend these site meetings. Add the Following additional Clause 22.2: “The Tenderer is to fill in the names of the site agent and foreman in the space provided in T2.2.12
Commencement of works	5.3	Within 14 days of Commencement Date On the commencement of Work (Site handover) the Engineer shall deliver to the contractor 3 copies of the drawings. A copy of the signed contract document will be prepared after signing of the contract. Commencement of Work will only take place once the following documentation were submitted to the office of the Consulting Engineer: 1. Letter of Acceptance 2. Construction/Performance Guarantee 3. Health & Safety File 4. Letter of Appointment of OHS Rep or Officer 5. Letter of Good Standing Workman's Compensation 6. Prove of submission of Registration of

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		Project at Department of Labour. 7. Signed service level agreement and appointment letter between the main contractor and the nominated sub-contractor.
Program of Works	5.6	Within 14 days of Commencement Date
Special Non-Working days	5.8.1	The period 16 December to 5 th January inclusive, plus Good Friday, Human Rights Day, Freedom Day, Workers Day, Youth Day, Women's Day, Heritage Day and Easter Monday Holidays.
Extension of time for completion	5.12	In general, extension of time for the completion of Works will, in terms of the General conditions of Contract, be granted only for additional work and for circumstances which could not have been foreseen, and are beyond the control of the Contractor. No Extension of time for completion will be granted on accounts of normal inclement weather, but extension of time shall be determined for abnormal rainfall or wet conditions in accordance with the formula given below, separately for each calendar month or part thereof. It shall be calculated for the full period for the completion of the Contract including any extension thereof by the formula: $V = (Nw - Nn) + \frac{(Rw - Rn)}{X}$ The symbols shall have the following meanings: V = Extension of time in calendar days in respect of the calendar month under consideration. Nw = Actual number of days during the calendar month on which a rainfall of Ymm or more has been recorded. Nn = Average number of days, as derived from existing rainfall records provided in the table below on which a rainfall of Ymm or more has been recorded for the calendar month Rn = Average rainfall in mm for the calendar month, as derived from the rainfall records supplied in the table below. Rw = Actual Rainfall in mm for the calendar month under consideration. X = 10 Y = 10

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		If V is negative and its absolute value exceeds Nn, then V shall be taken as equal to minus Nn. The total extension of time shall be the algebraic sum of the monthly totals for the period of construction, but if the grand total is negative, the time for completion shall not be reduced due to abnormal low rainfall. Extension of time for part of a month shall be calculated using pro rata values of Nn and Rn. The factor (Nw – Nn) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Ymm. $Rw - Rn$ The factor ----- shall be considered to represent X a fair allowance for variations from the average in the number of days during which rainfall had not exceeded Ymm, but wet conditions had prevented or had disrupted work. The formula does not take into account flood damage which should be treated separately as far as extension of time is concerned. Accurate rain gauging shall be taken at a suitable point on Site. This information shall be regarded as the actual rainfall for this contract. The readings will be done by the Engineer and the Contractor may attend this readings and shall at his own expense take all necessary precautions to ensure that the rain gauge be interfered with by unauthorized persons.
Penalty for Delay	5.13	R 5000.00 per calendar day
Penalty for Non-Compliance		For any non-compliance of any item as stated in the tender document, with strong reference to Nominated Sub-Contracting, a total amount of 20% of the total Construction cost per project will be applied upon approval by the Client.
Time for Completion	5.14	As per Service Level Agreement (various projects with different time frames)
Completion, Approval Certificates and Defects Liability Period	5.14	Add the following to this Clause: “.....and a land surveyor’s certificate has been submitted certifying the presence and correctness of all erf and boundary pegs, where applicable”
Defects liability period	5.14.5.2	Add to Sub-Clause 5.14.5.2: “In the event of the Contractor not completing all

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		the outstanding work within the period specified by the Engineer in terms of Clause 7.8, the Engineer shall have the right to extend the Period of Maintenance by the additional time taken by the Contractor to complete such outstanding work to the satisfaction of the Engineer. The full retention application to the Period of Maintenance shall apply such extension."
Guarantee Sum	6.2	10% of total contract amount per project including Contingencies, VAT for the full construction period.
Duration of Guarantee	6.2.3	Until issue of Certificate of Completion
Amendments to Schedule of Quantities	6.3	The extent of the Works that will be included under this contract will be determined by the availability of funds. Should the tender amounts exceed the available funds, the amounts will be adjusted and the extent of the works decreased. It is therefore emphasized that the tendered unit rates must be realistic and will not be affected should the quantities be adjusted. The rates under "Preliminary and General" will be adjusted proportionally with respect to tender and contract amounts. The tendered unit rates will remain applicable. The right to adjust the extent of the contract is, therefore, reserved by the Employer, but approval will be sought from the successful Tenderer before the contract is awarded.
Variations	6.4	The cost of any Variations ordered in writing by the Engineer and the applicable rates must be accepted by the Engineer in writing prior to execution, in order to be accepted. Special reference will be given to the tendered rates and the wide interpretation of the term "similar conditions" in determining rates.
Daywork percentages	6.5.1.1	As tendered in Schedule of Quantities
Scheduled of Quantities – Estimated quantities	6.7	Tenderer to note that all quantities supplied in Schedule of Quantities are estimated quantities and all items will be re-measured on site. Add to clause: "An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training.
Contract Price Adjustment	6.8.2	The following values for the different factors are to be used as per SAFCEC guidelines: $X = 0.10$

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		aLt (Labour) = 0.25 bPt (Plant) = 0.15 cMt (Material) = 0.55 dFt (Fuel) = 0.05 The different values for the calculation of the price adjustment factor shall be for the Northern Cape Province and the Diesel index shall be for the Kimberley area. The coefficient for fuel may need to be revised from time to time, as it has a tendency to increase out of proportion to the other factors in the CPA formula.
Contract Price Adjustment Schedule	6.8.2	Applicable
Site materials	6.8.3	Not applicable to this contract
Vesting of Materials	6.9	Add to Sub-Clause 6.9.1.2 "The Contractor shall where practicable before delivery and, in any event not later than 24 hours after delivery to the site, inform the Engineer of any materials which are not his sole property.
Valuation of material brought onto site	6.10	Add to Clause 6.10.1.5: "Payment for materials on site will only be considered for those materials which are physically on site. Any statement in which a claim for materials on site is included, shall have attached a declaration that the materials listed are owned by the Contractor, accompanied by proof of ownership(invoice; delivery note and receipt). The ownership of materials shall be transferred to the Employer in accordance with the pro forma "Transfer of Rights" bound in as an annexure to these Special Conditions of Contract"
Delivery of Contractors Statement	6.10.1	Monthly
Delivery of payment certificate by Engineer to Employer	6.10.1	7 days
Materials on Site	6.10.1.5	80%
Retention Money	6.10.3	No interest will be paid on retention money.
Retention Guarantee	6.10.3	A Retention Guarantee is <u>NOT</u> Acceptable.
Limit of retention money	6.10.3	10%, Practical completion 5%
After receipt by Engineer of Contractor's statement, Employer to pay Contractor within	6.10.4	28 days
Variation exceeding 15 per cent	6.11	*Change "15" per cent" whatever it appears in the margin or in the text to "60 per cent"
Defects Liability Period	6.14.5.2	12 Months

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Information in respect of plant	7.1	Add to Sub-Clause 7.1.1: a) Details in writing of all Constructional Plant and Temporary Works which is brought onto site by, or on behalf of, the Contractor for the purpose of the Works, and which is hired, leased or the subject of hire-purchase agreements, together with the names of the hirers, lessors or owners thereof, shall be supplied to the Engineer by the Contractor. b) The Employer may, in order to avoid seizure by the hirer, owner or lessor, at the Employer's option, pay to such hirer, owner or lessor the amount of any overdue installment, or any sum payable under the agreement for hire, lease of hire purchase, and, in the event of so doing, any amount so paid by the Employer, and may be deducted by the Employer from any money due, or that may become due, to the Contractor in terms of the Contract, or may be recovered by the Employer from the Contractor by law. c) Possession of all Constructional Plant and Temporary works provided by Sub-Contractors shall be deemed to vest in the Employer immediately the same is brought onto site, and shall mutatis mutandis be subject to the provisions of the Clause hereinbefore contained. The Contractor shall ensure that the foregoing provision will be inserted in all sub-contractors.
Contract Guarantee	7.1	Within 14 days of the Commencement Date Add the following to the Clause: "The contract may be awarded to a Subsidiary Company on the condition that the Holding Company shall in addition to the Surety specified, assume responsibility for the due and proper performance of the Works and the fulfillment of the contract, should the Subsidiary Company be unable to do so."
Quality of materials and workmanship	7.2	Add to Sub-Clause 7.2: "The source of supply of all materials including all stone, sand, gravel or soil or any other natural materials required in the execution of the Works shall be located by the Contractor. No materials shall be used until it has been approved by the Engineer."
Payment to labour-	8.1	Payment for works identified in the Scope of Work

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

intensive component of the works		as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way of his obligations whether in contract or in delict. BCCEI – Take Note The Joe Morolong Local Municipality had resolved in the 2020/21 financial year that the binding rates for employment of local labourers would be that of the "Bargaining Council for the Civil Engineering Industry (BCCEI) – Wage and Task Grade Collective Agreement", which is updated annually in September every year. Bidders must take cognizance that these rates are higher than those of the Department of Labour in terms of the Minimum Wage Act and must provide accordingly for that in terms of their pricing
Insurances	8.6	Special consideration should be given to damage to existing infrastructure.
Other Insurances	8.6.1.2	Special Risk Insurance – SASRIA (coupon to be provided)
Limit of indemnity	8.6.1.3	R 5 000 000 per claim, claims unlimited (consultants only)
Cancellation of Contract	9.1	In addition if the contractor fails to adequately protect the existing works / infrastructure against damage and thereby unduly endanger the Works – the employer may cancel the contract and recover damages and losses.
Cancellation of the Contract by the Employer	9.2.1	14 days
Dispute Resolution	10	Adjudication, Arbitration and the Court will be acceptable dispute resolution mechanisms.
Time within which Works to be commenced	10.1	14 Days after the Commencement Date.
Preferred method for determination of disputes	10.7	Arbitration
Access to the site	11	Add the following: The Contractor shall as far as possible, confine his operations to the limits of the areas made available to him by the Engineer, but if the land is insufficient for the needs of the work, the Contractor shall make his own arrangements with the owners of tenants concerned for whatever additional land he may require and pay all rent and other charges in connection therewith. The Contractor shall be

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		responsible for all damages and shall indemnify the Employer against all claims which may arise.
Programme to be furnished within	12.2	14 Days after the issuing of the Letter of Acceptance.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Part 2 DATA PROVIDED BY THE CONTRACTOR

Clause	Contract Data		
1.2.2	The address of the Contractor is:		
1.8	The name of the Contractor is:		
46.3	The variation in cost of special materials is:		
	Special Material	Method	Price for Base Month

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

BID NO: B215-2021

FOR

**Panel of Contractors for the Provision of Construction of Water Storage
Reticulation and Equipping of Borehole Services for Rural Water Projects (3
Years Period) (Re-Advert)**

**AGREEMENT IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY
ACT**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT,
1993 (ACT NO 85 OF 1993)**

THIS AGREEMENT made at
on this the day of in the year
between JOE MOROLONG LOCAL MUNICIPALITY (hereinafter called "the Employer") of the one part,
herein represented by
in his capacity as
and delegate of the Employer in terms of the Employer's standard powers of delegation pursuant to the
provisions of Act No 7 of 1998,
and
(hereinafter called "the Mandatary") of the other part, herein represented by
.....
in his capacity as
and being duly authorised by virtue of a resolution appended hereto as Annexure A;

WHEREAS the Employer requires certain works be constructed, viz Panel of Contractors for the
Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural
Water Projects (3 Years Period) (Re-Advert).
.....

and has accepted a Bid by the Mandatary for the construction, completion and maintenance of such
Works and whereas the Employer and the Mandatary have agreed to certain arrangements and
procedures to be followed in order to ensure compliance by the Mandatary with the provisions of the
Occupational Health and Safety Act, 1993 (Act 85 of 1993).

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

- 1 The Mandatary shall execute the work in accordance with the Contract Documents pertaining to this Contract.
- 2 This Agreement shall hold good from its Commencement Date, which shall be the date of a written notice from the Employer or engineer requiring him to commence the execution of the Works, to either -
 - (a) The date of the Final Certificate issued in terms of Clause 55 of the Committee of Land Transport Officials General Conditions of Contract 1998 (hereinafter referred to as "the GCC"), as contained in Volume 1 of the Contract Documents pertaining to this Contract, or
 - (b) The date of termination of the Contract in terms of Clauses 10.2 & 10.3 of the GCC 2010.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- 3 The Mandatary declares himself to be conversant with the following:
- (a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), 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 mandataries
 - (iv) Sub-section 37(2) relating to the purpose and meaning of this Agreement
 - (b) The procedures and safety rules of the Employer as pertaining to the Mandatary and to all his subcontractors.
- 4 In addition to the requirements of Clause 36 of the GCC (as amended by Special Condition of Contract contained in Volume 3 of the Contract Documents pertaining to this Contract) and all relevant requirements of the above-mentioned Volume 3, the Mandatary agrees to execute all the Works forming part of this Contract and to operate and utilize all machinery, Plant and equipment in accordance with the Act.
- 5 The Mandatary is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.
6. The Mandatary warrants that all his and his subcontractors workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No 130 of 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 Mandatary undertakes to ensure that he and/or subcontractors and/or their respective employers will at all times comply with the following conditions:
- a) The Mandatary shall assume the responsibility in terms of Section 16.1 of the Act. The Mandatary shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Mandatary obtains such approval and delegates any duty in terms of section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.
 - b) All incidents referred to in the Act shall be reported by the Mandatary 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 enquiry conducted in terms of section 32 of the Act into any incident involving the Mandatary and/or his employees and/or his subcontractors.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

SIGNED FOR AND ON BEHALF OF THE EMPLOYER :

Witness	.....	Witness	.....
(Name)	.....	(Name)	.....
(Print)		(Print)	

SIGNED FOR AND ON BEHALF OF THE MANDATARY :

Witness	.....	Witness	.....
(Name)	.....	(Name)	.....
(Print)		(Print)	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ANNEXURE A

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 85 OF 1993) on behalf of

SIGNED ON BEHALF OF THE COMPANY :

IN HIS/HER CAPACITY AS :

DATE :

SIGNATURE OF SIGNATORY :

WITNESS : WITNESS :

NAME (in capitals): NAME :

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C1.4 FORM OF GUARANTEE

For use with the General Conditions of Contract for Construction Works, Second Edition, 2015.

GUARANTOR DETAILS AND DEFINITIONS

“Guarantor” means:

Physical Address:

“Employer” means:

“Contractor” means:

“Engineer” means:

“Works” means:

“Site” means:

“Contract” means: The Agreement made in terms of the Form of 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: R

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

Amount in words:

“Expiry Date” means:

CONTRACT DETAILS

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

PERFORMANCE GUARANTEE

1. The Guarantor’s liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor’s period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the guaranteed sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
3. The Guarantor hereby acknowledges that:
 - 3.1. any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory or any intention whatsoever to create a suretyship;
 - 3.2. its obligation under this Performance Guarantee is restricted to the payment of money.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



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 the payment of a sum certified by Engineer in an Interim Payment Certificate has not been made of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon Guarantor to make payment in terms 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 not still 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 upon in terms of 5; and
 - 5.3. the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provision/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 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 tot the Guarantor.
9. Payment by the Guarantor in terms of 4 or 5 will only be made against the return of the original Performance Guarantee by the Employer.
10. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from 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 notice 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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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 Acts No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date.....

Guarantor's signatory (1)

Capacity

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

Capacity.....

Witness signatory (1)

Witness signatory (2).....

Part C1.5 CIDB ADJUDICATOR'S AGREEMENT

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

of (address).....

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

of (address).....

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

And (name).....

Of (address)
(hereinafter called **the Adjudicator**)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Disputes or differences may arise/have arisen* between the Parties under a Contract

dated..... and known as Contract No.....

(Contract title).....

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

(* Delete as necessary)

IT IS NOW AGREED as follows:

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



SIGNED BY:

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

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

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

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

the **Adjudicator** in the
 presence of

Witness:

Witness:

Witness:

(Signature)..... (Signature)..... (Signature).....

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

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

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Section C1.5: Protection of the Environment Declaration

The Contractor will not be given right of access to the Site until this form has been signed

CONTRACT NO.: **B215-2021**

CONTRACT TITLE: **Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)**

I/ we, ...(Contractor) record as follows:

1. I/ we, the undersigned, do hereby declare that I/ we am/ are aware of the increasing requirement by society that construction activities shall be carried out with due regard to their impact on the environment.
2. In view of this requirement of society and a corresponding requirement by the Employer with regard to this Contract, I/ we will, in addition to complying with the letter of the terms of the Contract dealing with protection of the environment, also take into consideration the spirit of such requirements and will, in selecting appropriate employees, plant, materials and methods of construction, in-so-far as I/ we have the choice, include in the analysis not only the technical and economic (both financial and with regard to time) aspects but also the impact on the environment of the options. In this regard, I/ we recognize and accept the need to abide by the “precautionary principle” which aims to ensure the protection of the environment by the adoption of the most environmentally sensitive construction approach in the face of uncertainty with regard to the environmental implications of construction.
3. I/ we declare that I/ we have read and understood the contents of the Environmental Management Programme (which is comprised of the

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Environmental Management Specification and its Annexures) for this Contract, and that I/ we understand my/our responsibilities in terms of enforcing and implementing the Environmental Management Programme. I/ we also declare that I/ we have made appropriate provision in my/ our pricing of the Bills of Quantities items for the Environmental Management Programme.

4. I/ we acknowledge and accept the right of the Employer to deduct, should he so wish, from any amounts due to me/ us, such amounts (hereinafter referred to as fines) as the Employer's Agent shall certify as being warranted in view of my/ our failure to comply with the terms of the Contract dealing with protection of the environment, subject to the following:

- 4.1 The Employer's Agent, in determining the amount of such fine, shall take into account, inter alia, the nature of the offence, the seriousness of its impact on the environment, the degree of prior compliance/non-compliance, the extent of the Contractor's overall compliance with environmental protection requirements and, in particular, the extent to which he considers it necessary to impose a sanction in order to eliminate/reduce future occurrences

The Employer's Agent shall, with respect to any fine imposed, provide me/ us with a written statement giving details of the offence, the facts on which the Employer's Agent has based his assessment and the terms of the Contract (by reference to the specific clause) which has been contravened.

Signed Date.....

CONTRACTOR

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Section C1.6: Insurance Broker's Warranty

Pro Forma

Letterhead of Contractor's Insurance Broker

Date

JOE MOROLONG LOCAL MUNICIPALITY
Municipal Building - Cardington Road
(Near Churchill Village), Mothibistad
Kuruman, 8460

Dear Sir

CONTRACT NO.: **B215-2021**

CONTRACT TITLE: **Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)**

NAME OF CONTRACTOR:

I, the undersigned, do hereby confirm and warrant that all the insurances required in terms of the abovementioned contract have been issued and/or in the case of blanket/umbrella policies, have been endorsed to reflect the interests of the Joe Morolong Local Municipality with regard to the abovementioned contract, and that all the insurances and endorsements, etc., are all in accordance with the requirements of the contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

I furthermore confirm that all premiums in the above regard have been paid.

Yours faithfully

Signed:

For:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Section C1.7: Contract of Temporary Employment as Community Liaison Officer

Construction Contract No.: **B215-2021**

PROJECT: Panel of Contractors for the Provision of Construction of Water Storage Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years Period) (Re-Advert)

AGREEMENT made between the CONTRACTOR

and the Community Liaison

Officer....., hereafter referred to as the CLO, for the appointment and employment of a CLO for the duration of the work in respect of the above-named construction contract.

1. THE PARTIES HAVE AGREED THAT

The CLO will be employed by the CONTRACTOR on a temporary basis for the duration of the work from the date of signing this agreement to the date of practical completion as defined in the Contract, subject to all the conditions set out below.

2. THE DUTIES OF THE COMMUNITY LIAISON OFFICER SHALL BE:

1. to keep the community informed on the progress of the project;
2. to keep the Contractor informed on relevant Community affairs and possible grievances;
3. to manage the recruitment of workers from the Sub-Council Job-Seekers Database;
4. to assist the Contractor's supervisory staff in the management of the workers.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

3. THE FOLLOWING CONDITIONS OF EMPLOYMENT SHALL APPLY:

The Conditions of Temporary Employment as applicable on this Contract for the workers recruited from the Community shall apply equally to the CLO, except that the rate of remuneration shall be R8,500.00 per month. These conditions that apply are listed below as they appear in the Contract of Temporary Employment:

3.1 If required to work on a statutory public holiday or Sunday the payment will be double the amount stated in the previous paragraph.

3.2 Maximum hours of work:

- (i) 9¼ hours per day
- (ii) 45 hours per week;
- (iii) 5 days per week;
- (iv) 5 hours without an interval, whereupon there shall be an interval of at least 30 minutes;
- (v) A spread-over period of 12 hours.

3.3 The CLO shall be entitled to payment where he is prevented from working by reasons which are within the control of the Contractor.

3.4 On days when it is raining the Contractor may, before 9 a.m., decide not to open the site and there will be no pay.

If the Contractor closes the site between 9 a.m. and 1 p.m., the CLO will be paid half the daily wage.

If the site works later than 1 p.m., the CLO will be paid the full daily wage.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

3.5 Workers and the CLO will not be permitted to work under conditions of:

- (i) undisciplined or unruly behavior;
- (ii) insubordination to Team Leader, Supervisors or Management;
- (iii) abuse of intoxicating substances;
- (iv) criminal actions by the employee;
- (v) strike action or political stayaways.

3.6 Workers, including the CLO, may be dismissed after two official written warnings for the following behavior:

- (i) undisciplined or unruly behavior;
- (ii) insubordination to Team Leader, Supervisors or Management;
- (iii) abuse of intoxicating substances;
- (iv) willful or negligent damage to or loss of machines or equipment.

The Contractor shall ensure that he has statements from at least two witnesses concerning any of the above situations.

The Contractor shall inform the CLO within 24 hours of any warning issued to workers employed from the Job-Seekers Database.

3.7 The CLO will be paid on monthly basis, on the same date as the rest of the workers on site.

3.8 The CLO shall be given a statement with each payment on which is recorded:

- (i) the name of the Contractor;
- (ii) the CLO's name;
- (iii) the number of days worked by the CLO;
- (iv) the rate per day;
- (v) the details of any deductions made;
- (vi) the actual amount paid to the CLO.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- 3.9 No deduction shall be made from the remuneration except where the CLO consents in writing or unless the Contractor is permitted or required to do so by law or the order of any competent court.
- 3.10 The CLO shall be supplied free of charge with all health and safety equipment required by the Occupation Health and Safety Act. The equipment shall remain the property of the Contractor.
- 3.11 The Contractor must give the CLO at least one week's notice of the termination of the Contract of Temporary Employment. If this is not done, the CLO must be paid earnings for five days. This condition does not apply if the CLO is dismissed.
- 3.12 At the end of the period of temporary employment, the Contractor shall provide a Certificate of Service recording the Contractor's name, the CLO's name and address, the period of service, the type of work on which the CLO was engaged and the rate of remuneration on termination.

4. TERMINATION OF AGREEMENT

- 4.1 If the CLO can no longer perform and execute his/her duties as detailed in this agreement, this agreement will be terminated without prejudice to any rights under this agreement.

5. THE CONDITIONS OF THIS AGREEMENT

- 5.1 The parties expressly declare that this agreement contains all the conditions negotiated between them, and no condition or stipulation not contained herein shall be binding upon the parties.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

6. **THUS AGREED AND SIGNED BY THE PARTIES:**

Contractor:

Community Liaison officer:

Date:

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

JOE MOROLONG LOCAL MUNICIPALITY

BID NO : B215-2021

**Panel of Contractors for the Provision of Construction of Water
Storage Reticulation and Equipping of Borehole Services for Rural
Water Projects (3 Years Period) (Re-Advert)**

PORTION 2: THE CONTRACT

PART C2 Pricing Data

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CONTENTS LIST

Section	Description

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Part C2.1: Pricing Instructions

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C2.1: PRICING INSTRUCTIONS

1. GENERAL

These pricing instructions provide the Tenderer with guidelines and requirements with regard to the completion of the Schedule of Rates. These pricing instructions also describe the criteria and assumptions which will be assumed in the Contract to have been taken into account by the Tenderer when developing his prices.

The Schedule of Rates shall be read with all the documents which form part of this Contract.

The following words have the meaning hereby assigned to them:

- Unit : The Unit of measurement for each item of work in terms of the Scope of Work.
- Quantity : The number of units for each item.
- Rate : The payment per unit of work at which the tenderer tenders to do the work.
- Amount : The product of the quantity and the rate tendered for an item.
- Lump sum (L.Sum) : An amount tendered for an item, the extend of which is described in the Pricing Instructions, Schedule of Rates or the Scope of Work but the quantity of work of which is not measured in any units.

2. PAY ITEMS

The method of measurement published by the South African Bureau of Standards in Clause 8 of the Standardised Specifications for Civil Engineering Construction (SANS 1200) is applicable, subject to the variations and amendments contained in section C3.4.

Descriptions in the Schedule of Rates are abbreviated and comply generally with those in the Standard Specifications. The measurement and payment clause of each Standard Specification, read together with the relevant clauses

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standard Specification, or the Scope of Work, conflict with the terms of the Schedule of Rates, the requirements of the Standard Specification or Scope of Work, as applicable, shall prevail.

The units of measurement described in the Schedule of Rates are metric units. Abbreviations used in the Schedule of Rates are as follows:

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1000kg)
m ²	=	square metre	No.	=	number
m ² .pass	=	square metre pass	sum	=	lump sum
ha	=	hectare	MN	=	meganewton
m ³	=	cubic metre	MN.m	=	meganewton-metre
m ³ .km	=	cubic metre-kilometre	PC sum	=	Prime Cost Sum
l	=	litre	Prov sum	=	Provisional sum
kl	=	kilolitre	%	=	per cent
MPa	=	megapascal	kW	=	kilowatt
Pa	=	kilopascal	wt	=	wall thickness
w/day	=	workday	dia	=	diameter
BH	=	borehole	R/only	=	rate only

3. QUANTITIES

- 3.1 Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- 3.2 The quantities set out in the Schedule of Rates are the estimated quantities of the Works, and do not necessarily represent the actual amount of work to be done. The quantities certified for payment, and not the quantities given in the Schedule of Rates, shall be used for determining payments to the Contractor. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.

4. RATES

- 4.1 The prices and rates to be inserted in the Schedule of Rates are to be full inclusive prices for the work described under the several items. Such prices

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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

- 4.2 A price or rate is to be entered against each item in the Schedule of Rates, whether the quantities are stated or not. An item against which no price is entered or where a word or phrase such as “included” or “provided elsewhere” will be accepted as a rate of nil (R0,00) having been entered against such items and covered by the other prices or rates in the schedule.

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

- 4.3 The Tenderer shall fill in a rate against all items where the words “rate only” appears in the amount column. The intention is that, although no work is foreseen under such item and no quantities are consequently given in the quantity column, the tendered rate shall apply should work under this item be actually required.
- 4.4 Except where rates only are required, the Tenderer shall insert all amounts to be included in his total tendered price in the “Amount” column and show the corresponding total tendered price.
- 4.5 The Tenderer shall not group together a number of items and tender one rate for such group of items.
- 4.6 All rates and sums of money quoted in the Schedule of Rates shall be in Rands and whole cents. Fractions of a cent shall be discarded.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- 4.7 All prices and rates entered in the Schedule of Rates must be **excluding Value Added Tax (VAT)**. VAT will be added last on the summary page of the Schedule of Rates.
- 4.8 Should excessively high unit prices be tendered, such prices may be of sufficient importance to warrant rejection of a tender by the Employer.
- 4.9 Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Documents, all costs thereof shall be deemed to have been provided for and included in the unit rates and sum amounts tendered for the items scheduled in the Schedule of Rates, and separate additional payments will not be made.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C2.2: BILL OF QUANTITIES

SCHEDULE 1 : GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
1	SABS 1200A	SCHEDULE 1 : GENERAL				
1.1	8.3	FIXED-CHARGE ITEMS				
1.1.1	8.3.1	Contractual Requirements				
		Contractual requirements including all sureties and insurance	Sum	1.0		
1.1.2	8.3.2PSA 16.1	First Establishment of Facilities on the Site at the Depot or Contractor's Main Camp for the Contract :				
	8.3.2.1	a) Facilities for Engineer (SANS 1200 AB)				
		i) Nameboard (Two required) (PSAB1)	No.	2.0		
		ii) Furnished Office (PSAB2)	Sum	1.0		
		iii) Cellular telephone and combination fax telephone (One each required) (PSAB3)	Sum	1.0		
		iv) Survey Equipment (PSAB6)	Sum	1.0		
		v) Carport (PSAB7)	Sum	1.0		
		vi) Personal Computer and printer (PSAB4)	Sum	1.0		
		vii) Digital Camera (PSAB8)	Sum	1.0		
		viii) Survey Assistants (PSAB5)	Sum	1.0		
	8.3.2.2	b) Facilities for Contractor				
		i) Offices and storage sheds	Sum	1.0		
		ii) Workshops	Sum	1.0		
		iii) Living accommodation	Sum	1.0		
		iv) Ablution and latrine facilities	Sum	1.0		
		v) Tools and equipment	Sum	1.0		
		vi) Water, Electric power and Communications	Sum	1.0		
		vii) Dealing with water	Sum	1.0		
		viii) Access	Sum	1.0		
Total Carried Forward						

C2.2.1

SCHEDULE 1 : GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
1.1.3	8.3.3	ix) Plant	Sum	1.0		
		Other fixed charge obligations				
		All other fixed charge and obligations	Sum	1.0		
1.1.4	8.3.4 PSA16.2	Removal of contractor's site establishment on completion of contract or interim de-establishment (only on written instruction)	Sum	1.0		
	8.3.4PSA16.4	Additional establishment cost to the contractor when re-establishing (Only on written instruction)	Sum	1.0		
1.1.5	PSA16.3	Site movements as per clause PSA 16.3				
		a) To sites 10 km or less in distance for the following:				
		i) As per instruction equal or less than R 500 000 in construction value (Excluding Schedule 1)	No.	10.0		
		ii) As per instruction > R 500 000 but ? R 1 000 000 in construction value (Excluding Schedule 1)	No.	5.0		
		iii) As per instruction > R 1 000 000 but ? R5 000 000 in construction value (Excluding Schedule 1)	No.	10.0		
		iv) As per instruction > R 5 000 000 in construction value (Excluding Schedule 1)	No.	10.0		
		b) Extra over Item 1.1.5(a) for sites in excess of 10 km				
		i) As per instruction equal or less than R 500 000 in construction value (Excluding Schedule 1)	km	1 000.0		
		ii) As per instruction > R 500 000 but ? R 1 000 000 in construction value (Excluding Schedule 1)	km	500.0		
		iii) As per instruction > R 1 000 000 but ? R 5 000 000 in construction value (Excluding Schedule 1)	km	1 000.0		
		iv) As per instruction > R 5 000 000 in construction value (Excluding Schedule 1)	km	1 000.0		
Total Carried Forward						

C2.2.2

SCHEDULE 1 : GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
1.2	8.4 PSA 16.5	TIME-RELATED ITEMS (For Programme)				
1.2.1	8.4.1	Contractual Requirements	month	36.0		
1.2.2	8.4.2	Operate and maintain facilities on the Site:				
	8.4.2.1	a) Facilities for Engineer for the duration of Construction (SANS 1200AB)				
		i) Nameboards (PSAB1)	month	36.0		
		ii) Furnished Office (PSAB2)	month	36.0		
		iii) Telephone (PSAB3)	month	36.0		
		iv) Survey Equipment (PSAB6)	month	36.0		
		v) Carport (PSAB7)	month	36.0		
		vi) Personal Computer (PSAB4)	month	36.0		
		vii) Digital Camera (PSAB8)	month	36.0		
		viii) Survey Assistants (PSAB5)	month	36.0		
	8.4.2.2PS7	b) Facilities for Contractor for duration of construction, except where otherwise stated				
		i) Offices and storage sheds	month	36.0		
		ii) Workshops	month	36.0		
		iii) Living accommodation	month	36.0		
		iv) Ablution and latrine facilities	month	36.0		
		v) Tools and equipment	month	36.0		
		vi) Water supplies, electric power and communications	month	36.0		
		vii) Dealing with water	month	36.0		
		viii) Access	month	36.0		
		ix) Plant	month	36.0		
1.2.3	8.4.3	Supervision for duration of construction	month	36.0		
Total Carried Forward						

C2.2.3

SCHEDULE 1 : GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
1.2.4	8.4.4	Company and head office overhead costs for the duration of the contract	month	36.0		
1.2.5	8.4.5	Other time related obligations. All other time related obligations, including custody of drawings and programme to be furnished.	month	36.0		
1.3	PSA11	SUMS STATED PROVISIONALLY BY THE ENGINEER				
1.3.1	PSA11.3	Materials for Dayworks	P.Sum	1.0		150 000.00
1.3.2		Overheads, charges and profit on Item 1.3.1	%	150 000		
1.3.3	PSA11.4	Royalties for Borrow Materials	P.Sum	1.0		200 000.00
1.3.4		Overheads, charges and profit on Item 1.3.3	%	200 000		
1.3.5	PSA11.5	Chlorine Dosing Plant (Supply of Materials)	P.Sum	1.0		100 000.00
1.3.6		Overheads, charges and profit on Item 1.3.5	%	100 000		
1.4	PSA12	PRIME COST ITEMS				
1.4.1	PSA12.3	Artisan and Skills Training	P.Sum	1.0		100 000.00
1.4.2		Overheads, Charges and Profit on Item 1.4.1	%	100 000		
1.4.3	PSA12.1	Acceptance Control Testing of Earthworks	P.Sum	1.0		15 000.00
1.4.4		Overheads, Charges and Profit on Item 1.4.3	%	15 000		
1.4.5	PSA12.4	Telephone calls and Rental for the Engineers Representative	P.Sum	1.0		36 000.00
1.4.6		Overheads, Charges and Profit on Item 1.4.5	%	36 000		
1.4.7	PSA12.5	Payments to ESKOM in respect of electrical connection fees for borehole equipment	P.Sum	1.0		500 000.00
1.4.8		Overheads, Charges and Profit on Item 1.4.7	%	500 000		
1.4.9	PSA12.6	Specialist Contractors	P.Sum	1.0		100 000.00
1.4.10		Overheads, Charges and Profit on Item 1.4.9	%	100 000		
Total Carried Forward						

C2.2.4

SCHEDULE 1 : GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
1.4.11	PSA12.2	Payments made to Labour Desk Officers	P.Sum	1.0		180 000.00
1.4.12		Overheads, Charges and Profit on Item 1.4.11	%	180 000		
1.4.13	PSA12.7	Payments made to Pre-paid Water Meter Supplier for pre-paid meters and accessories.	P.Sum	1.0		175 000.00
1.4.14		Overheads, Charges and Profit on Item 1.4.13	%	175 000		
1.4.15	PSA12.8	Payment made for initializing of pre-paid meters and house hold tokens and house hold registration.	P.Sum	1.0		50 000.00
1.4.16		Overheads, Charges and Profit on Item 1.4.15	%	50 000		
1.4.17	PSA 12.9	Accommodation for Engineer's Representative	P.Sum	1.0		180 000.00
1.4.18		Percentage adjustment to Item 1.4.17 to cover Contractor's expenses with regard to item	%	180 000		
1.4.19	PSA 12.10	Management of approved emerging local sub-contractors	%	800 000		
Total Carried Forward To Summary						

C2.2.5

SCHEDULE 2 : DAYWORKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
2.		SCHEDULE 2 : DAYWORKS				
2.1		DAYWORKS				
		LABOUR				
		a) Contractor's Representative	/hour	60.0		
		b) Surveyor	/hour	40.0		
		c) Qualified artisan	/hour	200.0		
		d) Qualified Mechanic	/hour	150.0		
		e) Foreman, leader-hand (___ h work day)	W/day	40.0		
		f) Semi-skilled labourer (___ hour work day)	W/day	40.0		
		g) Labourer (___ hour work day)	W/day	100.0		
2.2		PLANTHIRE : WORK RATES ON SITE				
2.2.1		Tipper truck				
		a) 5,5 m ³	/hour	20.0		
2.2.2		Flatbed truck				
		a) 7 t	/hour	20.0		
2.2.3		LDV	/km	4 000.0		
2.2.4		Tractor loader backhoe (TLB) ___ m ³ bucket (specify type) _____	/hour	30.0		
2.2.5		Pedestrian roller				
		a) BW 65	/hour	20.0		
2.2.6		Concrete mixer (specify)				
		a) (small, towable)	/hour	30.0		
2.2.7		Wheelbarrow Haul				
		a) 0 - 100m	0.06m ³	200.0		
		b) 101 - 200m	0.06m ³	200.0		
2.3		MISCELLANEOUS				
2.3.1		Compressor with capacity of 125 cfm	/hour	10.0		
Total Carried Forward						

C2.2.6

SCHEDULE 2 : DAYWORKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
2.3.2		Waterpump with 40 mm outlet (diesel driven)	/hour	10.0		
2.3.3		Welding unit (300 Amp)	/hour	10.0		
2.3.4		1,5 kVA diesel-driven generator set	/hour	10.0		
2.4		PLANTHIRE : TRANSPORT COST TO AND FROM SITE (Distance shall be measured one way only. Tendered rates shall include for transport both to and from site)				
2.4.1		Low-bed truck (suitable for the largest piece of equipment above)	/km	1 000.0		
2.4.2		Tipper truck a) 5,5 m ³	/km	1 000.0		
2.4.3		Flat-bed truck a) 7 ton	/km	150.0		
2.4.4		LDV	/km	5 000.0		
2.4.5		Concrete mixer a) Small (towable)	/km	300.0		
2.4.6		Other (specify)	/km	300.0		
2.5		LABOUR BASED a) Pick b) Shovel c) Bucket (± 20 l) d) Wheelbarrow	/day /day /day /day	10.0 10.0 10.0 10.0		
2.6		INDUSTRY STANDARD SKILLS TRAINING				
Total Carried Forward						

C2.2.7

SCHEDULE 2 : DAYWORKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
2.7		In-service industry standard skills training of local residents employed through the labour desk. Rates tendered should include for full compensation for the Contractor's time, subsistence and travelling, overhead charges and profits, as well as for all training materials, consumables, tools and equipment that may be required for such skills training.				
		The Contractor will be paid for those hours during which properly supervised skills training actually takes place, on the instruction of the Engineer.				
		a) Training of skilled workers in industry recognised trades	/hour	16.0		
		b) Training of assistants to skilled workers in industry recognised trades.	/hour	16.0		
		c) Training of team leaders	/hour	16.0		
2.7.1		d) Training of people on basic maintenance and operation	/hour	16.0		
		EMERGENCY MAINTENANCE / REFURBISHMENT INSPECTIONS				
		(Distance shall be measured one way only per instruction. Tendered rates shall include for distance both to and from site)				
		LDV	/km	1 500.0		
Total Carried Forward To Summary						

C2.2.8

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
3.1	SABS1200 DB	SCHEDULE 3 : PIPE WORK EARTHWORKS : PIPE TRENCHES SITE CLEARANCE				
3.1.1	8.3.1(a)	Clear 3m wide vegetation and trees of girth up to 1m	m	25 000.0		
3.1.2	8.3.1(b)	Remove trees over 1 m and up to 2 m girth	No.	50.0		
3.2	PSDB12	EXCAVATION - "MECHANICAL"				
3.2.1		Excavate in all materials for trenches for pipes with a diameter between 63 mm and 400 mm, backfill compact and dispose of surplus/unsuitable material Note : See different length categories				
3.2.1.1		Up to 1,5m in depth for the following: a.) Total pipe line length (as per instruction) less than 200m b.) Total pipe line length (as per instruction) ? 200m but < 500m c.) Total pipe line length (as per instruction) ? 500m but < 2000m d.) Total pipe line length (as per instruction) ? 2000m	m ³	1 000.0 1 000.0 3 000.0 20 000.0		
3.2.1.2	8.3.2(b)	Extra-over item 3.2.1.1 incl. for excavation (provisional) in : a) Intermediate material b) Hard rock material	m ³ m ³	9 000.0 12 000.0		
3.2.1.3		Extra over Item 3.2.1.1 a) Backfill and compact by means of labour-intensive construction methods in layers of 200mm compacted to 90% mod AASHTO b) Disposal of surplus material by means of labour-intensive construction methods within 20m from the source of spoil utilising wheel barrows	m ³ m ³	2 500.0 1 000.0		
Total Carried Forward						

C2.2.9

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.2.1.4	8.3.2(c)	Excavate unsuitable material from trench bottom and dispose thereof within the free haul distance (Provisional)	m ³	500.0		
3.2.2		EXCAVATION ANCILLARIES - "MECHANICAL"				
3.2.2.1	8.3.3.1(a)	Imported backfill materials from designated borrow pits (Only if approved by Engineer)	m ³	1 000.0		
3.2.2.2	8.3.3.2	Opening up and closing down of designated borrow pit	No.	10.0		
3.2.2.3	8.3.3.3	Compaction in road reserves	m ³	200.0		
3.2.2.4	8.3.3.4	Overhaul :				
		a) Short haul	m ³	5 000.0		
		b) Truck haul	m ³ /km	50 000.0		
3.2.3		FINISHING - "MECHANICAL"				
	8.3.6.1	Reinstate road surfaces complete with:				
		a) Gravel	m ²	500.0		
		b) 30mm premix	m ²	100.0		
	SABS 1200LB	BEDDING (PIPES)				
3.2.4		PROVISION OF BEDDING "MECHANICAL"				
3.2.4.1	8.2.1	Provision of bedding material from trench excavations				
		a) Selected granular material	m ³	1 200.0		
		b) Selected fill material	m ³	2 300.0		
3.2.4.2		Provision of bedding material by importation from other necessary excavations (free haul within the village boundaries)				
		a) Selected granular material	m ³	500.0		
		b) Selected fill material	m ³	3 400.0		
Total Carried Forward						

C2.2.10

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.2.4.3		Provision of bedding material by importation from borrow pits (freehaul within the village boundaries)				
		a) Selected granular material	m ³	500.0		
		b) Selected fill material	m ³	3 400.0		
3.2.4.4	8.2.3	Concrete bedding	m ³	20.0		
3.2.4.5	8.2.4	Encasing of pipes in Class 19/20 concrete	m ³	20.0		
3.2.5.6	8.2.5	Overhaul of material for bedding cradle and selected fill blanket	m ³ km	100.0		
3.3	PSDB12	EXCAVATION - "LABOUR BASED"				
3.3.1		Excavate in all materials for trenches for pipes with a diameter between 20 mm and 200 mm, backfill compact and dispose of surplus/unsuitable materials:				
3.3.1.1		Up to 1,5m in depth	m ³	10 000.0		
3.3.1.2	8.3.2(b)	Extra-over item 3.3.1.1 incl. for excavation (provisional) in :				
		a) Soft excavation Class 2	m ³	1 500.0		
		b) Soft excavation Class 3	m ³	1 500.0		
		c) Intermediate material	m ³	50.0		
		d) Hard rock material	m ³	50.0		
3.3.1.3	8.3.2(c)	Excavate unsuitable material from trench bottom and dispose thereof	m ³	100.0		
3.3.2		EXCAVATION ANCILLARIES - "LABOUR BASED"				
3.3.2.1	8.3.3.1(a)	Imported backfill materials from designated borrow pits (Only if approved by Engineer)	m ³	100.0		
3.3.2.2	8.3.3.2	Opening up and closing down of designated borrow pit	No.	2.0		
3.3.2.3	8.3.3.3	Compaction in road reserves	m ³	100.0		
3.3.2.4	8.3.3.4	Overhaul :				
Total Carried Forward						

C2.2.11

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.3.3		a) Wheel barrow haul				
		i) 0 - 100m	0.06m ³	50.0		
		ii) 101 - 200m	0.06m ³	50.0		
		FINISHING - "LABOUR BASED"				
	8.3.6.1	Reinstate road surfaces complete with:				
		a) Gravel	m ²	20.0		
		b) 30mm premix	m ²	10.0		
	SABS 1200LB	BEDDING (PIPES)				
3.3.4		PROVISION OF BEDDING "LABOUR BASED"				
3.3.4.1	8.2.1	Available from trench within excavation (Subclause 3.3.1)				
		a) Selected granular material	m ³	600.0		
		b) Selected fill material	m ³	2 200.0		
	8.2.2.2	Import from borrow pit within a distance of 0.2km (Only with written consent of Engineer) Import from borrow pit with wheelbarrow				
3.3.4.2		a) Selected granular material				
		i) 0 - 100m	0.06m ³	50.0		
		ii) 101 - 200m	0.06m ³	50.0		
3.3.4.3		b) Selected fill material				
		i) 0 - 100m	0.06m ³	50.0		
		ii) 101 - 200m	0.06m ³	50.0		
3.3.4.4	8.2.3	Concrete bedding	m ³	5.0		
3.3.4.5	8.2.4	Encasing of pipes in Class 19/20 concrete	m ³	5.0		
3.3.4.6	8.2.5	Overhaul of material for bedding cradle and selected fill blanket	m ³ km	10.0		
Total Carried Forward						

C2.2.12

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.4	1200L	PIPE WORK				
	8.2.1	Supply, lay, joint, bed, test and disinfect the following pipes complete with couplings to the relevant SABS standards including short lengths				
3.4.1		uPVC pipes				
		a) 400 Class 9	m	50.0		
		b) 400 Class 6	m	50.0		
		c) 355 Class 9	m	50.0		
		d) 355 Class 6	m	50.0		
		e) 315 Class 9	m	50.0		
		f) 315 Class 6	m	50.0		
		g) 250 Class 16	m	50.0		
		h) 250 Class 12	m	50.0		
		i) 250 Class 9	m	50.0		
		j) 250 Class 6	m	50.0		
		k) 200 Class 16	m	50.0		
		l) 200 Class 12	m	50.0		
		m) 200 Class 9	m	50.0		
		n) 200 Class 6	m	100.0		
		o) 160 Class 16	m	50.0		
		p) 160 Class 12	m	100.0		
		q) 160 Class 9	m	100.0		
		r) 160 Class 6	m	1 600.0		
		s) 110 Class 16	m	50.0		
		t) 110 Class 12	m	100.0		
		u) 110 Class 9	m	100.0		
Total Carried Forward						

C2.2.13

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.4.2		v) 110 Class 6	m	2 200.0		
		w) 90 Class 16	m	50.0		
		x) 90 Class 12	m	100.0		
		y) 90 Class 9	m	100.0		
		z) 90 Class 6	m	3 250.0		
		aa) 75 Class 16	m	50.0		
		ab) 75 Class 12	m	100.0		
		ac) 75 Class 9	m	500.0		
		ad) 75 Class 6	m	4 200.0		
		ae) 63 Class 16	m	50.0		
		af) 63 Class 12	m	100.0		
		ag) 63 Class 9	m	500.0		
		ah) 63 Class 6	m	12 900.0		
		HDPE pipes Type IV				
		a) 63 mm class 4	m	100.0		
		b) 63 mm class 6	m	100.0		
		c) 63 mm class 10	m	100.0		
		d) 50 mm class 4	m	100.0		
		e) 50 mm class 6	m	100.0		
		f) 50 mm class 10	m	100.0		
		g) 40 mm class 6	m	100.0		
		h) 40 mm class 10	m	100.0		
		i) 32 mm class 6	m	100.0		
		j) 32 mm class 10	m	500.0		
		k) 25 mm class 10	m	1 000.0		
		l) 20 mm class 10	m	100.0		
Total Carried Forward						

C2.2.14

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.4.3		GMS pipes (medium duty)				
		a) 15 mm Ø	m	20.0		
		b) 20 mm Ø	m	20.0		
		c) 25 mm Ø	m	20.0		
		d) 32 mm Ø	m	20.0		
		e) 40 mm Ø	m	20.0		
		f) 50 mm Ø	m	70.0		
		g) 80 mm Ø	m	120.0		
		h) 100 mm Ø	m	50.0		
		i) 150 mm Ø	m	20.0		
		j) 200 mm Ø	m	10.0		
		k) 250 mm Ø	m	10.0		
3.5		VALVES				
3.5.1		Brass or similar approved valve complete - cutting of pipes and couplings included.				
		a) 25 mm	No.	1.0		
		b) 32 mm	No.	1.0		
		c) 40 mm	No.	1.0		
		d) 50 mm	No.	10.0		
3.5.2		Line valve assemblies.				
		Extra over item 3.4 for supplying, installing, bedding and testing line valve assemblies, complete with manhole as per Drawing No. JMRW-20/W/D/007 & JMRW-20/W/D/008 complete cutting of pipes and couplings included				
		a) 63 mm	No.	30.0		
		b) 75 mm	No.	20.0		
		c) 90 mm	No.	10.0		
Total Carried Forward						

C2.2.15

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.5.3		d) 110 mm	No.	5.0		
		e) 160 mm	No.	2.0		
		f) 200 mm	No.	1.0		
		g) 250 mm	No.	1.0		
		h) 315 mm	No.	1.0		
		Scour valve assemblies				
		Extra over item 3.4 for supplying, installing, bedding and testing scour valve assemblies as per Drawing No. JMRW-20/W/D/015 & JMRW-20/W/D/016 complete (Including Manhole). Scour tee, cutting of pipes and couplings included.				
3.5.4		a) On 50mm and 63mm Ø main	No.	10.0		
		b) On 75 mm Ø main	No.	5.0		
		c) On 90 mm Ø main	No.	2.0		
		d) On 110 mm Ø main	No.	1.0		
		e) On 160 mm Ø main	No.	1.0		
		f) On 200mm Ø main	No.	1.0		
3.5.4.1		g) On 250mm Ø main	No.	1.0		
		Air valve assemblies				
		Extra over item 3.4 for supplying, installing and testing air valve assemblies as per Drawing No. JMRW-20/W/D/017 complete (Including Manhole, Airvalve measured elsewhere)				
		a) On 50 mm and 64 mm Ø main	No.	20.0		
		b) On 75 mm Ø main	No.	10.0		
		c) On 90 mm Ø main	No.	5.0		
		d) On 110 mm Ø main	No.	5.0		
		e) On 160 mm Ø main	No.	4.0		
Total Carried Forward						

C2.2.16

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.5.4.2		f) On 200 mm Ø main	No.	1.0		
		g) On 250mm Ø main	No.	1.0		
		h) On 315mm Ø main	No.	1.0		
		Valve to be supplied and installed complete for the following:				
		a) 25ND double orifice "Bermad"	No.	15.0		
		b) 50ND double orifice "Bermad"	No.	15.0		
		c) 25ND "Vent-O-Mat"	No.	10.0		
		d) 50ND "Vent-O-Mat"	No.	20.0		
		e) 80ND "Vent-O-Mat"	No.	10.0		
3.5.5	8.2.3	Extra over item 3.4 for supplying, installing and testing Wafer type non-return valve assemblies as as per Drawing No. JMRW-20/W/D/017 including cutting of pipes, fittings and valve complete, excluding chamber				
		a) On 50 mm and 64 mm Ø main	No.	1.0		
		b) On 75 mm Ø main	No.	1.0		
		c) On 90 mm Ø main	No.	1.0		
		d) On 110 mm Ø main	No.	1.0		
		e) On 160 mm Ø main	No.	1.0		
		f) On 200 mm Ø main	No.	1.0		
		g) On 250 mm Ø main	No.	1.0		
		h) On 315 mm Ø main	No.	1.0		
3.5.6		Watermeters				
3.5.6.1		Complete supply & installation of Meinecke Cosmos watermeters (Reducers excluded)				
		a) 50 mm	No.	5.0		
		b) 65 mm	No.	10.0		
Total Carried Forward						

C2.2.17

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)	
Brought Forward							
3.5.6.2	PSC6	c) 80 mm	No.	15.0			
		d) 100 mm	No.	10.0			
		e) 150 mm	No.	1.0			
		f) 200 mm	No.	1.0			
		g) 250 mm	No.	1.0			
		h) 315 mm	No.	1.0			
		Complete supply & installation of Stainers					
		a) 50 mm	No.	5.0			
		b) 65 mm	No.	10.0			
		c) 80 mm	No.	15.0			
3.5.7		d) 100 mm	No.	10.0			
		e) 150 mm	No.	1.0			
		f) 200 mm	No.	1.0			
		g) 250 mm	No.	1.0			
		h) 315 mm	No.	1.0			
		Fire Hydrant assemblies					
		3.5.7.1	Extra over item 3.4 for supplying, installing and testing fire hydrant assemblies as per Drawing No. JMRW-20/W/D/033 complete (Including Manhole, Airvalve measured elsewhere)				
		a) On 50 mm and 64 mm Ø main	No.	10.0			
		b) On 75 mm Ø main	No.	10.0			
		c) On 90 mm Ø main	No.	5.0			
3.5.7.1		d) On 110 mm Ø main	No.	5.0			
		e) On 160 mm Ø main	No.	4.0			
		f) On 200 mm Ø main	No.	2.0			
		g) On 250mm Ø main	No.	1.0			
		Total Carried Forward					

C2.2.18

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.6		h) On 315mm Ø main DRAW-OFFS	No.	1.0		
3.6.1		Complete supply, install and test single rudimentary domestic drawoff standard type as detailed in Drawing No. JMRW-20/W/D/020 with:				
		i) 2 Taps	No.	200.0		
		ii) 4 Taps	No.	20.0		
3.6.2		Complete supply, install and test garden standpipe as detailed in Drawing No. JMRW-20/W/D/018	No.	5.0		
3.6.3		Complete supply, install and test standpipe unit with pre-paid meter unit as detailed in Drawing No. JMRW-20/W/D/019. (Pre-paid meter unit and box to be paid under Item 1.4.13)	No.	15.0		
3.7		FITTINGS AND SPECIALS				
		Extra over item 3.4 for supplying, installing, bedding and testing in PVC mains the following fittings and specials complete. Cutting of pipes and couplings included				
		Fittings of PVC, cast iron or aluminium				
3.7.1		Bends 90 °				
		a) 315 Ø	No.	1.0		
		b) 250 Ø	No.	1.0		
		c) 200 Ø	No.	1.0		
		d) 160 Ø	No.	5.0		
		e) 110 Ø	No.	10.0		
		f) 90 Ø	No.	20.0		
		g) 75 Ø	No.	45.0		
		h) 63 Ø	No.	75.0		
3.7.2		Bends 45 °				
Total Carried Forward						

C2.2.19

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.7.3		a) 315 Ø	No.	1.0		
		b) 250 Ø	No.	1.0		
		c) 200 Ø	No.	5.0		
		d) 160 Ø	No.	10.0		
		e) 110 Ø	No.	15.0		
		f) 90 Ø	No.	30.0		
		g) 75 Ø	No.	50.0		
		h) 63 Ø	No.	75.0		
3.7.4		Bends 22 °				
		a) 315 Ø	No.	1.0		
		b) 250 Ø	No.	1.0		
		c) 200 Ø	No.	1.0		
		d) 160 Ø	No.	5.0		
		e) 110 Ø	No.	7.0		
		f) 90 Ø	No.	10.0		
		g) 75 Ø	No.	15.0		
		h) 63 Ø	No.	30.0		
		Bends 11.25 °				
		a) 315 Ø	No.	1.0		
		b) 250 Ø	No.	1.0		
		c) 200 Ø	No.	1.0		
		d) 160 Ø	No.	5.0		
		e) 110 Ø	No.	7.0		
		f) 90 Ø	No.	10.0		
		g) 75 Ø	No.	15.0		
		h) 63 Ø	No.	30.0		
Total Carried Forward						

C2.2.20

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.7.5		Tees				
		a) 63 x 63 mm	No.	30.0		
		b) 75 x 63 mm	No.	20.0		
		c) 75 x 75 mm	No.	15.0		
		d) 90 x 63 mm	No.	10.0		
		e) 90 x 75 mm	No.	10.0		
		f) 90 x 90 mm	No.	5.0		
		g) 110 x 75 mm	No.	5.0		
		h) 110 x 90 mm	No.	5.0		
		i) 110 x 110 mm	No.	5.0		
		j) 160 x 90 mm	No.	5.0		
		k) 160 x 110 mm	No.	5.0		
		l) 160 x 160 mm	No.	5.0		
		m) 200 x 160 mm	No.	1.0		
		n) 200 x 200 mm	No.	1.0		
		o) 250 x 200 mm	No.	1.0		
		p) 315 x 250 mm	No.	1.0		
3.7.6		Reducers				
		a) 75 x 63 mm	No.	30.0		
		b) 90 x 63 mm	No.	20.0		
		c) 90 x 75 mm	No.	15.0		
		d) 110 x 75 mm	No.	10.0		
		e) 110 x 90 mm	No.	5.0		
		f) 160 x 90 mm	No.	5.0		
		g) 160 x 110 mm	No.	5.0		
		h) 200 x 110 mm	No.	1.0		
Total Carried Forward						

C2.2.21

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.7.7		i) 200 x 160 mm	No.	1.0		
		j) 250 x 160 mm	No.	1.0		
		k) 250 x 200 mm	No.	1.0		
		l) 315 x 250 mm	No.	1.0		
		End caps				
3.7.8		a) 63 mm Ø	No.	50.0		
		b) 75 mm Ø	No.	15.0		
		c) 90 mm Ø	No.	10.0		
		d) 110 mm Ø	No.	5.0		
		e) 160 mm Ø	No.	5.0		
		f) 200 mm Ø	No.	1.0		
		g) 250 mm Ø	No.	1.0		
		h) 315 mm Ø	No.	1.0		
3.7.9		Double Socket				
		a) 75 mm Ø	No.	10.0		
		b) 90 mm Ø	No.	5.0		
		c) 110 mm Ø	No.	5.0		
		d) 160 mm Ø	No.	1.0		
		Repair Coupling				
		a) 63 mm Ø	No.	30.0		
		b) 75 mm Ø	No.	20.0		
		c) 90 mm Ø	No.	15.0		
		d) 110 mm Ø	No.	10.0		
e) 160 mm Ø	No.	5.0				
		f) 200 mm Ø	No.	1.0		
		g) 250 mm Ø	No.	1.0		
Total Carried Forward						

C2.2.22

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.7.10		h) 315 mm Ø Adaptor for steel (BSP) pipes	No.	1.0		
		a) 75 x 50 mm BSP	No.	15.0		
		b) 75 x 80 mm BSP	No.	10.0		
		c) 90 x 80 mm BSP	No.	10.0		
		d) 110 x 100 mm BSP	No.	5.0		
		e) 160 x 150 mm BSP	No.	5.0		
		f) 200 x 200 mm BSP	No.	1.0		
3.7.11		Flanged adaptor				
		a) 63 mm Ø	No.	25.0		
		b) 75 mm Ø	No.	20.0		
		c) 90 mm Ø	No.	15.0		
		d) 110 mm Ø	No.	10.0		
		e) 160 mm Ø	No.	10.0		
		f) 200 mm Ø	No.	1.0		
		g) 250 mm Ø	No.	1.0		
		h) 315 mm Ø	No.	1.0		
3.7.12		Saddle drilled 32 BSP				
		a) 63 mm Ø	No.	150.0		
		b) 75 mm Ø	No.	50.0		
		c) 90 mm Ø	No.	25.0		
		d) 110 mm Ø	No.	25.0		
		e) 160 mm Ø	No.	15.0		
		f) 200 mm Ø	No.	1.0		
		g) 250 mm Ø	No.	1.0		
		h) 315 mm Ø	No.	1.0		
Total Carried Forward						

C2.2.23

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.7.13		Saddle tap drilled 25 BSP				
		a) 63 mm Ø	No.	50.0		
		b) 75 mm Ø	No.	25.0		
		c) 90 mm Ø	No.	15.0		
		d) 110 mm Ø	No.	10.0		
		e) 160 mm Ø	No.	5.0		
		f) 200 mm Ø	No.	1.0		
		g) 250 mm Ø	No.	1.0		
		h) 315 mm Ø	No.	1.0		
3.8		FITTINGS FOR THREADED STEEL, MALLEABLE STEEL/IRON PIPE SPECIALS AND FITTINGS				
3.8.1		Screwed flanges				
		a) 50 ND	No.	1.0		
		b) 65 ND	No.	1.0		
		c) 80 ND	No.	1.0		
		d) 100 ND	No.	1.0		
		e) 125 ND	No.	1.0		
		f) 150 ND	No.	1.0		
		g) 200 ND	No.	1.0		
3.8.2		Nipple				
		a) 15 ND	No.	1.0		
		b) 20 ND	No.	1.0		
		c) 25 ND	No.	1.0		
		d) 32 ND	No.	1.0		
		e) 40 ND	No.	1.0		
		f) 50 ND	No.	1.0		
Total Carried Forward						

C2.2.24

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.8.3		g) 65 ND	No.	1.0		
		h) 80 ND	No.	1.0		
		i) 100 ND	No.	1.0		
		j) 125 ND	No.	1.0		
		k) 150 ND	No.	1.0		
		l) 200 ND	No.	1.0		
		Tee				
		a) 15 x 15 ND	No.	1.0		
		b) 20 x 20 ND	No.	1.0		
		c) 25 x 25 ND	No.	1.0		
		d) 32 x 32 ND	No.	1.0		
		e) 40 x 40 ND	No.	1.0		
		f) 50 x 50 ND	No.	1.0		
		g) 65 x 65 ND	No.	1.0		
		h) 80 x 80 ND	No.	1.0		
		i) 100 x 100 ND	No.	1.0		
		j) 125 x 125 ND	No.	1.0		
		k) 150 x 150 ND	No.	1.0		
		l) 20 x 15 ND	No.	1.0		
		m) 32 x 20 ND	No.	1.0		
		n) 32 x 25 ND	No.	1.0		
		o) 40 x 25 ND	No.	1.0		
		p) 40 x 20 ND	No.	1.0		
		q) 50 x 40 ND	No.	1.0		
		r) 50 x 32 ND	No.	1.0		
		s) 50 x 25 ND	No.	1.0		
Total Carried Forward						

C2.2.25

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.8.4		t) 50 x 20 ND	No.	1.0		
		u) 65 x 50 ND	No.	1.0		
		v) 80 x 50 ND	No.	1.0		
		w) 100 x 80 ND	No.	1.0		
		x) 125 x 100 ND	No.	1.0		
		y) 150 x 100 ND	No.	1.0		
		Socket Union				
		a) 15 ND	No.	1.0		
		b) 20 ND	No.	1.0		
		c) 25 ND	No.	1.0		
		d) 32 ND	No.	1.0		
		e) 40 ND	No.	1.0		
		f) 50 ND	No.	1.0		
		g) 65 ND	No.	1.0		
		h) 80 ND	No.	1.0		
3.8.5		i) 100 ND	No.	1.0		
		Reducing Bush				
		a) 20 x 15 ND	No.	1.0		
		b) 25 x 15 ND	No.	1.0		
		c) 25 x 20 ND	No.	1.0		
		d) 32 x 20 ND	No.	1.0		
		e) 32 x 25 ND	No.	1.0		
		f) 40 x 20 ND	No.	1.0		
		g) 40 x 25 ND	No.	1.0		
		h) 40 x 32 ND	No.	1.0		
		i) 50 x 20 ND	No.	1.0		
Total Carried Forward						

C2.2.26

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.8.6		j) 50 x 25 ND	No.	1.0		
		k) 50 x 32 ND	No.	1.0		
		l) 50 x 40 ND	No.	1.0		
		Bend				
		a) 90° M/F : 15 Ø	No.	1.0		
		b) 90° M : 15 Ø	No.	1.0		
		c) 90° M/F : 20 Ø	No.	1.0		
		d) 90° M : 20 Ø	No.	1.0		
		e) 90° M/F : 25 Ø	No.	1.0		
		f) 90° M : 25 Ø	No.	1.0		
		g) 90° M/F : 32 Ø	No.	1.0		
		h) 90° M : 32 Ø	No.	1.0		
		i) 90° M/F : 40 Ø	No.	1.0		
		j) 90° M : 40 Ø	No.	1.0		
		k) 90° F : 50 Ø	No.	1.0		
		l) 90° F : 65 Ø	No.	1.0		
3.8.7		m) 90° F : 75 Ø	No.	1.0		
		n) 90° F : 100 Ø	No.	1.0		
		Cross, Flanged				
		a) 100 Ø	No.	1.0		
3.8.8		b) 125 Ø	No.	1.0		
		c) 150 Ø	No.	1.0		
		Cross screwed				
		a) 15 Ø	No.	1.0		
		b) 20 Ø	No.	1.0		
		c) 25 Ø	No.	1.0		
Total Carried Forward						

C2.2.27

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.8.9		d) 32 Ø	No.	1.0		
		e) 40 Ø	No.	1.0		
		f) 50 Ø	No.	1.0		
		g) 75 Ø	No.	1.0		
		h) 100 Ø	No.	1.0		
		Sockets				
3.9		a) 25 ND	No.	1.0		
		b) 32 ND	No.	1.0		
		c) 40 ND	No.	1.0		
		d) 50 ND	No.	1.0		
		e) 75 ND	No.	1.0		
		f) 100 ND	No.	1.0		
3.9.1		FITTINGS FOR HDPE PIPES				
		Plasson compression fittings to the relevant SABS specifications, or similar approved				
3.9.2		Elbow for :				
		a) 20 mm Ø	No.	1.0		
		b) 25 mm Ø	No.	1.0		
		c) 32 mm Ø	No.	1.0		
		d) 40 mm Ø	No.	1.0		
		e) 50 mm Ø	No.	1.0		
		Equal Tees				
		a) 20 mm Ø	No.	1.0		
		b) 25 mm Ø	No.	1.0		
		c) 32 mm Ø	No.	1.0		
		d) 40 mm Ø	No.	1.0		
Total Carried Forward						

C2.2.28

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.9.3		e) 50 mm Ø	No.	1.0		
		Unequal tees				
		a) 25 x 20 ND	No.	1.0		
		b) 32 x 25 ND	No.	1.0		
		c) 40 x 25 ND	No.	1.0		
		d) 40 x 32 ND	No.	1.0		
		e) 50 x 32 ND	No.	1.0		
		f) 50 x 40 ND	No.	1.0		
3.9.4		Reducers				
		a) 25 x 20 ND	No.	1.0		
		b) 32 x 25 ND	No.	1.0		
		c) 40 x 25 ND	No.	1.0		
		d) 40 x 32 ND	No.	1.0		
		e) 50 x 25 ND	No.	1.0		
		f) 50 x 32 ND	No.	1.0		
		g) 50 x 40 ND	No.	1.0		
3.9.5		Plugs				
		a) 20 mm Ø	No.	1.0		
		b) 25 mm Ø	No.	1.0		
		c) 32 mm Ø	No.	1.0		
		d) 40 mm Ø	No.	1.0		
		e) 50 mm Ø	No.	1.0		
3.9.6		HDPE/BSP adaptor				
		a) 20 mm Ø	No.	1.0		
		b) 25 mm Ø	No.	20.0		
		c) 32 mm Ø	No.	70.0		
Total Carried Forward						

C2.2.29

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.9.7		d) 40 mm Ø e) 50 mm Ø Socket Adaptors	No.	1.0		
		a) 20 ND b) 25 ND c) 32 ND d) 40 ND e) 50 ND	No.	1.0		
3.10		SUNDRIES				
3.10.1		Encasing in Class 15/19 concrete	m ³	5.0		
3.10.2		Position markers as per specification Drawing No. JMRW-20/W/D/006	No.	150.0		
3.10.3		Thrust blocks as per typical details on specification Drawing No. JMRW-20/W/D/005 including formwork				
3.10.4		a) Concrete Class 15/19 Existing Plot Fences (Provisional)	m ³	50.0		
	PS10.5	Taking down of existing fence, keep at a safe place and re-erect after construction activities.	m	1 000.0		
3.10.5		Stone pitching including supply and placing of stone and gravel backing				
		a) Grouted, minimum thickness 300mm b) Ungouted, minimum thickness 300mm	m ²	10.0		
3.11		SERVICES				
3.11.1	SABS 1200DB	Unknown Services (Provisional)				
	8.3.8.1	Excavate by hand in soft material to expose such as electrical cables and GPO cables	m ³	5.0		
Total Carried Forward						

C2.2.30

SCHEDULE 3 : PIPE WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
3.11.2	SABS 1200DB	Existing Services (Provisional)				
		Excavate in soft material to expose services (Depths up to 1,5 m)				
		a) Alongside service	m	20.0		
		b) When intersect a service	No.	20.0		
3.12		MANHOLES				
		a) 750 mm Ø as per Drawing No. JMRW-20/W/D/008	No.	23.0		
		b) 1200 mm Ø as per Drawing No. JMRW-20/W/D/007	No.	10.0		
3.13		ROAD CROSSINGS				
		a) Gravel Road crossings complete as per Drawing No. JMRW-20/W/D/0013 including the following sleeve pipes :				
		i) 350 ND Concrete Class 100D	m	150.0		
		ii) 450 ND Concrete Class 100D	m	150.0		
		iii) 355 ND uPVC Class 12	m	150.0		
		b) Tar Road crossings complete as per Drawing No. JMRW-20/W/D/013 including the following sleeve pipes (Refer to PSDB11) :				
		i) 350 ND Concrete Class 100D	m	100.0		
		ii) 450 ND Concrete Class 100D	m	100.0		
Total Carried Forward To Summary						

C2.2.31

SCHEDULE 4 : HANDPUMPS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
4.1	PD5	SCHEDULE 4 : HANDPUMPS The complete supply & delivery of positive displacement type handpump (gearbox, handle, pedestal, element, check valve and non-return valve included)				
4.1.1		Manufacturer Mono (or similar approved)				
		a) HP9M	No.	1.0		
		b) HP12L	No.	1.0		
4.1.2		Medium Galvanised steelpipe columns complete with appurtenant fittings and 13 mm drive shaft for positive displacement type handpumps.				
		a) 25 mm Ø column	m	50.0		
		b) 32 mm Ø column	m	50.0		
4.2		INSTALLATION				
4.2.1		Complete installation and commissioning of aboveground equipment under items 4.1.1				
		a) Positive Displacement type	No.	1.0		
4.2.2		Complete installation and commissioning of underground equipment under items 4.1.1 for the additional depth of boreholes				
		a) Positive Displacement type	m	50.0		
Total Carried Forward To Summary						

C2.2.32

SCHEDULE 5 : WINDMILLS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
5.1	PD6	SCHEDULE 5 : WINDMILLS				
		Preparation of boreholes for installation (Also applicable to Schedules 4 and 8)				
		See section PD6.1.1.This specification is applicable to windmill towers as well as tank stands. The above regulations (as per PD6.1.1) are not to be priced separately and must be inclusive in the rates tendered.				
5.1.1		Supply tools, dismantle and store securely at Contractor's camp the equipment on the existing boreholes prior to erection of new equipment				
		a) Handpump assembly	No	2.0		
		b) Powerhead, engine/motor and shelter	No	2.0		
		c) Windmill	No	2.0		
5.1.2		Supply tools, dismantle, remove, demolish and spoil				
		a) Borehole caps	No	30.0		
		b) Foundations to existing pump equipment	No	4.0		
5.2		Windmill erection				
5.2.1		Excavation in the following materials for tower posts and borehole foundation blocks :				
		a) Soft material	m ³	10.0		
		b) Extra Over 5.2.1a) in intermediate material	m ³	2.0		
		c) Extra Over 5.2.1a) in hard material	m ³	2.0		
5.3		Supply and deliver the following equipment (Particular specification PD6) - for Geared Windmills				
5.3.1		Manufacturer : Climax (or similar approved)				
5.3.1.1		With 9 m tower complete				
		a) 3,0 m wheel (Model : _____)	No	1.0		
Total Carried Forward						

C2.2.33

SCHEDULE 5 : WINDMILLS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
5.3.2		b) 3,7 m wheel (Model : _____)	No	1.0		
		c) 4,3 m wheel (Model : _____)	No	1.0		
		Brass Borehole Cylinders				
		a) 50 mm ND, 300 mm stroke	No.	1.0		
		b) 50 mm ND, 450 mm stroke	No.	1.0		
		c) 65 mm ND, 300 mm stroke	No.	1.0		
		d) 65 mm ND, 450 mm stroke	No.	1.0		
		e) 76 mm ND, 300 mm stroke	No.	1.0		
5.3.3		f) 76 mm ND, 450 mm stroke	No.	1.0		
		a) Galvanised solid mild steel pump rods 16mm Ø in 3 m lengths	m	15.0		
5.3.4		b) Ditto but for 20 mm Ø in 3 m lengths	m	15.0		
		Borehole rising mains comprising medium SABS 62 galvanised mild steel piping in the following nominal sizes and lengths				
5.3.5		a) 3 m Pipe lengths				
		i) 40 Ø	m	50.0		
		ii) 50 Ø	m	50.0		
		iii) 65 Ø	m	50.0		
5.3.6		Delivery tee and spill piece combination in the following nominal sizes:				
		i) 40 Ø	set	1.0		
		ii) 50 Ø	set	1.0		
5.3.7		iii) 65 Ø	set	1.0		
		40 mm Standpipe gland at existing windmill	No.	1.0		
5.3.7		Forceheads with the following duty points.				
		a) For a 65mm Cylinder a minimum head of 21m (Model: _____)	No.	1.0		
Total Carried Forward						

C2.2.34

SCHEDULE 5 : WINDMILLS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
5.3.8		b) For a 65mm Cylinder a minimum head of 41m (Model: _____) Base plates in the following nominal sizes:	No.	1.0		
		i) 40 mm Ø	set	1.0		
		ii) 50 mm Ø	set	1.0		
		iii) 65 mm Ø	set	1.0		
5.3.9		Discharge pipework in the following nominal diameters:				
		i) 40 mm Ø	unit	1.0		
		ii) 50 mm Ø	unit	1.0		
5.3.10		Concrete base and footings Class 15/20	m ³	1.0		
5.3.11		Check valves Brass type with swing valve (screwed internally)				
		i) 40 mm Ø	No.	1.0		
		ii) 50 mm Ø	No.	1.0		
		iii) 65 mm Ø	No.	1.0		
5.3.12		Footvalve and strainer (screwed internally)				
		i) 40 mm Ø	No.	1.0		
		ii) 50 mm Ø	No.	1.0		
		iii) 65 mm Ø	No.	1.0		
5.3.13		Air chambers screwed externally and fitted to with a plug to drain the water buildup				
		i) 40 mm Ø	No.	1.0		
		ii) 50 mm Ø	No.	1.0		
		iii) 65 mm Ø	No.	1.0		
5.3.14		Galvanised woodrod to pumprod connection				
Total Carried Forward						

C2.2.35

SCHEDULE 5 : WINDMILLS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
5.4		a) 38 mm x 12 mm connections with bolts and nuts	No.	1.0		
		b) 38 mm x 16 mm connections with bolts and nuts	No.	1.0		
5.4.1		Erect and commission the following geared windmills, (all included as per particular specification PD6)				
		For Manufacturer as indicated under Item 5.3				
5.4.1.1		With 9 m tower complete				
		a) 3,0 m wheel (Model : _____)	No.	1.0		
		b) 3,7 m wheel (Model : _____)	No.	1.0		
		c) 4,3 m wheel (Model : _____)	No.	1.0		
5.4.2		Brass Borehole Cylinders				
		a) 50 mm ND, 300 mm stroke	No.	1.0		
		b) 50 mm ND, 450 mm stroke	No.	1.0		
		c) 65 mm ND, 300 mm stroke	No.	1.0		
		d) 65 mm ND, 450 mm stroke	No.	1.0		
		e) 76 mm ND, 300 mm stroke	No.	1.0		
		f) 76 mm ND, 450 mm stroke	No.	1.0		
5.4.3		a) Galvanised solid mild steel pump rods 16mm Ø in 3 m lengths	No.	15.0		
		b) Ditto but for 20 mm Ø in 3 m lengths	No.	15.0		
5.4.4		Borehole rising mains comprising medium SABS 62 galvanised mild steel piping in the following nominal sizes:				
		a) 3 m Pipe lengths				
		i) 40 Ø	m	50.0		
		ii) 50 Ø	m	50.0		
		iii) 65 Ø	m	50.0		
Total Carried Forward						

C2.2.36

SCHEDULE 5 : WINDMILLS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
5.4.5		Delivery tee and spillpiece combination in the following nominal sizes :				
		i) 40 Ø	set	1.0		
		ii) 50 Ø	set	1.0		
		iii) 65 Ø	set	1.0		
5.4.6		Packing boxes assembly in the following nominal sizes:				
		i) 40 mm Ø	set	1.0		
		ii) 50 mm Ø	set	1.0		
		iii) 65 mm Ø	set	1.0		
5.4.7		40 mm Standpipe gland at existing windmill	No.	1.0		
5.4.8		Forcehead with the following duty point:				
		a) For a 65mm Cylinder a minimum head of 21m (Model : _____)	No.	1.0		
		b) For a 65mm Cylinder a minimum of 41m (Model : _____)	No.	1.0		
5.4.9		Base plates in the following nominal sizes :				
		i) 40 Ø	set	1.0		
		ii) 50 Ø	set	1.0		
		iii) 65 Ø	set	1.0		
5.4.10		Discharge pipework in the following nominal diameters:				
		i) 40 Ø	unit	1.0		
		ii) 50 Ø	unit	1.0		
5.4.11		Concrete base and footings Class 15/20	m³	10.0		
5.4.12		Check valves				
		Brass type with swing valve (screwed internally)				
		i) 40 Ø	No	1.0		
Total Carried Forward						

C2.2.37

SCHEDULE 5 : WINDMILLS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
5.4.13		ii) 50 Ø	No	1.0		
		iii) 65 Ø	No	1.0		
		Footvalve and strainer (screwed internally)				
5.4.14		Brass type:				
		i) 40 mm Ø	No.	1.0		
		ii) 50 mm Ø	No.	1.0		
		iii) 65 mm Ø	No.	1.0		
		Air chambers screwed externally and fitted to with a plug to drain the water build up				
5.4.15		i) 40 mm Ø	No.	1.0		
		ii) 50 mm Ø	No.	1.0		
		iii) 65 mm Ø	No.	1.0		
		Galvanised woodrod to pumprod connection				
		a) 38 mm x 12 mm connection with bolts and nuts	No.	1.0		
		b) 38 mm x 16 mm connection with bolts and nuts	No.	1.0		
Total Carried Forward To Summary						

C2.2.38

SCHEDULE 6 : ELEVATED TANKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
6.1		SCHEDULE 6 : ELEVATED TANKS				
6.1.1	1200D	Sectional Pressed Steel Elevated Tanks				
		Earthworks				
		a) Excavate in all materials for concrete bases	m ³	500.0		
		b) Extra-over for item 6.1.1(a) for intermediate material	m ³	150.0		
		c) Extra-over for item 6.1.1(a) for hard rock	m ³	150.0		
6.1.2	1200G	Concrete				
	8.4.2	a) Soilcrete with approved gravel mixed with 8% by weight OPC	m ³	10.0		
		b) No Fines concrete, using 19mm aggregate	m ³	5.0		
		c) Blinding layer in 20MPa/19mm concrete, 75 mm thick	m ²	400.0		
	8.4.3	d) Supply, mix and place Class 20/19 concrete for column bases	m ³	75.0		
	8.4.3	e) Supply, mix and place Class 25/19 concrete for column bases	m ³	350.0		
	8.4.3	f) Supply, mix and place Class 30/19 concrete for column bases	m ³	75.0		
6.1.3	8.3	Reinforcement				
6.1.3.1	8.3.1	Mild steel bars				
	8.1.2.2	a) Diameter 25mm : Basic price	kg	500.0		
		b) Extra over 6.1.3.1 (a) (Provisional quantities for bars of diameter)				
		i) 8mm	kg	100.0		
		ii) 10mm	kg	100.0		
		iii) 12mm	kg	400.0		
6.1.3.2	8.3.1	High tensile steel bars				
Total Carried Forward						

C2.2.39

SCHEDULE 6 : ELEVATED TANKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
	8.1.2.2	a) Diameter 25mm : Basic price	kg	20 000.0		
		b) Extra over 6.1.3.2 (a) (Provisional quantities for bars of diameter)				
		i) 10 mm	kg	1 000.0		
		ii) 12 mm	kg	1 000.0		
		iii) 16 mm	kg	8 000.0		
		iv) 20 mm	kg	10 000.0		
6.1.3.3	8.3.2	High tensile welded mesh reinforcement				
		a) Type reference 395 in standard sheet	m ²	100.0		
		b) Type reference 500 in standard sheet	m ²	100.0		
		c) Type reference 617 in standard sheet	m ²	100.0		
6.1.4	8.2	Formwork				
6.1.4.1	8.2.1	Rough formwork	m ²	220.0		
6.1.4.2	8.2.2	Smooth formwork	m ²	50.0		
6.1.4.3		Chamfer 30 x 30 mm	m	250.0		
6.1.4.4	8.4.4	Unformed surface finishes				
		a) Wood floated finish	m ²	360.0		
		b) Steel floated finish	m ²	10.0		
6.1.5	PSHA/PH	Sectional steel tank				
		Design, supply, fabrication, delivery to site and erection of the following sectional pressed steel tank with cover, access hatches, ventilator and pipework, all as specified in particular specification including surface dressing, surface preparation and hot dip galvanising, sterilising and water tightness test in the following sizes :				
		Note : (All tank to have a safety platform as per relevant OH&S regulations)				
		a) 50m ³	No.	2.0		
Total Carried Forward						

C2.2.40

SCHEDULE 6 : ELEVATED TANKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
6.1.6	PSHA/PH	b) 65m³	No.	2.0		
		c) 100m³	No.	3.0		
		d) 150m³	No.	2.0		
		e) 200m³	No.	1.0		
		f) 250m³	No.	1.0		
		g) 300m³	No.	1.0		
		h) 350m³	No.	1.0		
		i) 400m³	No.	1.0		
		Design, supply, fabricate, deliver to site and erection of the following structural steel stands for the sizes of pressed steel tanks indicated and heights as specified. Structural steel stands with associated access ladder, surface dressing, surface preparation, hot dip galvanising including holding down bolts :				
		Note : (All tank stands to have safety platform and landings as per relevant OH&S regulations)				
		a) For 50m³ tank volume on the following stand heights:				
		i) 15m heights	No.	1.0		
		ii) 20m heights	No.	1.0		
		b) For 65m³ tank volume on the following stand heights:				
		i) 15m heights	No.	1.0		
		ii) 20m heights	No.	1.0		
		c) For 100m³ tank volume on the following stand heights:				
		i) 15m heights	No.	1.0		
		ii) 20m heights	No.	1.0		
		Total Carried Forward				

C2.2.41

SCHEDULE 6 : ELEVATED TANKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
6.1.7		d) For 150m³ tank volume on the following stand heights:				
		i) 15m heights	No.	1.0		
		ii) 20m heights	No.	1.0		
		e) For 200m³ tank volume on the following stand heights:				
		i) 15m heights	No.	1.0		
		ii) 20m heights	No.	1.0		
		f) For 250m³ tank volume on the following stand heights:				
		i) 15m heights	No.	1.0		
		ii) 20m heights	No.	1.0		
		g) For 300m³ tank volume on the following stand heights:				
		i) 15m heights	No.	1.0		
		ii) 20m heights	No.	1.0		
		h) For 350m³ tank volume on the following stand heights:				
		i) 15m heights	No.	1.0		
		ii) 20m heights	No.	1.0		
		k) For 400m³ tank volume on the following stand heights:				
		i) 15m heights	No.	1.0		
		ii) 20m heights	No.	1.0		
		Supply and deliver to site storage tanks(Polypropolene) (Green Colour) the following capacity(Flexible Coupling Included) :				
		a) 5 000 l	No.	1.0		
		b) 10 000 l	No.	7.0		
Total Carried Forward						

C2.2.42

SCHEDULE 6 : ELEVATED TANKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
6.1.8		Complete design, manufacture, delivery to site and complete erection of the following 9m tank stands. (Design should make provision for Hot-dipped galvanizing of the tank stands). (Tank stands to include the safety ladder with cage and safety platform as per relevant OH&S Regulations. Tanks can be 5m ³ or 10m ³ and will be measured under Item 6.1.7)				
		a) Tank stand for single tank	No.	8.0		
6.1.9		Supply mix and place Class 25/19 concrete for tank stand base as detailed on Drawing No. JMRW-20/W/D/030	m ³	50.0		
6.2		PIPEWORK FOR STEEL TANKS				
6.2.1		Flanged GMS Pipework at Structural Steel Tanks				
		a) 50ND	m	50.0		
		b) 65ND	m	100.0		
		c) 80ND	m	100.0		
		d) 100ND	m	100.0		
		e) 150ND	m	20.0		
		f) 200ND	m	20.0		
6.2.2		Flanged GMS Fittings				
		a) Bends 90°				
		i) 50ND	No.	10.0		
		ii) 65ND	No.	15.0		
		iii) 80ND	No.	15.0		
		iv) 100ND	No.	15.0		
		v) 150ND	No.	5.0		
		vi) 200ND	No.	0.0		
		b) Tees				
Total Carried Forward						

C2.2.43

SCHEDULE 6 : ELEVATED TANKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
6.3		i) 50ND	No.	5.0		
		ii) 65ND	No.	5.0		
		iii) 80ND	No.	5.0		
		iv) 100ND	No.	5.0		
		v) 150ND	No.	2.0		
		vi) 200ND	No.	2.0		
6.3		VALVES				
6.3.1		Supply and install Non-rising Spindle valve complete, including cutting of pipes and couplings				
6.3.2		a) 65ND	No.	2.0		
		b) 80ND	No.	5.0		
		c) 100ND	No.	5.0		
		d) 150ND	No.	2.0		
		e) 200ND	No.	2.0		
		Supply and install Leveldex Float valve complete				
6.4		a) 50 mm Ø	No.	3.0		
		b) 80 mm Ø	No.	7.0		
6.4		CHLORINATION EQUIPMENT				
6.4.1		Complete manufacture, delivery to site and erection of chlorination plant inclosure including appurtenant concrete work as per drawing JMRW-20/W/D/032.	No.	4.0		
6.4.2		Complete installation of chlorine dosing plant as per manufacture's specification. (Supply of plant measured under Item 1.3.5)	No.	4.0		
Total Carried Forward						

C2.2.44

SCHEDULE 6 : ELEVATED TANKS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
6.4.3		Commissioning of chlorine dosing plant as per manufacture's specification. (The rate tendered for this item shall include all materials, labour, tests, samples, chemicals etc required for the commissioning of the Plant.)	No.	4.0		
Total Carried Forward To Summary						

C2.2.45

SCHEDULE 7 : DIESEL ENGINES AND GENERATORS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
7.1		SCHEDULE 7 : DIESEL ENGINES AND GENERATORS				
7.1.1	PD7	DIESEL ENGINES				
7.1.1.1		Supply and delivery of air cooled diesel power units complete (with standard equipment as described in the particular specifications PD7)- Painted yellow to specification including fan belts and belt guard. (Belt guards must comply with all safety specifications and standards) (Pulleys and clutches measured elsewhere)				
		Manufacturer : LISTER				
		a) LT 1	No.	2.0		
		b) TR 1	No.	5.0		
		c) TR 2	No.	2.0		
		d) TR 3	No.	2.0		
7.1.1.2	PD7	Installation and commissioning of power units (including plinths, baseplates, adjustable frames) for:				
		Manufacturer : LISTER				
		a) LT 1	No.	2.0		
		b) TR 1	No.	5.0		
		c) TR 2	No.	2.0		
		d) TR 3	No.	2.0		
7.1.1.3		Supply, delivery, complete installation and commissioning of the following centrifugal clutches :				
		a) High speed :				
		i) 125 mm Ø	No.	7.0		
		ii) 180 mm Ø	No.	4.0		
7.1.2		Complete supply, delivery, installation and commissioning of the following pulley ranges for wedge belts, including the required wedge belts:				
Total Carried Forward						

C2.2.46

SCHEDULE 7 : DIESEL ENGINES AND GENERATORS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
7.1.2.1		SPA Range :				
		a) Four groove, with pitch diameters				
		i) 80 mm and 85 mm	No.	2.0		
		ii) 90 mm to 150 mm	No.	2.0		
		iii) 160 mm to 315 mm	No.	3.0		
		iv) 400 mm to 630 mm	No.	3.0		
7.1.2.2		SPB Range :				
		a) Four groove, with pitch diameters				
		i) 125 mm and 150 mm	No.	1.0		
		ii) 160 mm to 315 mm	No.	1.0		
		iii) 355 mm to 630 mm	No.	1.0		
7.1.3		Supply, delivery and installation of "optional" items for diesel engines as describe in PD7				
		a) Flexible exhaust	No.	13.0		
		b) 90 l Fuel tank with appurtenant pipework and tank stand	No.	13.0		
		c) Fuel filter & indicator	No.	13.0		
		d) Oil pressure gauge	No.	13.0		
		e) Typical machine tool kit (Details to be supplied)	No.	13.0		
		f) Vibration hour meter	No.	13.0		
7.2		STAND-BY GENERATOR INSTALLATION				
7.2.1		Diesel Generator set (1 Phase)				
Total Carried Forward						

C2.2.47

SCHEDULE 7 : DIESEL ENGINES AND GENERATORS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
7.2.2		The complete supply, deliver, off-load and installation of 230V Generator - set with Industrial water cooled diesel engine, 12VDC electrical system and battery charger, cartridge type fuel and oil filters, air filter, Battery(ies), rack and cables, alternator to be Electrical design to BS5000 Part 99, IEC60034-1, BS 9000, BS 5514, BS PT1184C. Automatic Voltage Regulator with Voltage regulation $\pm 0.5\%$, Heavy duty industrial exhaust silencer 25 dB reduction. Vibration isolated powder coated steel enclosure with removable cover plate control panel and feeder MCCB, Heavy-duty fabricated steel base with lifting points with Anti-vibration pad complete with base frame incorporates metal 8hr Fuel tank and 3 pin industrial outlet socket with wiring and labels for the following Generators complete with AVR, electrical start equal or similar to Olympian - GEK6SP-1, supplied by Barloworld Power, Caterpillar.				
		a) 6KVA/6kW	No.	1.0		
		b) 9KVA/9kW	No.	1.0		
		c) 11KVA/11kW	No.	1.0		
		Diesel generator set (3 Phase)				
Total Carried Forward						

C2.2.48

SCHEDULE 7 : DIESEL ENGINES AND GENERATORS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
7.2.3		The complete supply, deliver, off-load and installation of a 400/230V Generator - set with industrial water cooled diesel engine, 12 VDC electrical system and battery charger, Cartridge type fuel and oil filters, Air filter, Battery(ies), rack and cables, Alternator to be Electrical design to BS5000 Part 99, IEC60034-1, BS 9000, BS 5514 BS PT1184C. Automatic Voltage Regulator with Voltage regulation ± 0.5%, Heavy duty industrial exhaust silencer 25dB reduction. Vibration isolated powder coated steel enclosure with removable cover plate control panel and feeder MCCB, Heavy-duty fabricated steel base with lifting points with Anti-vibration pad complete with baseframe incorporates metal 8hr Fuel tank and 3 pin industrial outlet socket with wiring and labels for the following Generators complete with AVR, electrical start equal or similar to Olympian - GEK6SP-1, supplied by Barloworld Power, Caterpillar.				
		a) 18KVA/14.14kW	No.	1.0		
		b) 22KVA/17.6kW	No.	1.0		
		c) 44KVA/35kW	No.	1.0		
		d) 65KVA/53kW	No.	1.0		
		e) 88KVA/70.4kW	No.	1.0		
		f) 165KVA/135kW	No.	1.0		
		Weather proof Canopy for Generator-Set				
		The complete sypply and installation of a weather proof canopy for Generator complete with pad-lockable doors to access motor, refuelling, battery charger and control panel inlets.				
		a) 6KVA/6kW	No.	1.0		
		b) 9KVA/9kW	No.	1.0		
		c) 11KVA/11kW	No.	1.0		
		d) 18KVA/14.14kW	No.	1.0		
Total Carried Forward						

C2.2.49

SCHEDULE 7 : DIESEL ENGINES AND GENERATORS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
7.2.4		e) 22KVA/17.6kW	No.	1.0		
		f) 44KVA/35kW	No.	1.0		
		g) 65KVA/53kW	No.	1.0		
		h) 88KVA/70.4kW	No.	1.0		
		i) 165KVA/135kW	No.	1.0		
7.2.5		Automatic Main Fails Switch-over Panel (1 Phase)				
		The complete supply and installation of AMF frame mounted complete with change-over contactors, mechanical interlocked, control unit, busbar, terminals and all material needed to complete the installation (As supplied from Generator manufacture), for the following:				
		a) 6KVA/6kW	No.	1.0		
		b) 9KVA/9kW	No.	1.0		
		c) 11KVA/11kW	No.	1.0		
7.2.6		Automatic Main Fails Switch-over Panel (3 Phase)				
		The complete supply and installation of AMF frame mounted complete with motorised switch, MCCB, control unit, busbar, terminals and all material needed to complete the installation (As supplied from Generator manufacture), for the following:				
		a) 18KVA/14.14kW	No.	1.0		
		b) 22KVA/17.6kW	No.	1.0		
		c) 44KVA/35kW	No.	1.0		
		d) 65KVA/53kW	No.	1.0		
		e) 88KVA/70.4kW	No.	1.0		
		f) 165KVA/135kW	No.	1.0		
		Diesel Fuel				
Total Carried Forward						

C2.2.50

SCHEDULE 7 : DIESEL ENGINES AND GENERATORS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
7.2.7		The supply and fill of fuel tank with Diesel, as specified. Generator Earth	lt	1 000.0		
7.2.8		The supply and installation of Generator LV-earthing, with 6m long, 35mm ² BCEW, connected to Gen earth, supply cable and one 1.5m earth spikes complete with Lugs, bolts, nuts, washers, clamps and the excavation with equipment needed to complete the installation. Testing, Inspection and Commissioning After installation is complete, test and commission of installation. Contractor to allow for factory and site inspections all travelling to commission and handover. As part of the testing to provided the topped-up diesel fuel after tests and commissioning. Supply maintenance and operational manual and electrical diagram drawings of the following Gen set. a) Supply all inspections, test and commissioning equipment to commission and handover the single Phase to the client. b) Supply all inspections, test and commissioning equipment to commission and handover the Three Phase to the client. c) The provision and delivery of a dummy load 6 - 11kWatt as part of the testing and commissioning to verify full load capacity. d) The provision and delivery of a dummy load 18 - 44kWatt as part of the testing and commissioning to verify full load capacity. e) The provision and delivery of a dummy load 88 - 165kWatt as part of the testing and commissioning to verify full load capacity.	No.	10.0		
			No.	3.0		
			No.	5.0		
			No.	1.0		
			No.	2.0		
7.2.9		Maintenance for one year	No.	2.0		
Total Carried Forward						

C2.2.51

SCHEDULE 7 : DIESEL ENGINES AND GENERATORS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
7.2.10		The contractor shall arrange with the supplier as per unit maintenance program for one year in which at least one monthly trip is provided for to service, check and maintain the unit. A service contract shall be provided which shall be agreed to by the council before it is finally accepted.				
		a) Single Phase Generation Unit: 6 - 11kWatt	p/m	12.0		
		b) Three Phase Generation Unit: 18-44kWatt	p/m	12.0		
		c) Three Phase Generation Unit: 88-165kWatt	p/m	12.0		
		Additional Items: (Supply details)				
		a)				
		b)				
		c)				
		SCHEDULE 8 : PUMPS				
Total Carried Forward To Summary						

C2.2.52

SCHEDULE 8 : PUMPS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
8.1		SCHEDULE 8 : PUMPS				
8.1.1	PB8	POSITIVE DISPLACEMENT PUMPS				
		Supply and delivery of heads and positive displacement pumps complete with pulleys between 190 mm and 460mm in size for the following duty points (all pumps with a maximum of 1500 Rpm):				
		Manufacturer : Mono (or similar approved)				
		a) BP 2 LM	No.	1.0		
		b) BP 2 M	No.	1.0		
		c) BP 2 MH	No.	1.0		
		d) BP 3 LM	No.	1.0		
		e) BP 3 MH	No.	1.0		
		f) BP 4 H	No.	1.0		
		g) BP 4 L	No.	1.0		
		h) BP 4 M	No.	3.0		
		i) BP 6 H	No.	2.0		
		j) BP 6 L	No.	1.0		
		k) BP 6 M	No.	5.0		
		l) BP 9 H	No.	1.0		
		m) BP 9 L	No.	1.0		
		n) BP 9 M	No.	5.0		
		o) BP 12 L	No.	1.0		
		p) BP 12 M	No.	5.0		
		q) BP 16 H	No.	1.0		
		r) BP 16 L	No.	1.0		
		s) BP 16 M	No.	2.0		
		t) BP 22 L	No.	1.0		
Total Carried Forward						

C2.2.53

SCHEDULE 8 : PUMPS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
8.1.2		u) BP 22 M	No.	2.0		
		v) BP 30 H	No.	1.0		
		w) BP 30 L	No.	1.0		
		x) BP 30 M	No.	1.0		
		y) BP 40 L	No.	1.0		
		z) BP 40 M	No.	1.0		
		aa) BP 50 M	No.	1.0		
		bb) BP 65 L	No.	1.0		
		cc) BP 85 M	No.	1.0		
		dd) BP 105 M	No.	1.0		
		Installation and commissioning of positive displacement pump heads and pumps complete with pulleys between 190 mm and 460 mm in size:				
		a) BP 2 LM	No.	1.0		
		b) BP 2 M	No.	1.0		
		c) BP 2 MH	No.	1.0		
		d) BP 3 LM	No.	1.0		
		e) BP 3 MH	No.	1.0		
		f) BP 4 H	No.	1.0		
		g) BP 4 L	No.	1.0		
		h) BP 4 M	No.	3.0		
		i) BP 6 H	No.	2.0		
		j) BP 6 L	No.	1.0		
		k) BP 6 M	No.	5.0		
		l) BP 9 H	No.	1.0		
		m) BP 9 L	No.	1.0		
Total Carried Forward						

C2.2.54

SCHEDULE 8 : PUMPS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
8.2	PD8.2	n) BP 9 M	No.	5.0		
		o) BP 12 L	No.	1.0		
		p) BP 12 M	No.	5.0		
		q) BP 16 H	No.	1.0		
		r) BP 16 L	No.	1.0		
		s) BP 16 M	No.	2.0		
		t) BP 22 L	No.	1.0		
		u) BP 22 M	No.	2.0		
		v) BP 30 H	No.	1.0		
		w) BP 30 L	No.	1.0		
		x) BP 30 M	No.	1.0		
		y) BP 40 L	No.	1.0		
		z) BP 40 M	No.	1.0		
		aa) BP 50 M	No.	1.0		
		bb) BP 65 L	No.	1.0		
		cc) BP 85 M	No.	1.0		
		dd) BP 105 M	No.	1.0		
			</			

C2.2.55

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE 8 : PUMPS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
8.3.1	PD10	Alternative 1 - Supply and installation of ancillary pipework and Mechanical equipment as described in particular specification PD 10 and detailed on Drawings No. JMRW-20/W/D/023 COMPLETE				
		a) 50 mm Ø piping	unit	15.0		
		b) 65 mm Ø piping	unit	7.0		
		c) 75 mm Ø piping	unit	4.0		
		d) 100 mm Ø piping	unit	3.0		
8.3.2	PD10	Alternative 2 - Supply and installation of ancillary pipework and mechanical equipment as described in PD10 and detailed on Drawing No. JMRW-20/W/D/024 COMPLETE				
		a) 50 mm Ø piping	unit	10.0		
		b) 65 mm Ø piping	unit	5.0		
		c) 75 mm Ø piping	unit	1.0		
		d) 100 mm Ø piping	unit	1.0		
8.4	PD9	SUBMERSIBLE PUMPS				
8.4.1		Supply and delivery of centrifugal submersible pumps with installation and adequate lightning protection for the following duty points:				
		Manufacturer : _____				
		a) Head = 33m Flow = 1,6m³/h (Model: _____)	No.	1.0		
		b) Head = 47m Flow = 1,6m³/h (Model: _____)	No.	1.0		
		c) Head = 98m Flow = 1,6m³/h (Model: _____)	No.	1.0		
		d) Head = 148m Flow = 1,6m³/h (Model: _____)	No.	1.0		
Total Carried Forward						

C2.2.56

SCHEDULE 8 : PUMPS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
8.4.2	PD9	e) Head = 35m Flow = 2,8m³/h (Model: _____)	No.	1.0		
		f) Head = 70m Flow = 2,8m³/h (Model: _____)	No.	1.0		
		g) Head = 140m Flow = 2,8m³/h (Model: _____)	No.	1.0		
		h) Head = 38m Flow = 4,8m³/h (Model: _____)	No.	1.0		
		i) Head = 40m Flow = 4,8m³/h (Model: _____)	No.	1.0		
		j) Head = 80m Flow = 4,8m³/h (Model: _____)	No.	1.0		
		k) Head = 100m Flow = 4,8m³/h (Model: _____)	No.	1.0		
		l) Head = 40m Flow = 9,0m³/h (Model: _____)	No.	1.0		
		m) Head = 55m Flow = 9,0m³/h (Model: _____)	No.	1.0		
		n) Head = 105m Flow = 9,0m³/h (Model: _____)	No.	1.0		
		Installation and commissioning of centrifugal submersible pumps of manufacturer in Item 8.4.11.				
		a) Head = 33m Flow = 1,6m³/h (Model: _____)	No.	1.0		
		b) Head = 47m Flow = 1,6m³/h (Model: _____)	No.	1.0		
		c) Head = 98m Flow = 1,6m³/h (Model: _____)	No.	1.0		
		d) Head = 148m Flow = 1,6m³/h (Model: _____)	No.	1.0		
		e) Head = 35m Flow = 2,8m³/h (Model: _____)	No.	1.0		
		f) Head = 70m Flow = 2,8m³/h (Model: _____)	No.	1.0		
Total Carried Forward						

C2.2.57

SCHEDULE 8 : PUMPS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
8.5		g) Head = 140m Flow = 2,8m³/h (Model: _____)	No.	1.0		
		h) Head = 38m Flow = 4,8m³/h (Model: _____)	No.	1.0		
		i) Head = 40m Flow = 4,8m³/h (Model: _____)	No.	1.0		
		j) Head = 80m Flow = 4,8m³/h (Model: _____)	No.	1.0		
		k) Head = 100m Flow = 4,8m³/h (Model: _____)	No.	1.0		
		l) Head = 40m Flow = 9,0m³/h (Model: _____)	No.	1.0		
		m) Head = 55m Flow = 9,0m³/h (Model: _____)	No.	1.0		
		n) Head = 105m Flow = 9,0m³/h (Model: _____)	No.	1.0		
8.5		Supply, delivery, installation and commissioning of submersible pump pipework (HDPE/10) and nylon rope (Electric cable measured under schedule 9) for :				
		a) 40 mm HDPE	m	40.0		
		b) 50 mm HDPE	m	40.0		
		c) 65 mm HDPE	m	40.0		
8.6		COMPLETE SUPPLY, DELIVERY & INSTALLATION OF:				
8.6.1		Baseplates				
		a) 40mm	No.	1.0		
		b) 50 mm	No.	1.0		
		c) 65 mm	No.	1.0		
8.7		MISCELLANEOUS				
8.7.1		Piezometer Tubes				
Total Carried Forward						

C2.2.58

SCHEDULE 8 : PUMPS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
8.7.2		Supply, deliver and install piezometer tubes in the boreholes. The tubes will consist of 25mm LDPE Class 6 pipe strapped to the pipework of the borehole equipment (See detailed Drawing No. 2020-0/W/D/011)	m	2 000.0		
		Water Level Meters				
		Supply and delivery of water level meters at Sedibeng Water office. The water level meter of the analogue type with non-stretching 2 core. Cabling on reel, pre-marked at 1m intervals with two brass weights (5mm and 10mm)				
8.7.3		a) 100m	No.	5.0		
		Borehole information plate				
		a) Supply, deliver and install the borehole information plate as per drawing No. JMRW-20/W/D/012 (Information plate to be fixed inside the pumphouse)	No	15.0		
		b) Supply, deliver and install the borehole information plate as per drawing No. JMRW-20/W/D/012 (Information plate to be fixed on the outside of the pumphouse)	No	15.0		
Total Carried Forward To Summary						

C2.2.59

SCHEDULE 9 : ELECTRICAL WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
9.		SCHEDULE 9 : ELECTRICAL WORK				
		ELECTRICAL WORK - LV INSTALLATION				
		Note: All items to include for supply, design manufacture, delivery, installation, commissioning and maintenance as per specifications				
9.1	PE 3	ELECTRICAL MOTORS				
9.1.1		Supply and deliver electrical motors complete with pulleys, fan belts, wire guards, belt guards, brackets and required spacers in the following types:				
		Manufacturer: _____				
9.1.1.1		Single phase with D.O.L starting				
		a) 0,55 kW (Model: _____)	No.	1.0		
		b) 0,75 kW (Model: _____)	No.	1.0		
		c) 1,1 kW (Model: _____)	No.	1.0		
		d) 1,5 kW (Model: _____)	No.	1.0		
		e) 2,2 kW (Model: _____)	No.	2.0		
		f) 3,0 kW (Model: _____)	No.	1.0		
9.1.1.2		Three phase with D.O.L starting				
		a) 2,2 kW (Model: _____)	No.	2.0		
		b) 3,0 kW (Model: _____)	No.	2.0		
		c) 4,0 kW (Model: _____)	No.	3.0		
		d) 5,5 kW (Model: _____)	No.	3.0		
		e) 7,5 kW (Model: _____)	No.	2.0		
		f) 11,0 kW (Model: _____)	No.	1.0		
9.1.1.3		Three phase with star-delta starting				
		a) 15,0 kW (Model: _____)	No.	1.0		
		b) 18,5 kW (Model: _____)	No.	1.0		
Total Carried Forward						

C2.2.60

SCHEDULE 9 : ELECTRICAL WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
9.1.2		c) 22,0 kW (Model: _____) Install and commission electrical motors complete with pulleys, fan belts,wire gaurds and required spacers in the following types: Manufacturer as in Item 9.1.1	No	1.0		
9.1.2.1		Single phase with D.O.L starting				
		a) 0,55 kW	No.	1.0		
		b) 0,75 kW	No.	1.0		
		c) 1,1 kW	No.	1.0		
		d) 1,5 kW	No.	1.0		
		e) 2,2 kW	No.	2.0		
		f) 3,0 kW	No.	1.0		
9.1.2.2		Three phase with D.O.L starting				
		a) 2,2 kW	No.	2.0		
		b) 3,0 kW	No.	2.0		
		c) 4,0 kW	No.	3.0		
		d) 5,5 kW	No.	3.0		
		e) 7,5 kW	No.	2.0		
		f) 11,0 kW	No	1.0		
9.1.2.3		Three phase with star-delta starting				
		a) 15,0 kW	No.	1.0		
		b) 18,5 kW	No.	1.0		
		c) 22,0 kW	No	1.0		
9.1.3	PEB 14	LOW VOLTAGE CABLES The supply and installation of stranded copper cables installed in cable trenches, on cable racks or trays or fixed to steel structure.Prices to include for terminations and all fixing materials.				
Total Carried Forward						

C2.2.61

SCHEDULE 9 : ELECTRICAL WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
9.1.3.1 9.1.3.2 9.1.3.3 9.1.3.4 9.1.3.5 9.1.4 9.1.4.1	EB 25	Supply Cable from Eskom Metering Kiosk to MCC's				
		a) 6 mm² x 4 core	m	125.0		
		b) 10 mm² x 4 core	m	100.0		
		c) 16 mm² x 4 core	m	175.0		
		Supply Cable from MCC to Pump motor				
		a) 4 mm² x 3 core	m	50.0		
		b) 6 mm² x 3 core	m	125.0		
		c) 10 mm² x 3 core	m	20.0		
		d) 16 mm² x 3 core	m	20.0		
		Supply Submersible Cable from MCC to Pump motor				
		a) 4 mm² x 3 core	m	100.0		
		b) 6 mm² x 3 core	m	100.0		
		c) 10 mm² x 3 core	m	100.0		
		Control Cable from MCC to Reservoir				
		a) 2.5 mm² x 4 core	m	50.0		
		Control Cables to Protection Instruments				
		a) 1.5 mm² x 3 core	m	150.0		
		EARTH CONDUCTORS				
		The supply and installation of bare stranded copper conductors installed in the same route as the cables including terminations				
		a) 4 mm²	m	275.0		
		b) 6 mm²	m	100.0		
		c) 10 mm²	m	225.0		
		d) 16 mm²	m	30.0		
		e) 70 mm²	m	20.0		
		Total Carried Forward				

C2.2.62

SCHEDULE 9 : ELECTRICAL WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
9.1.4.2	PE 12	The supply and installation of a 1.5m Earth rod with clamps	No.	20.0		
9.1.5		CABLE TRENCH EXCAVATION				
9.1.5.1		Excavations of cable trenches, bedding, backfilling compacting and making good of cable trenches in:				
		a) Soft excavation 0-1 m deep	m³	100.0		
		b) Extra over (for intermediate excavation)	m³	50.0		
		c) Extra over (for hardrock excavation	m³	50.0		
9.1.6		MOTOR CONTROL CENTRES				
9.1.6.1		TYPE ONE				
		Supply, delivery, installation and commissioning of the following distribution boards/MCC's, complete with all telemetry, plc equipment, internal wiring, labels etc. as specified and shown on drawings including earth and conduit terminations but excluding cable terminations. Including fixing materials to install MCC on pedestal in pumphouse				
9.1.6.1.1		Single phase with D.O.L. starting				
		a) 1,1 kW	No	1.0		
		b) 1,5 kW	No	1.0		
		c) 2,2 kW	No	2.0		
		d) 3,0 kW	No	1.0		
9.1.6.1.2		Three phase with D.O.L. starting				
		a) 2,2 kW	No	2.0		
		b) 3,0 kW	No	2.0		
	c) 4,0 kW	No	3.0			
	d) 5,5 kW	No	3.0			
	e) 7,5 kW	No	2.0			
Total Carried Forward						

C2.2.63

SCHEDULE 9 : ELECTRICAL WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
9.1.6.1.3		f) 11,0 kW Three phase with star-delta starting	No	1.0		
		a) 15,0 kW	No	1.0		
		b) 18,5 kW	No	1.0		
		c) 22 kW	No	1.0		
9.1.6.2		TYPE TWO Supply and installation of MCC's complete with all equipment, internal wiring, labels, protection equipment and earthing for the following kW ratings. Including fixing materials to install MCC on pedestal in pumphouse.				
9.1.6.2.1		Single phase with D.O.L starting				
		a) 1,1 kW	No.	1.0		
		b) 1,5 kW	No.	1.0		
		c) 2,2 kW	No.	2.0		
		d) 3,0 kW	No.	1.0		
9.1.6.2.2		Three phase with D.O.L starting				
		a) 2,2 kW	No.	2.0		
		b) 3,0 kW	No.	2.0		
		c) 4,0 kW	No.	3.0		
		d) 5,5 kW	No.	3.0		
		e) 7,5 kW	No.	2.0		
		f) 11,0 kW	No	1.0		
9.1.6.2.3		Three phase with star-delta starting				
		a) 15,0 kW	No.	1.0		
		b) 18,5 kW	No.	1.0		
		c) 22,0 kW	No.	1.0		
Total Carried Forward						

C2.2.64

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE 9 : ELECTRICAL WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
9.1.7		LOCKS				
9.1.7.1		Supply and installation of No. 2 locks.				
		No. 2 Locks	No	50.0		
9.1.8		GENERAL ELECTRICAL INSTALLATION				
9.1.8.1		Conduit				
		The supply and installation of heavy gauge galvanised conduit complete with draw boxes and accessories surface mounted.				
		i) 20mm dia	m	150.0		
		ii) 25mm dia	m	150.0		
		The supply and installation of PVC conduit complete with fixing materials surface mounted				
		32mm dia	m	150.0		
9.1.8.2		Conductors and Earth Conductors				
		The supply and installation of PVC insulated copper conductors drawn into conduit.				
		i) 2,5mm.sq PVC wire	m	300.0		
		ii) 2,5mm.sq earth conductor	m	300.0		
9.1.8.3		Light Switches				
		The supply and installation industrial type, surface mounted light switches complete with outlet boxes.				
		i) 16A, one lever, one way, waterproof light switch	No	10.0		
9.1.8.4	PE9	Luminaries				
		The supply and installation of 1500mm fluorescent waterproof light fitting including lamps, control gear and fixing materials as specified.				
		Fluorescent 1500mm light fitting	No	10.0		
Total Carried Forward						

C2.2.65

SCHEDULE 9 : ELECTRICAL WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
9.1.8.5		Flow Switches The supply and installation of Flow Switches installed in steel pipe. The rate shall include for reduction of pipe work where required.				
		Flow Switch	No.	10.0		
9.1.8.6		Pressure Gauge The supply, installation, calibration and commissioning of pressure gauges as specified Type Wika complete with macrolon contacts, snubber and shut-off valve installed onto stainless steel nipple.				
		0 - 1600 kPa	No	5.0		
		0 - 1000 kPa	No	5.0		
9.1.9		LEVEL TRANSMITTER RESERVOIR LEVELS				
9.1.9.1		Boll level switch 10A with relay	No.	5.0		
9.1.10		TERMINATION, CABLE AND WIRING NUMBERS				
9.1.10.1		Allow under this item for wire, cable and termination numbering not allowed for elsewhere per MCC	No	20.0		
9.1.11		MEDIUM DUTY GAL. WIRE MESH TRAY Supply and installation of medium duty cable tray complete with bends, corners, T-pieces and fixing materials				
9.1.11.1		150mm	m	185.0		
9.1.12		INSTRUMENTATION STAND PIPE Supply and installation of instrumentation stand pipe to accommodate Wika pressure gauge. Including 3m 10mm stainless steel piping	No	5.0		
9.1.13		DOUBLE POLE ISOLATER				
Total Carried Forward						

C2.2.66

SCHEDULE 9 : ELECTRICAL WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
9.1.13.1		Supply and installation of double pole isolator 16 Amp Type GEWEISS GW 70431	No	5.0		
9.1.14		WELDING SOCKET OUTLET				
9.1.14.1		Supply and installation of Waco 32 Amp 5-Pin welding outlet	No	4.0		
9.1.15		FAN / FILTER UNIT Supply and installation of fan / filter unit type Freudenberg Varivent FK5G	No	4.0		
9.1.16		SMALL POWER INSTALLATION				
9.1.16.1		Supply and installation of 16 Amp switch socket outlet, surface mounted.	No	15.0		
9.1.16.2		Supply and installation of light switch, 1 lever surface mounted.	No	15.0		
9.1.16.3		Supply and installation of power point complete with galv. conduit and GP wiring. a.) Light switch and light point 1.5mm ² GP wire. b.) SSO point 2.5mm ² GP wire. c.) Welding plug point 6mm ² GP wire.	No. No. No.	15.0 15.0 2.0		
9.1.16.4		Light fitting, 2PL 18Watt Bulkhead, Beka.	No.	15.0		
9.1.17		DRAWINGS				
9.1.17.1		Work drawings of all MCC's and equipment for approval by the Engineer.	L/Sum	1.0		
9.1.17.2		The supply of As-build drawings in electronic format (Autocad) DXF files. Amount is per installation.	No.	25.0		
9.1.18		GENERAL a) Electrical spares per borehole installation	No.	25.0		
Total Carried Forward						

C2.2.67

SCHEDULE 9 : ELECTRICAL WORK

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
		b) Operation and maintenance manuals including circuit diagrams (3 sets) per borehole installation measured under Schedule 8	No.	25.0		
		c) All items and labour necessary to complete test and commission the complete electrical installation including the issuing of all relevant test certificates and the certificate of compliance. Per borehole)	No	25.0		
Total Carried Forward To Summary						

C2.2.68

SCHEDULE 10 : EMERGENCY MAINTENANCE

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
10.1		SCHEDULE 10 : EMERGENCY MAINTENANCE Removal of Existing Equipment Rates : Rates tendered for the removal of existing equipment on boreholes must make provision for the following : a) Complete dismantling of equipment b) Transport of equipment to the Closes Water Service Provider's yard. c) Off-loading of equipment at the Water Service Provider yard.				
10.1.1		a) Removal of existing handpump equipment	No.	1.0		
		b) Extra-over item 10.1.1 (a) for the additional effort related to the depth of the Borehole to remove existing pumping equipment	m	50.0		
10.1.2		a) Removal of existing windmill equipment	No.	1.0		
		b) Extra-over item 10.1.2 (a) for the additional effort related to the depth of the Borehole to remove existing pumping equipment	m	50.0		
10.1.3		a) Removal of existing motorised equipment	No.	10.0		
		b) Extra-over item 10.1.3 (a) for the additional effort related to the depth of the Borehole to remove existing pumping equipment	m	400.0		
10.1.4		Removal of an existing standard pumphouse	No.	10.0		
10.1.5		Re-erection of the original standard pumphouse	No.	5.0		
10.1.6		Removal of and existing tank and tankstand complete with concrete base	No.	5.0		
10.1.7		Removal of existing Lister engine	No.	10.0		
10.1.8		Complete removal of standard standpipe and disposal of concrete.	No.	75.0		
Total Carried Forward						

C2.2.69

SCHEDULE 10 : EMERGENCY MAINTENANCE

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
10.2		Other Emergency Maintenance (Only on instruction from Engineer)				
10.2.1		Replacing of 10kl Leaking Tanks complete, (including green polypropylene tank and the dismantle and reinstatement of tank pipework).	No.	15.0		
10.2.2		The complete replacement of diesel engine concrete pumphouse foundations including the dismantle and disposal of the existing concrete base.	No.	25.0		
Total Carried Forward To Summary						

C2.2.70

SCHEDULE 11 : PUMPHOUSES

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
11.1		SCHEDULE 11 : PUMPHOUSES				
11.1.1		PUMPHOUSES				
		Complete manufacture and delivery to site of pumphouse complete including welded borehole number on 5 x 50 x 400mm Flat bar.				
		a) As per Drawing No. JMRW-20/W/D/025	No.	8.0		
		b) As per Drawing No. JMRW-20/W/D/027	No.	5.0		
11.1.2		Complete construction of appurtenant concrete work for pumphouses :				
		a) As per Drawing No. JMRW-20/W/D/025 & 028 (Diesel Unit)	No.	4.0		
		b) As per Drawing No. JMRW-20/W/D/025 (Electrical Unit)	No.	4.0		
		c) As per Drawing No. JMRW-20/W/D/027 & 028	No.	5.0		
11.1.3		Complete erection of pumphouses :				
		a) As per Drawing No. JMRW-20/W/D/025	No.	8.0		
		b) As per Drawing No. JMRW-20/W/D/027	No.	5.0		
11.2	PB	SECURITY FENCING				
11.2.1		Supply and erect fencing complete as per Drawing No. JMRW-20/F/D/001				
		a) Corner posts	No.	52.0		
		b) Intermediate posts	No.	78.0		
		c) Gate posts	No.	26.0		
		d) Double gate 3,6m total width, with locking chain, hinges and drop bolts.	No.	13.0		
		e) Razor mesh with wires	m	416.0		
		f) Cast-insitu Concrete Class 15/19 (200 x 200 mm) around fence	m	416.0		
11.2.2		Concrete Palisades				
Total Carried Forward						

C2.2.71

SCHEDULE 11 : PUMPHOUSES

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
		a) Supply all material and erect 1.8m high concrete palisade fence complete with rails, poles and foundation to supplier/manufacturer's specifications.	m	100.0		
		b) Supply and install gates as per dwg JMRW-20/F/D/002				
		i) Vehicle gate	No.	1.0		
		ii) Personnel gate	No.	1.0		
Total Carried Forward To Summary						

C2.2.72

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE 12: HEALTH AND SAFETY

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
12.1	PHS	SCHEDULE 12: HEALTH AND SAFETY				
12.1.1		NOTIFICATION OF CONTRUCTION WORK				
12.1.1.1		Allow for the cost of notification of construction work by the Principal Contractor.	Sum	1.0		
12.2		HEALTH AND SAFETY PLAN				
12.2.1		Allow for the cost of setting up a Health and Safety Plan as required in the specifications for the Principal Contractor. (To be approved by Agent before commencement of work.)	No.	1.0		
12.2.2		Allow for the cost of setting up a Health and Safety Plan as required in the specifications for each sub-contractor appointed by the Principal Contractor.	No.	2.0		
12.2.3		Overheads, charges and profit on Item 12.2.2.	%		10.00	
12.3		HEALTH AND SAFETY MAIN FILE				
12.3.1		Allow for the cost to compile a health and safety file to include all the required supporting documentation as follows: (NOT TO BE REMOVED FROM SITE)				
		(All files shall be lever arch files with original colour document of acceptable standards including dividers. Emergency numbers to be displayed on the back of the file. The file will be expanded during the project as and when required by the client.)				
		Copy of H&S Act				
		Proof of registration with COID Insurer				
		Notification of construction work				
		Mandatory agreement				
		H&S Specification provided by client				
		Copy of tender document, drawings etc				
		Company Safety Policy to be signed by CEO				
Total Carried Forward						

C2.2.73

SCHEDULE 12: HEALTH AND SAFETY

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
12.3.2		Company organogramme with respect to H&S on specific sites.				
		Letters of appointment for specific site				
		List of sub-contractors				
		Evacuation plan				
12.3.2		Risk assessments and method statements				
		Safe work procedures and material safety data sheets				
		Fall protection plan				
		Incident recordings				
12.3.2		Medical records				
		Minutes of H&S meetings	Sum	1.0		
		Allow for the cost of compiling a Health and Safety file for each sub-contractor including all the applicable supporting documentation as for the Principal Contractor. (NOT TO BE REMOVED FROM SITE)	No.	2.0		
		(All files shall be lever arch files with original colour document of acceptable standards including dividers. Emergency numbers to be displayed on the back of the file. The file will be expanded during the project as and when required by the client.)				
12.3.3		Overheads, charges and profit on Item 12.3.2	%		10.00	
12.4		HEALTH AND SAFETY REGISTER FILE				
12.4.1		Allow for the cost to compile a health and safety Register file to include all the required Registers.	Sum	1.0		
12.4.2		Allow for the cost of compiling a Health and Safety Register file for each sub-contractor including all the applicable supporting documentation as for the Principal Contractor.	No.	2.0		
Total Carried Forward						

C2.2.74

SCHEDULE 12: HEALTH AND SAFETY

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
12.4.3		Overheads, charges and profit on Item 12.4.2	%		10.00	
12.5		HEALTH AND SAFETY TRAINING FILE				
12.5.1		Allow for the cost to compile a health and safety Register file to include all the required Training material.	Sum	1.0		
12.5.2		Allow for the cost of compiling a Health and Safety Register file for each sub-contractor including all the applicable supporting documentation as for the Principal Contractor.	No.	2.0		
12.5.3		Overheads, charges and profit on Item 12.5.2	%		10.00	
12.6		SERVICE PROVIDER APPOINTMENTS				
12.6.1		Allow for the appointment of a SHE Coordinator to do monthly inspections. (Control on SHE Representative)	month	36.0		
12.6.2		Allow for the appointment of a H&S trainer to train the SHE representative.	Sum	1.0		
12.7		TRAINING OF SITE				
		Allow for the cost of training courses:				
12.7.1		Induction training for all workers of Principal Contractor.	No.	1.0		
12.7.2		Induction training for all workers of sub-contractors.	No.	1.0		
12.7.3		Public awareness training	No.	1.0		
12.7.4		Tool box talks on environmental awareness	No.	1.0		
12.7.5		First aid training	No.	1.0		
12.7.6		Firefighting awareness	No.	1.0		
12.7.7		HIV training - 7 Units	No.	7.0		
12.7.8		Tool box talks on hand tools	No.	1.0		
12.7.9		Tool box talks on hand tool accidents	No.	1.0		
Total Carried Forward						

C2.2.75

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE 12: HEALTH AND SAFETY

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
12.7.10		Tool box talks on machine guarding	No.	1.0		
12.7.11		Tool box talks on lifting materials by hand	No.	1.0		
12.7.12		Tool box talks on safe loading	No.	1.0		
12.7.13		Tool box talks on safety signs	No.	1.0		
12.7.14		Tool box talks on ten commandments of safety	No.	1.0		
12.7.15		Community training	No.	1.0		
12.8		ACCREDITED TRAINING OFF SITE				
12.8.1		Training on construction vehicles and mobile plant for each Operator.	No.	12.0		
12.8.2		First aid Level 1	No.	4.0		
12.8.3		Firefighting Level 1	No.	4.0		
12.8.4		SHE representative Certificate	No.	2.0		
12.8.5		Incident management Certificate	No.	2.0		
12.8.6		Risk assessment Certificate	No.	2.0		
12.8.7		COID Act Certificate	No.	2.0		
12.8.8		Scaffold erector training	No.	2.0		
12.9		SHE REPRESENTATIVE				
12.9.1		Allow for the cost of a SHE representative to be permanently on site (for Principal Contractor).	month	36.0		
12.10		FIRST AID EQUIPMENT				
12.10.1		First aid box	No.	1.0		
12.10.2		First aid boxes for sub-contractor	No.	3.0		
12.10.3		Stretcher	No.	1.0		
12.11		FIRE FIGHTING EQUIPMENT				
		Allow for the cost of:				
12.11.1		Fire extinguishers	No.	6.0		
Total Carried Forward						

C2.2.76

SCHEDULE 12: HEALTH AND SAFETY

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
12.11.2		Fire extinguishers of sub-contractors	No.	6.0		
12.11.3		Fire extinguishers test certificates	No.	12.0		
12.12		PERSONNEL PROTECTIVE CLOTHING				
		Allow for the cost of:				
12.12.1		Hardhats	No.	250.0		
12.12.2		Safety shoes	No.	250.0		
12.12.3		Dust masks	No.	2 850.0		
12.12.4		Safety goggles	No.	70.0		
12.12.5		Gum boots	No.	25.0		
12.12.6		Welding helmet	No.	5.0		
12.12.7		Gas Welding goggles	No.	5.0		
12.12.8		Leather aprons	No.	5.0		
12.12.9		Overalls	No.	250.0		
12.13		BARRICADING				
		Allow for the cost of barricading of excavations as instructed by Agent				
12.13.1		Danger tape	m	7 000.0		
12.13.2		1.2m Dayglo Mesh	m	1 000.0		
12.14		CHEMICAL TOILETS				
		Allow for chemical toilets on site as required by the specification				
12.14.1		For male workers	No.	2.0		
12.14.2		For female workers	No.	1.0		
12.15		EATING FACILITIES				
12.15.1		Allow for eating facilities in the form of a shaded net, table and chairs.	No.	1.0		
12.16		SIGNS				
Total Carried Forward						

C2.2.77

SCHEDULE 12: HEALTH AND SAFETY

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (POUNDS)
Brought Forward						
		Allow for sign boards to be displayed on site as required				
12.16.1		No entry signs	No.	4.0		
12.16.2		First aid signs	No.	1.0		
12.16.3		Fire equipment signs	No.	3.0		
12.16.4		Warning signs (Construction area boards)	No.	3.0		
12.16.5		Traffic control boards	No.	8.0		
12.17		MEDICAL TESTS				
		Allow for medical tests for workers as required				
12.17.1		Medical fitness tests for operators on construction vehicles	No.	7.0		
12.17.2		Fitness tests for workers at heights	No.	10.0		
12.17.3		Fitness tests for general workers	No.	100.0		
12.18		LOAD TESTING ON CRANES				
12.18.1		Allow for load testing of cranes to be used on site	No.	1.0		
Total Carried Forward To Summary						

C2.2.78

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Joe Morolong Local Municipality

BID NO: B215-2021

**Panel of Contractors for the Provision of Construction of Water Storage
Reticulation and Equipping of Borehole Services for Rural Water
Projects (3 Years Period) (Re-Advert)**

PORTION 2: THE CONTRACT

SECTION C2.3 Summary of Schedule of Rates

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Section C2.3: Summary of Schedules

SECTION NO	DESCRIPTION	AMOUNT Rand
SCHEDULE 1 :	GENERAL	
SCHEDULE 2 :	DAYWORKS	
SCHEDULE 3 :	PIPE WORK	
SCHEDULE 4 :	HANDPUMPS	
SCHEDULE 5 :	WINDMILLS	
SCHEDULE 6 :	ELEVATED TANKS	
SCHEDULE 7 :	DIESEL ENGINES AND GENERATORS	
SCHEDULE 8 :	PUMPS	
SCHEDULE 9 :	ELECTRICAL WORK	
SCHEDULE 10 :	EMERGENCY MAINTENANCE	
SCHEDULE 11 :	PUMPHOUSES	
SCHEDULE 12 :	HEALTH AND SAFETY	
	SUB-TOTAL Add 10 % Contingencies SUB-TOTAL Add VAT (15%)	
	TOTAL (INCL VAT)	R

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

JOE MOROLONG LOCAL MUNICIPALITY

BID NO : B215-2021

**Panel of Contractors for the Provision of Construction of Water
Storage Reticulation and Equipping of Borehole Services for Rural
Water Projects (3 Years Period) (Re-Advert)**

PORTION 2: THE CONTRACT

PART C3

SCOPE OF WORK

**Specifies and describes the supplies, services, or
engineering and construction works which are to be
provided and any other requirements and
constraints relating to the manner in which the
contract work is to be performed**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CONTENTS LIST

Section	Description
Section C3.1	Description of the Works
Section C3.1.1	Employer's Objectives
Section C3.1.2	Overview of the Works
Section C3.1.3	Location of the Works
Section C3.2	Engineering
Section C3.2.1	Employer's Design
Section C3.2.2	Drawings
Section C3.3	Procurement
Section C3.3.1	Reconstruction and Development Programme
Section C3.3.2	Labour and Personnel
Section C3.4	Construction
Section C3.4.1	Standard Specifications
Section C3.4.2	Variations and Additions to Standard and Particular Specifications
Section C3.4.3	Particular Specifications
Section C3.5	Management
Section C3.5.1	Management of the Works
Section C3.5.2	Occupational Health and Safety Specification

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C3.1: DESCRIPTION OF WORKS

C3.1.1 EMPLOYERS OBJECTIVES

Bids are invited for the equipping of boreholes and the execution of associated civil engineering works as part of the Joe Morolong Local Municipality's Rural Water Supply Programme. Prospective tenderers must take note of the fact that the contract will be executed on the basis of a "Schedule of Rates" contract. The contract entered into between the Client and Contractor shall be binding on a year to year basis over the period of 3 years, from the date of appointment of the Contractor. Joe Morolong Local Municipality will be appointing **two** contractors for this programme – one per area as shown on the locality map. See volume 2 of tender document.

C3.1.2 OVERVIEW OF THE WORKS

This contract comprises the equipping of boreholes and appurtenant civil engineering work in five Local Municipalities of the North-West Province, which will form part of the Joe Morolong Local Municipality's Rural Water Supply Programme. Details of the Works are included in Clause C3.1.3 hereof. The works will be executed by means of "mechanical" and/or "labour intensive" methods.

The works to be executed under this contract consists of the following:

- (i) Equipping of tested boreholes with pumps and power units as detailed in the document.
- (ii) Erection of pump houses and appurtenant works.
- (iii) Construction of rudimentary water distribution systems.
- (iv) Construction of secondary reticulation systems.
- (v) Construction/erection of storage facilities associated with (iii) above.
- (vi) Perform emergency maintenance / refurbishment on instruction.

C3.1.3 EXTENT OF THE WORKS

The work required to be done entails the following:

- (i) Establishment of the Contractor's base camp or depot and establishment of the Contractor's camp in each community where work to be carried out.
- (ii) Limited site clearance and earthworks (if necessary) to accommodate the borehole equipment and pipework. (Only on instruction of the Employer's Agent or his Representative).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (iii) Equipping of boreholes with pumps and power units as specified by the Employer's Agent (e.g. hand pumps, windmills, submersible, positive displacement or solar powered units).
- (iv) Construction of structural steel, IBR clad pump houses and/or pre-cast concrete pump house structures.
- (v) Concrete work associated with the above-mentioned equipment.
- (vi) Electrical work associated with the installation of pumping equipment.
- (vii) Pipe work associated with the installation of pumping equipment.
- (viii) Construction of elevated tank stands and tank footings, erection of pressed steel and/or polypropylene tanks and appurtenant pipe work.
- (ix) Construction of pipe work for rudimentary water distribution systems.
- (x) Construction of pipe work for secondary water reticulations and house connections.
- (xi) Construction of rudimentary draw-offs.
- (xii) Installation of piezometer tubes for monitoring static water levels.
- (xiii) Supply of water level meters associated with (xii) above.
- (xiv) Commissioning of the works on completion.
- (xv) Maintenance of the works for a period of 12 months.
- (xv) Perform emergency maintenance / refurbishment related to all of the above for existing infrastructure. This will be done on instruction only. On instruction, inspection of the set infrastructure will be done. Assessment inclusive of costs will be presented to the Client/Employer's Agent for approval.

NOTE: No additional site movement will be payable for such instruction. Items not in the Schedule of Rates will be claimed under Item 1.3.1 Dayworks Materials (see PSA11.3) and all labour and transport costs will be handled under Schedule 2: Dayworks (see C3.5.1.11).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C3.1.4 LOCATION OF THE WORKS

Works under this programme are to be executed in the Northern Cape Province and more specifically, in the Joe Morolong Local Municipality's area of jurisdiction. The municipality intends to appoint more than one contractor on the programme. Work instructions will be issued to contractors and can include any villages throughout the operation area of the Joe Morolong Local Municipality.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C3.2: ENGINEERING

C3.2.1 EMPLOYERS DESIGN

The permanent works included in this contract has been designed by the Employer unless otherwise stated. The detail of the works is indicated on the drawings and in the specifications. The Bidder may submit alternative offers for designs prepared by himself subject to the conditions specified in Clause 2.12 of Section T1.6 of the Standard Conditions of Tender.

C3.2.2 DRAWINGS

Drawings are bound in Section C3.2A. A drawing list is included in Section C3.2A.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



JOE MOROLONG LOCAL MUNICIPALITY
RURAL WATER SUPPLY PROGRAMME
TENDER DRAWINGS
VOLUME 2
CONTRACT NUMBER: B202-2020
OCTOBER 2020

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

VERSION	DRAWING NUMBER	DRAWING DESCRIPTION
GENERAL		
1.0	JMRW-20/G/A/001	PROJECT DRAWING INDEX
1.0	JMRW-20/G/D/001	PROJECT NAME BOARD
1.0	JMRW-20/G/P/001	REGIONAL LOCALITY MAP
CIVIL & MECHANICAL		
1.0	JMRW-20/F/D/001	SECURITY FENCING (WELDED RAZOR MESH, DIAMOND MESH AND FLAT WRAP)
1.0	JMRW-20/F/D/002	PAUSADE FENCING DETAIL
1.0	JMRW-20/W/D/001	PIPE BEDDING DETAILS: RIGID PIPES CLASS A, B, C AND D
1.0	JMRW-20/W/D/002	TYPICAL EXCAVATION AND BACKFILL DETAILS FOR WATER PRESSURE PIPES
1.0	JMRW-20/W/D/003	TYPICAL UNDERDRAIN DETAILS FOR WATER TRENCHES
1.0	JMRW-20/W/D/004	DETAIL OF BACKFILLING PRIOR TO THE TESTING OF PIPES
1.0	JMRW-20/W/D/005	THRUST BLOCK DETAILS AND GRAPH
1.0	JMRW-20/W/D/006	WATER PIPE LINE MARKERS
1.0	JMRW-20/W/D/007	TYPICAL VALVE CHAMBER FOR PIPES 160mm DIAMETER - 300mm DIAMETER
1.0	JMRW-20/W/D/008	TYPICAL VALVE CHAMBER FOR PIPES 50mm DIAMETER - 110mm DIAMETER
1.0	JMRW-20/W/D/009	TYPICAL DETAILS AIR BREATHER AND ACCESS LADDER
1.0	JMRW-20/W/D/010	MANHOLE LOCKING DEVICE AND COVER SLAB LIFTING HOOK DETAILS
1.0	JMRW-20/W/D/011	PIEZOMETER TUBE (FASTENING DETAILS TO PUMP BASE PLATE)
1.0	JMRW-20/W/D/012	TYPICAL EXAMPLE OF BOREHOLE PUMPSTATION EQUIPMENT INVENTORY
1.0	JMRW-20/W/D/013	TYPICAL SLEEVE PIPE DETAILS
1.0	JMRW-20/W/D/014	CONCRETE ENCASEMENT OF PRESSURE PIPES (uPVC)
1.0	JMRW-20/W/D/015	TYPICAL SCOUR VALVE DETAILS FOR PIPES 63mmØ - 90mmØ
1.0	JMRW-20/W/D/017	AIR VALVE ASSEMBLY AND CHAMBER DETAIL FOR 50 ND AIR VALVES UP TO 450mm DIA. PIPE
1.0	JMRW-20/W/D/018	TYPICAL DETAIL OF GARDEN TAP (HPDE) WITH APRON
1.0	JMRW-20/W/D/019	TYPICAL PRE-PAID STANDPIPE INSTALLATION DETAIL
1.0	JMRW-20/W/D/020	STANDPIPE SUPPLY (ONE TO FOUR OUTLETS) AND DRAW-OFF CONNECTIONS
1.0	JMRW-20/W/D/021	RUDIMENTARY DRAW-OFF INSTALLATION FOR 5 TO 10 TAPS WITH FLOW METER
1.0	JMRW-20/W/D/022	NOTES ON MANHOLES & ACCESSORIES & NOTES ON EXCAVATION, PREPARATION & BACKFILLING OF PIPE TRENCHES
1.0	JMRW-20/W/D/023	TYPICAL BOREHOLE PUMP INSTALLATION AND DISCHARGE ARRANGEMENT FOR ELECTRICAL UNITS (SEDIBENG STANDARDS)
1.0	JMRW-20/W/D/024	TYPICAL BOREHOLE PUMP INSTALLATION AND DISCHARGE ARRANGEMENT FOR DIESEL UNITS
1.0	JMRW-20/W/D/025	PUMP HOUSE DETAILS DIESEL AND ELECTRICAL UNITS
1.0	JMRW-20/W/D/026	TYPICAL DETAILS OF PUMP HOUSE GANTRY
1.0	JMRW-20/W/D/027	PRE-CAST PUMP HOUSE LAYOUT AND DETAILS FOR BOREHOLES
1.0	JMRW-20/W/D/028	PUMP HOUSE DIESEL UNITS PUMP PUNTH CONCRETE AND REINFORCEMENT DETAILS
1.0	JMRW-20/W/D/029	TYPICAL FIRE HYDRANT INSTALLATION
1.0	JMRW-20/W/D/030	TANK BASE FOUNDATION DETAIL FOR SINGLE TOWER
1.0	JMRW-20/W/D/031	TYPICAL ACCESS LADDER DETAILS
1.0	JMRW-20/W/D/032	TYPICAL ENCLOSURE FOR CHLORINATION UNIT LAYOUT AND DETAILS
ELECTRICAL		
1.0	JMRW-20/E/DT1/001	MOTOR CONTROL CENTRE GENERAL LAYOUT TYPE 1
1.0	JMRW-20/E/DT1/002	MOTOR CONTROL CENTRE EQUIPMENT LAYOUT TYPE 1
1.0	JMRW-20/E/DT1/003	MOTOR CONTROL CENTRE SINGLE LINE DIAGRAM TYPE 1
1.0	JMRW-20/E/DT1/004	MOTOR CONTROL CENTRE SINGLE LINE DIAGRAM CONTROL TYPE 1
1.0	JMRW-20/E/DT1/005	MOTOR CONTROL CENTRE POWER DISTRIBUTION TYPE 1
1.0	JMRW-20/E/DT1/006	MOTOR CONTROL CENTRE INSTRUMENT WIRING LAYOUT TYPE 1
1.0	JMRW-20/E/DT1/007	MOTOR CONTROL CENTRE DELIVERY ALARM FLOW MONITOR TYPE 1
1.0	JMRW-20/E/DT1/008	MOTOR CONTROL CENTRE DELIVERY ALARM PRESSURE MONITOR TYPE 1
1.0	JMRW-20/E/DT1/009	MOTOR CONTROL CENTRE POWER FAIL MONITOR TYPE 1
1.0	JMRW-20/E/DT1/010	MOTOR CONTROL CENTRE BATTERY CHARGE MONITOR TYPE 1
1.0	JMRW-20/E/DT1/011	MOTOR CONTROL CENTRE RUNNING INDICATION TYPE 1
1.0	JMRW-20/E/DT1/012	MOTOR CONTROL CENTRE TRIP INDICATION TYPE 1
1.0	JMRW-20/E/DT1/013	MOTOR CONTROL CENTRE LOCAL/REMOTE INDICATION TYPE 1
1.0	JMRW-20/E/DT1/014	MOTOR CONTROL CENTRE MOTOR BREAKER TRIP INDICATION TYPE 1
1.0	JMRW-20/E/DT1/015	MOTOR CONTROL CENTRE MOTOR STOP BUTTON INDICATION TYPE 1
1.0	JMRW-20/E/DT1/016	MOTOR CONTROL CENTRE MOTOR START BUTTON INDICATION TYPE 1
1.0	JMRW-20/E/DT1/017	MOTOR CONTROL CENTRE MOTOR RESET SWITCH INDICATION TYPE 1
1.0	JMRW-20/E/DT1/018	MOTOR CONTROL CENTRE ACCESS DOOR SECURITY MONITOR TYPE 1
1.0	JMRW-20/E/DT2/001	MOTOR CONTROL CENTRE GENERAL LAYOUT TYPE 2
1.0	JMRW-20/E/DT2/002	MOTOR CONTROL CENTRE EQUIPMENT LAYOUT TYPE 2
1.0	JMRW-20/E/DT2/003	MOTOR CONTROL CENTRE SINGLE LINE DIAGRAM TYPE 2
1.0	JMRW-20/E/DT2/004	MOTOR CONTROL CENTRE CONTROL AND SCHEMATIC LAYOUT TYPE 2
1.0	JMRW-20/E/DT2/005	MOTOR CONTROL CENTRE CONTROL AND SCHEMATIC LAYOUT TYPE 2
1.0	JMRW-20/E/DT2/006	MOTOR CONTROL CENTRE POWER DISTRIBUTION LAYOUT TYPE 2
1.0	JMRW-20/E/DT2/007	MOTOR CONTROL CENTRE DELIVERY ALARM FLOW MONITOR TYPE 2
1.0	JMRW-20/E/DT2/008	MOTOR CONTROL CENTRE DELIVERY ALARM PRESSURE MONITOR TYPE 2

Contractor

Witness 1

Witness 2

Employer

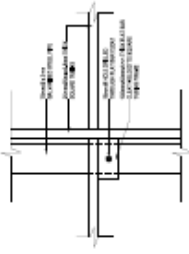
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Witness 2

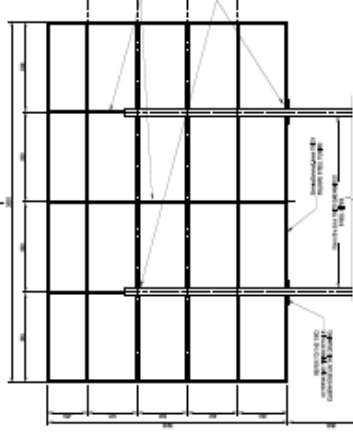
 JOE MOROLONG LOCAL MUNICIPALITY WATER SERVICES INFRASTRUCTURE GRANT		 water & sanitation Department of Water and Sanitation REPUBLIC OF SOUTH AFRICA	
PROJECT NAME: RURAL WATER SUPPLY PROGRAMME			
CONTRACT NUMBER: XXXX-XXXX		PROJECT DURATION: -	
PROGRAMME MANAGERS (LOGO)	PROGRAMME MANAGERS NAME		
CONSULTING ENGINEERS (LOGO)	CONSULTING ENGINEERS NAME		
CONTRACTOR (LOGO)	CONTRACTOR NAME		



FINING DETAIL No. 1
SCALE 1:5



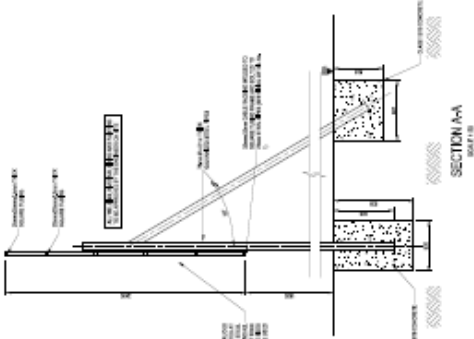
FINING DETAIL No. 2
SCALE 1:5
ALTERNATIVE FINING DETAILS



FRONT ELEVATION
SCALE 1:5

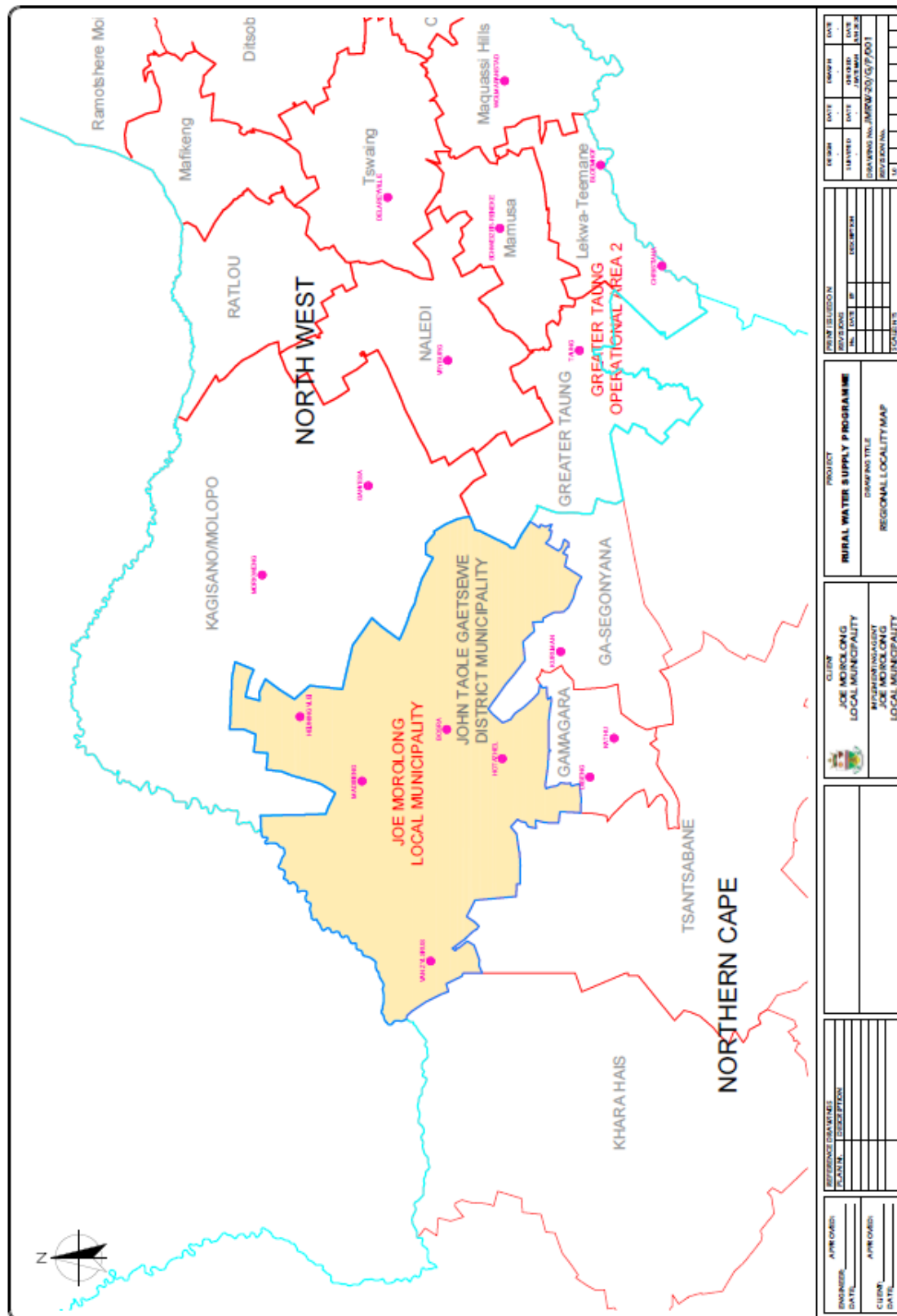


BACK ELEVATION
SCALE 1:5



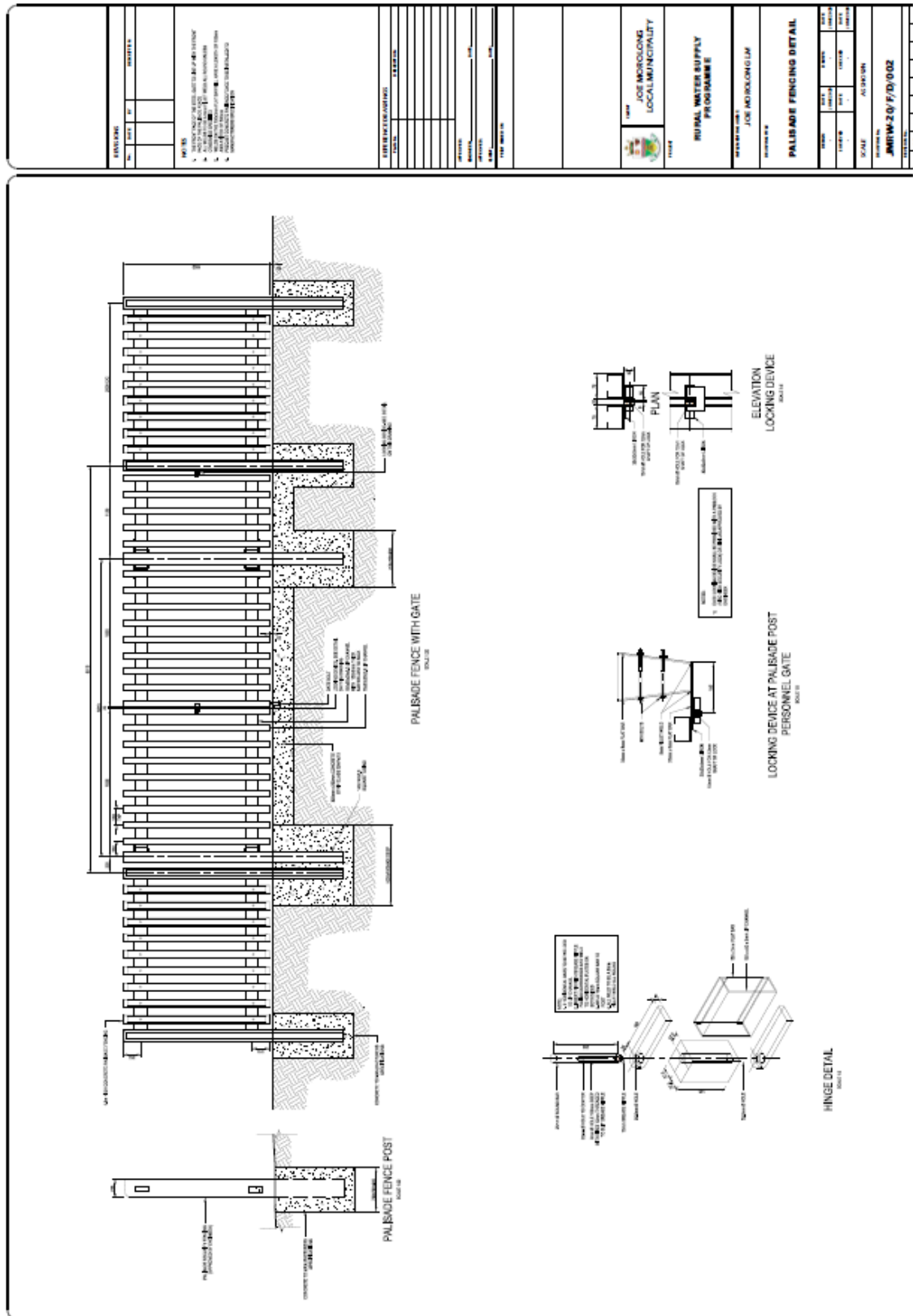
SECTION A-A
SCALE 1:5

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

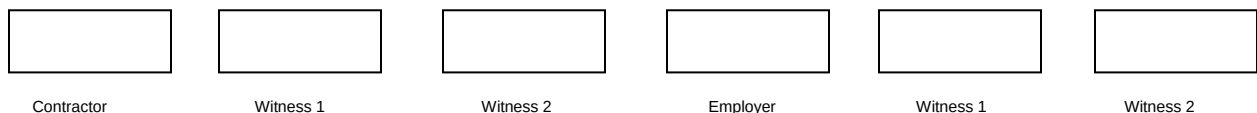


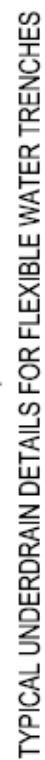
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



CLASS	TYPE OF BEDDING	DESCRIPTION	APPROVED BY	DATE	APPROVED BY	DATE	APPROVED BY	DATE	APPROVED BY	DATE
CLASS A BEDDING	IN SOIL	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN ROCK	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN SOIL	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN ROCK	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
CLASS B BEDDING	IN SOIL	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN ROCK	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN SOIL	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN ROCK	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
CLASS C BEDDING	IN SOIL	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN ROCK	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN SOIL	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN ROCK	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
CLASS D BEDDING	IN SOIL	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN ROCK	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN SOIL	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								
	IN ROCK	UPPER 100mm SELECTED SUBGRADE LEVEL AS SHOWN ON THE DRAWING.								

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2





Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



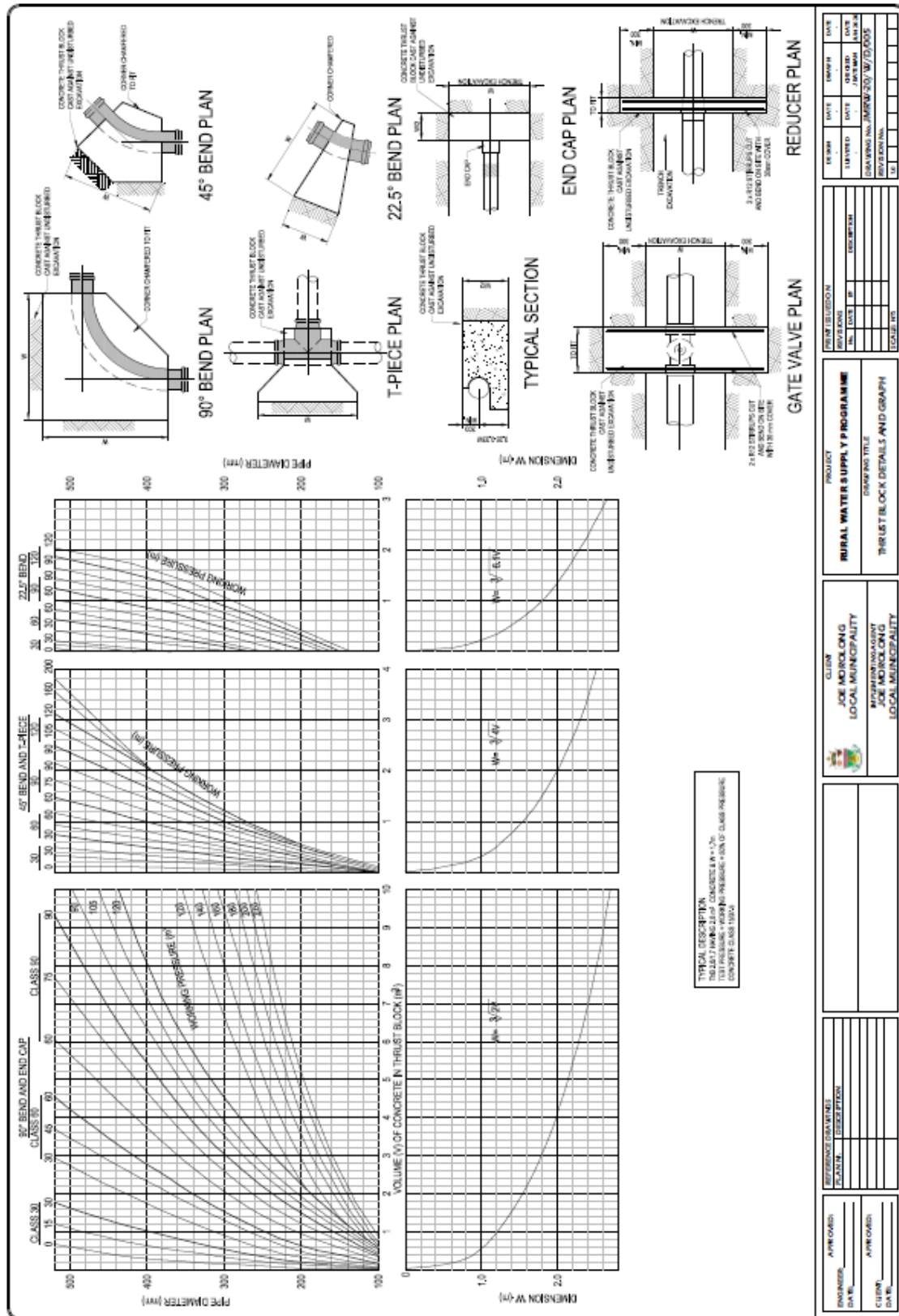
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2	REVISED	15/01/2021	15/01/2021	2	REVISED	15/01/2021	15/01/2021	2	REVISED
3	REVISED	15/01/2021	15/01/2021	3	REVISED	15/01/2021	15/01/2021	3	REVISED
4	REVISED	15/01/2021	15/01/2021	4	REVISED	15/01/2021	15/01/2021	4	REVISED
5	REVISED	15/01/2021	15/01/2021	5	REVISED	15/01/2021	15/01/2021	5	REVISED

PROJECT		DRAWING TITLE	
PROJECT	RURAL WATER SUPPLY PROGRAM	DRAWING TITLE	DETAIL OF BACKFILLING PRIOR TO THE TESTING OF PIPES
CLIENT	JOE MOROLONG LOCAL MUNICIPALITY	DESIGNER	JOE MOROLONG LOCAL MUNICIPALITY
ENGINEER	JOE MOROLONG LOCAL MUNICIPALITY	DATE	15/01/2021

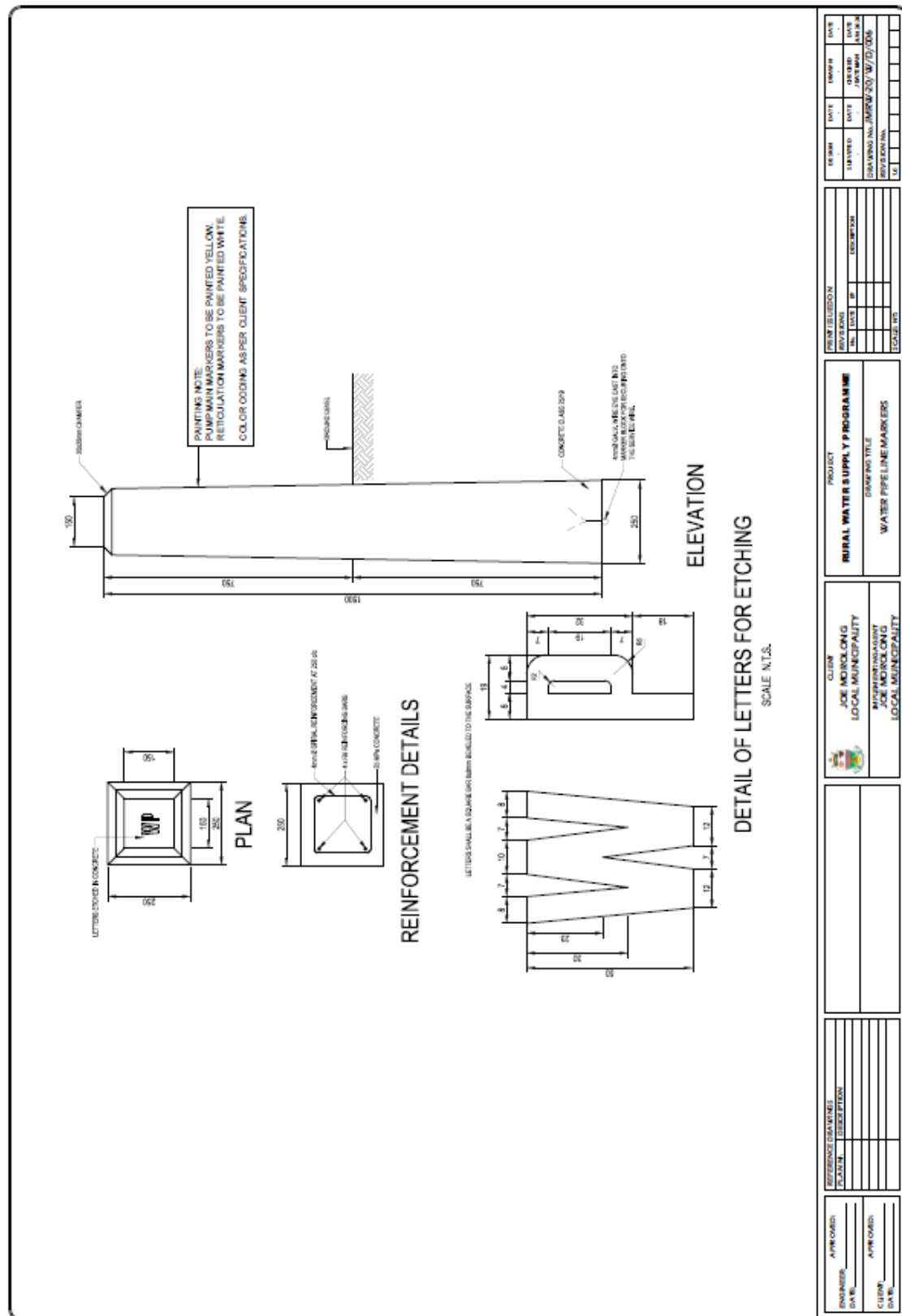
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PLAN	1	SECTION	1
PLAN	2	SECTION	2
PLAN	3	SECTION	3
PLAN	4	SECTION	4
PLAN	5	SECTION	5

APPROVALS		APPROVALS	
ENGINEER	DATE	ENGINEER	DATE
CLIENT	DATE	CLIENT	DATE

Contractor
Witness 1
Witness 2
Employer
Witness 1
Witness 2



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Contractor

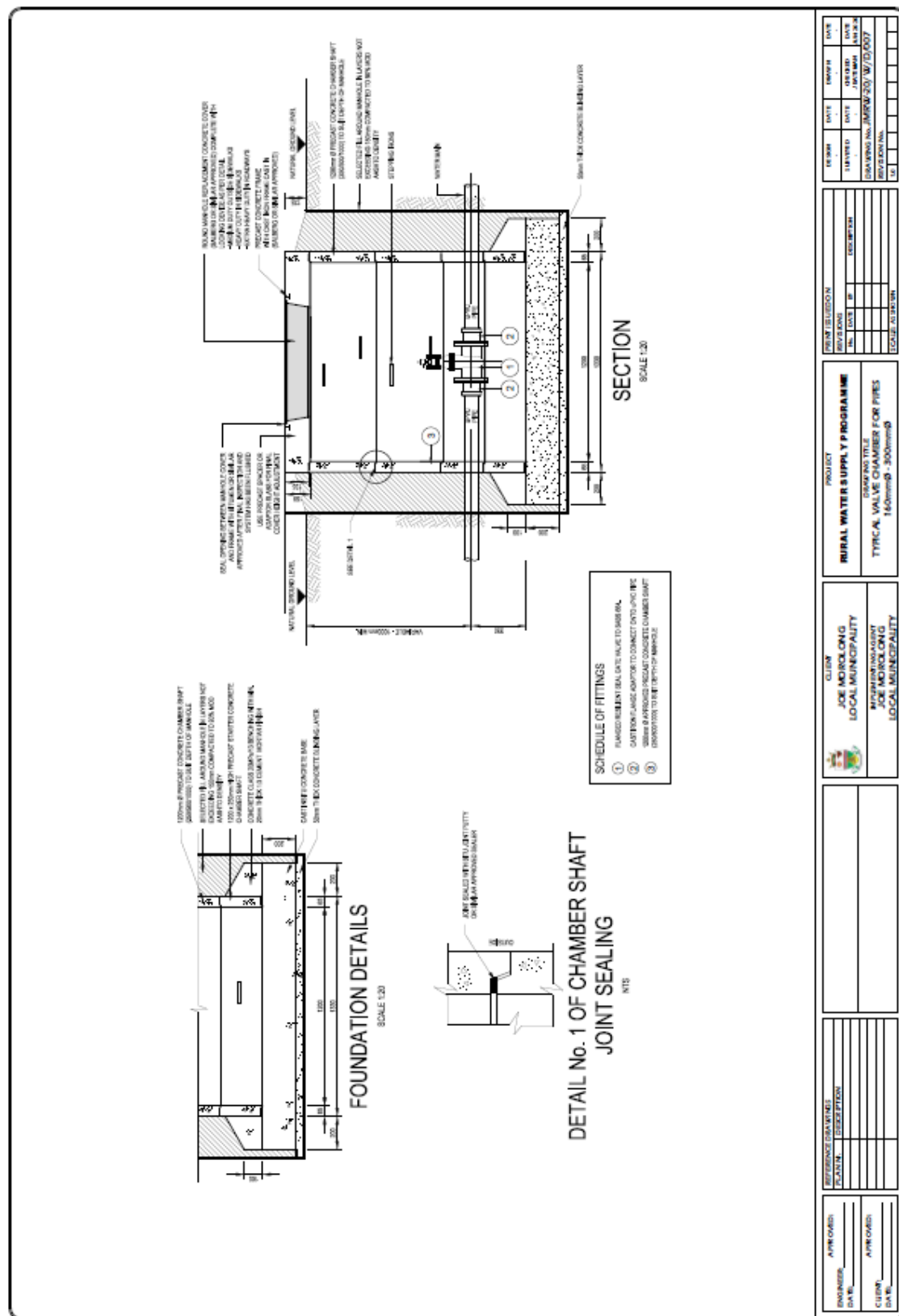
Witness 1

Witness 2

Employer

Witness 1

Witness 2



Contractor

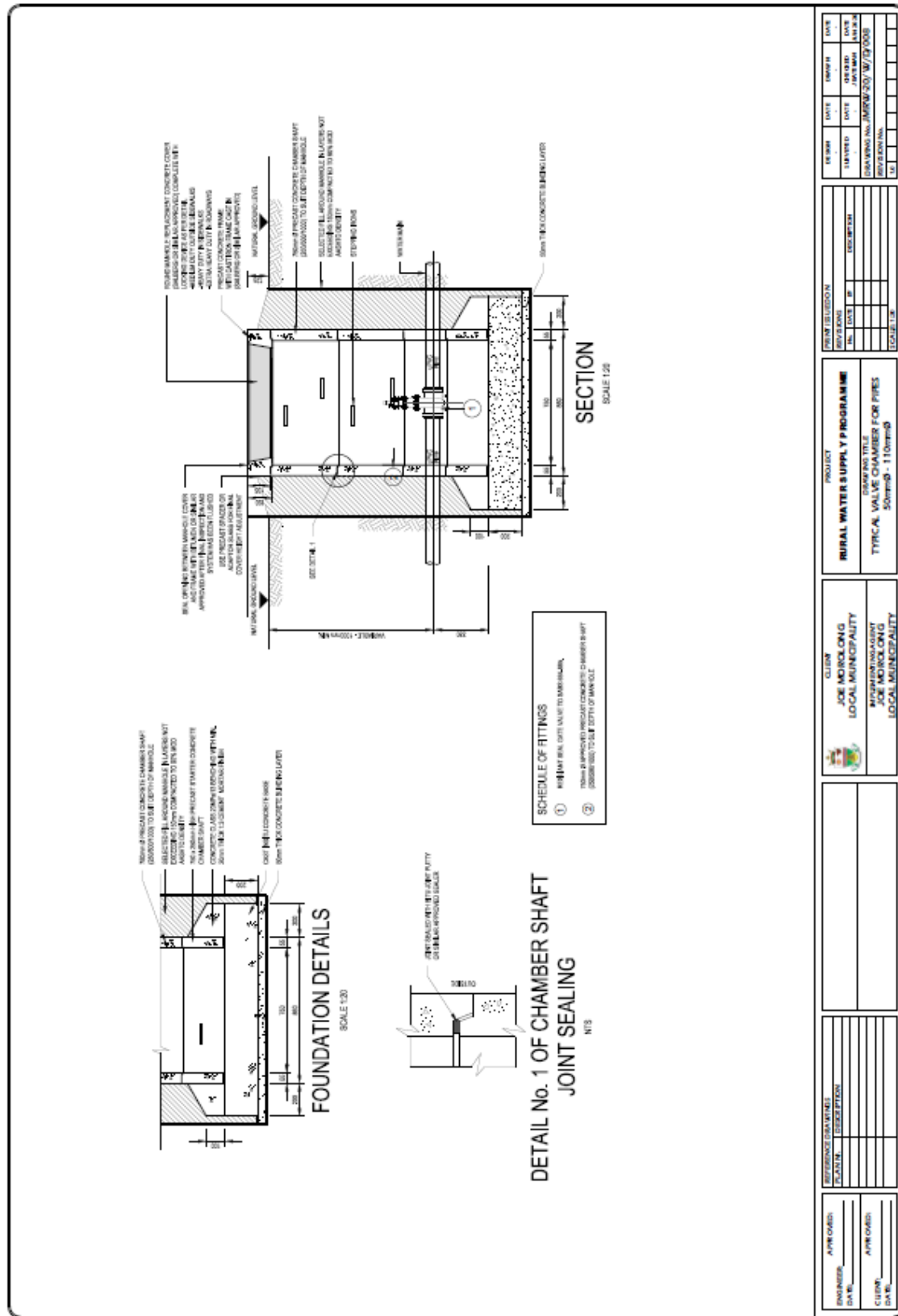
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Witness 2

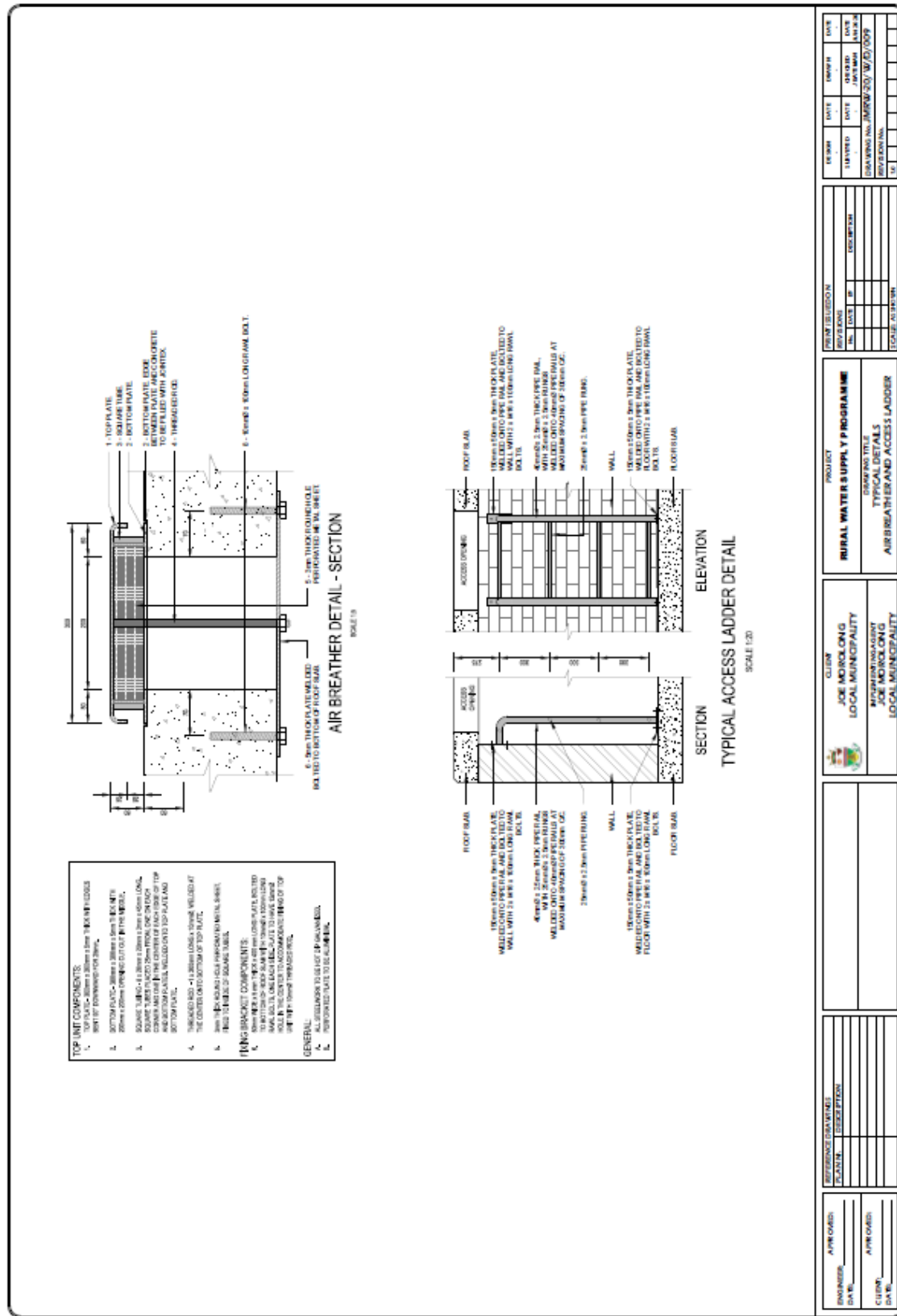
Employer

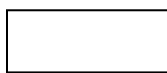
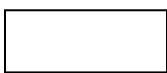
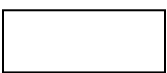
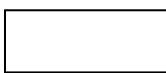
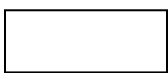
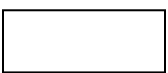
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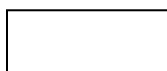
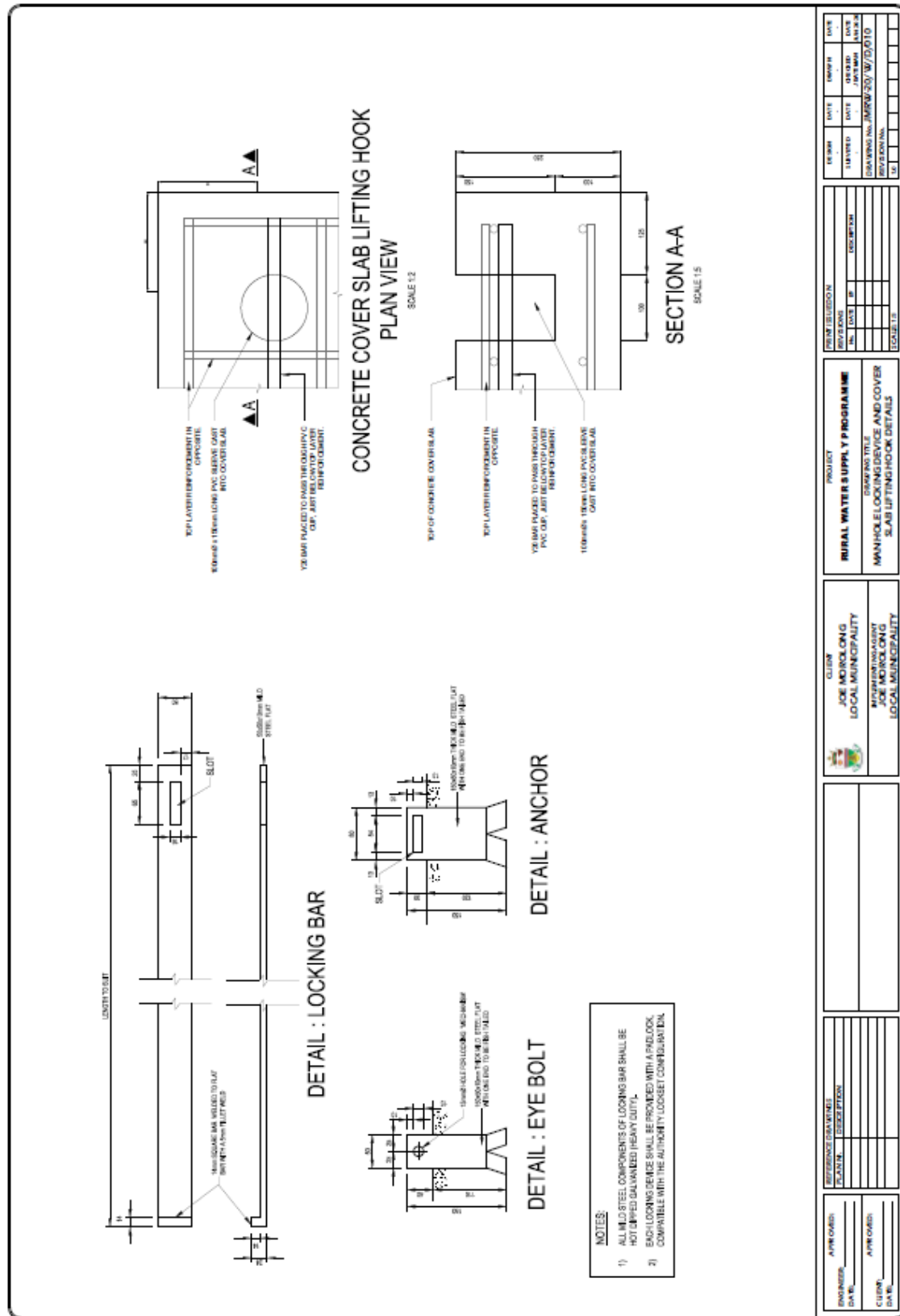
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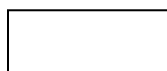
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



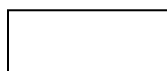
					
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



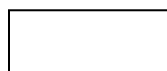
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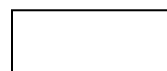
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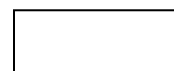
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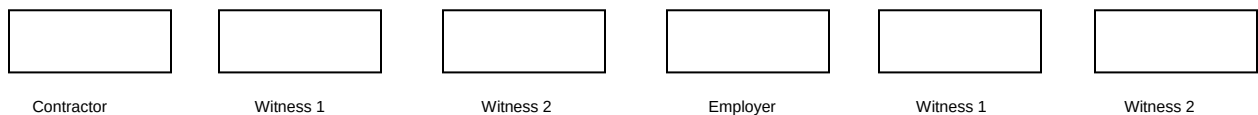
Employer

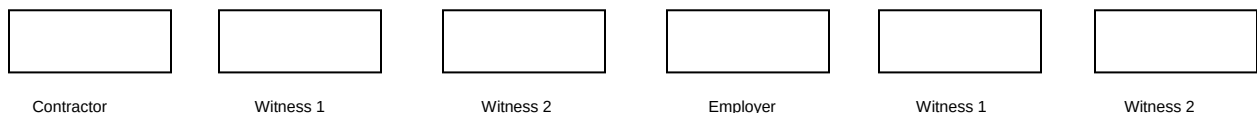


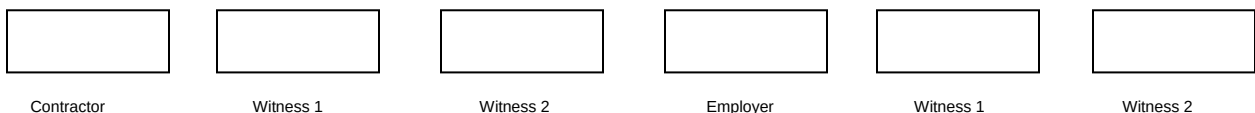
Witness 1

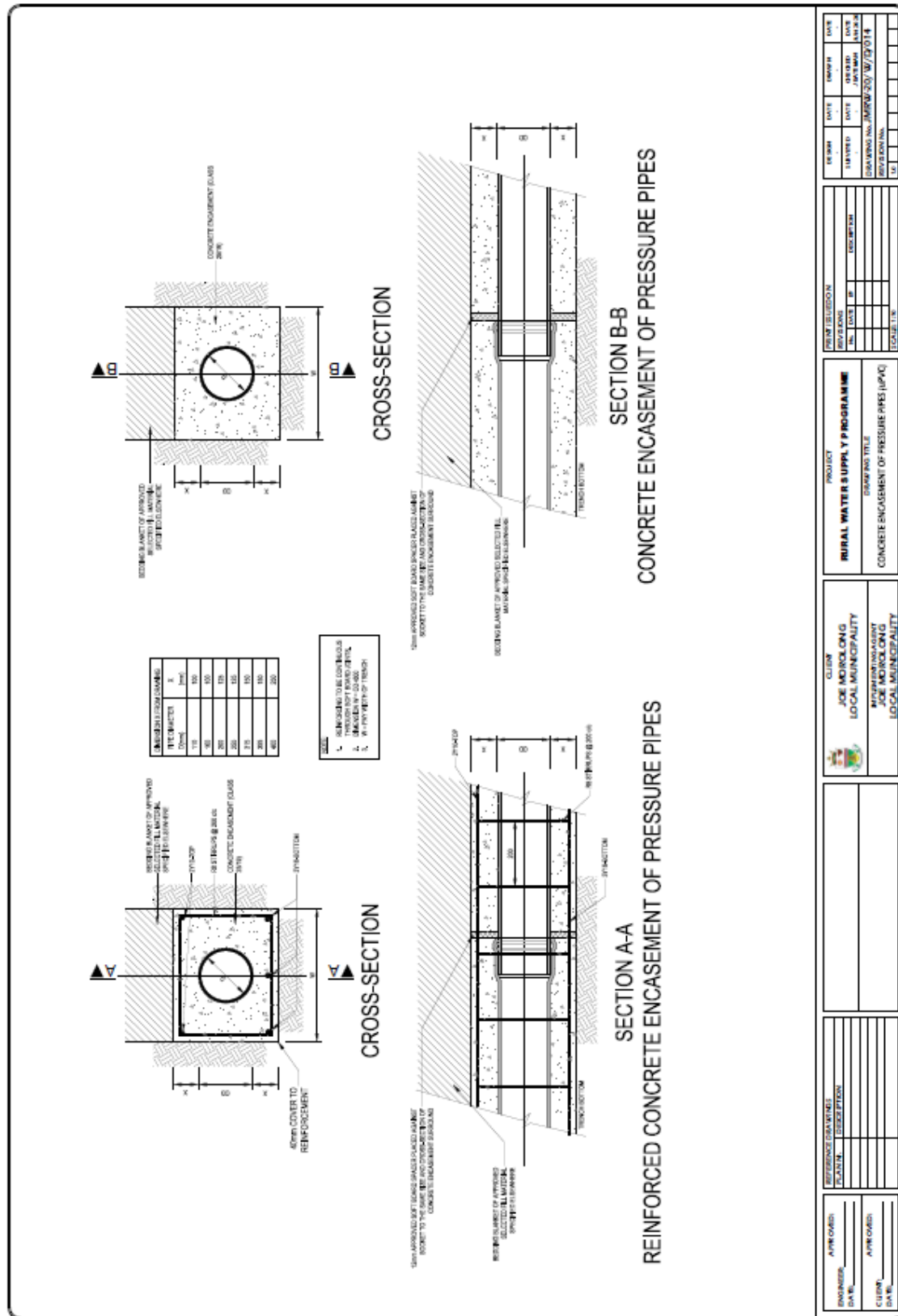


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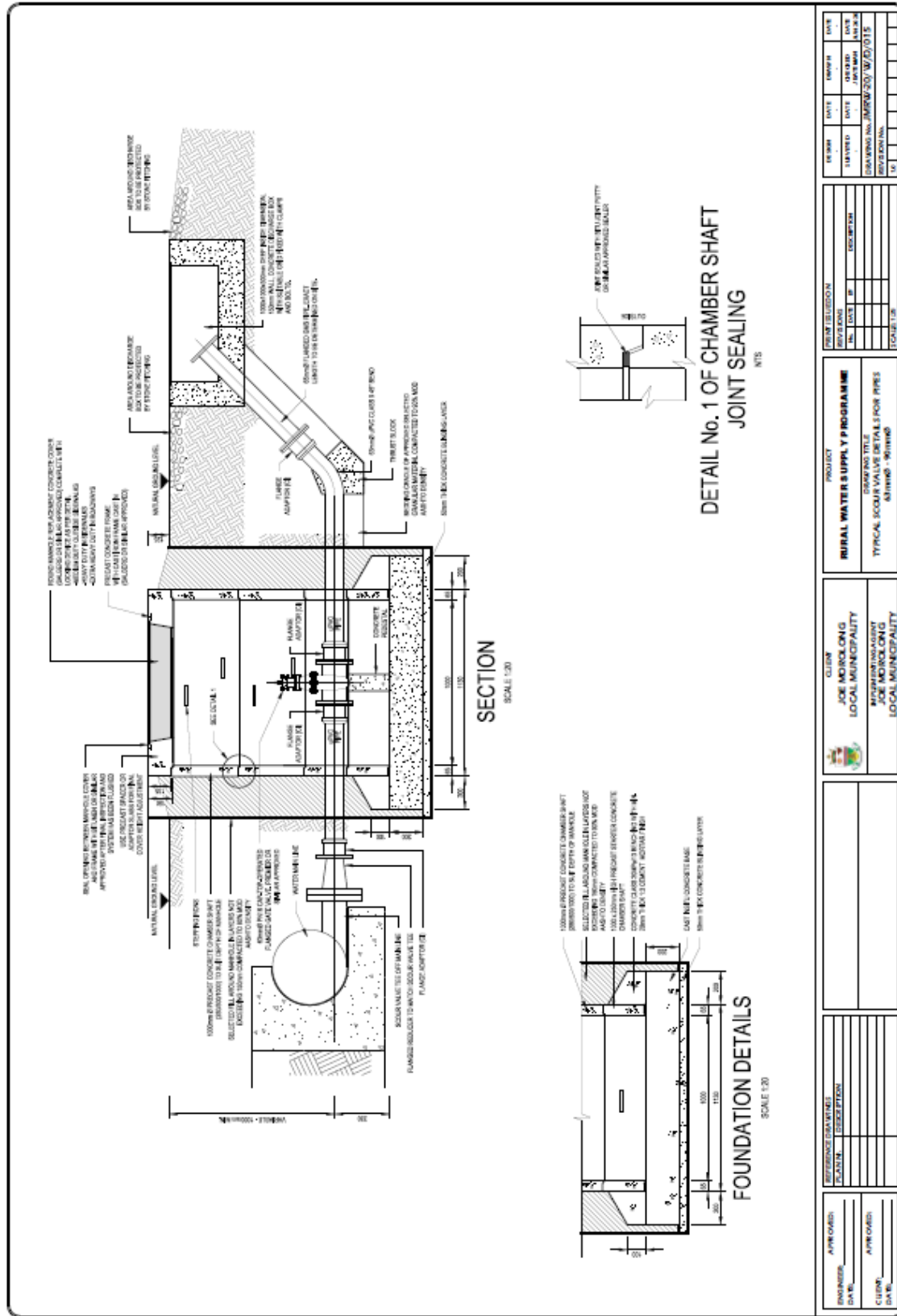




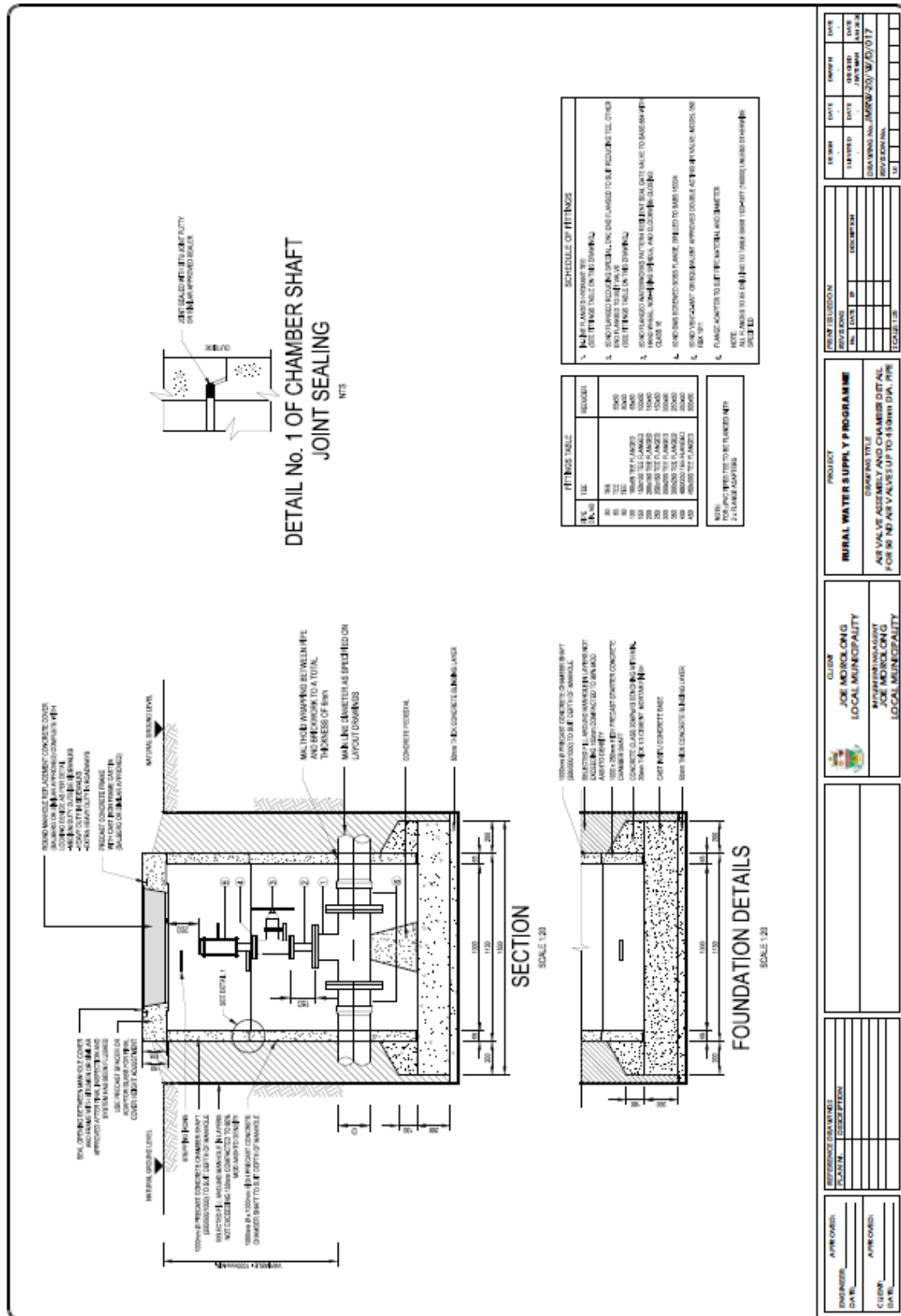




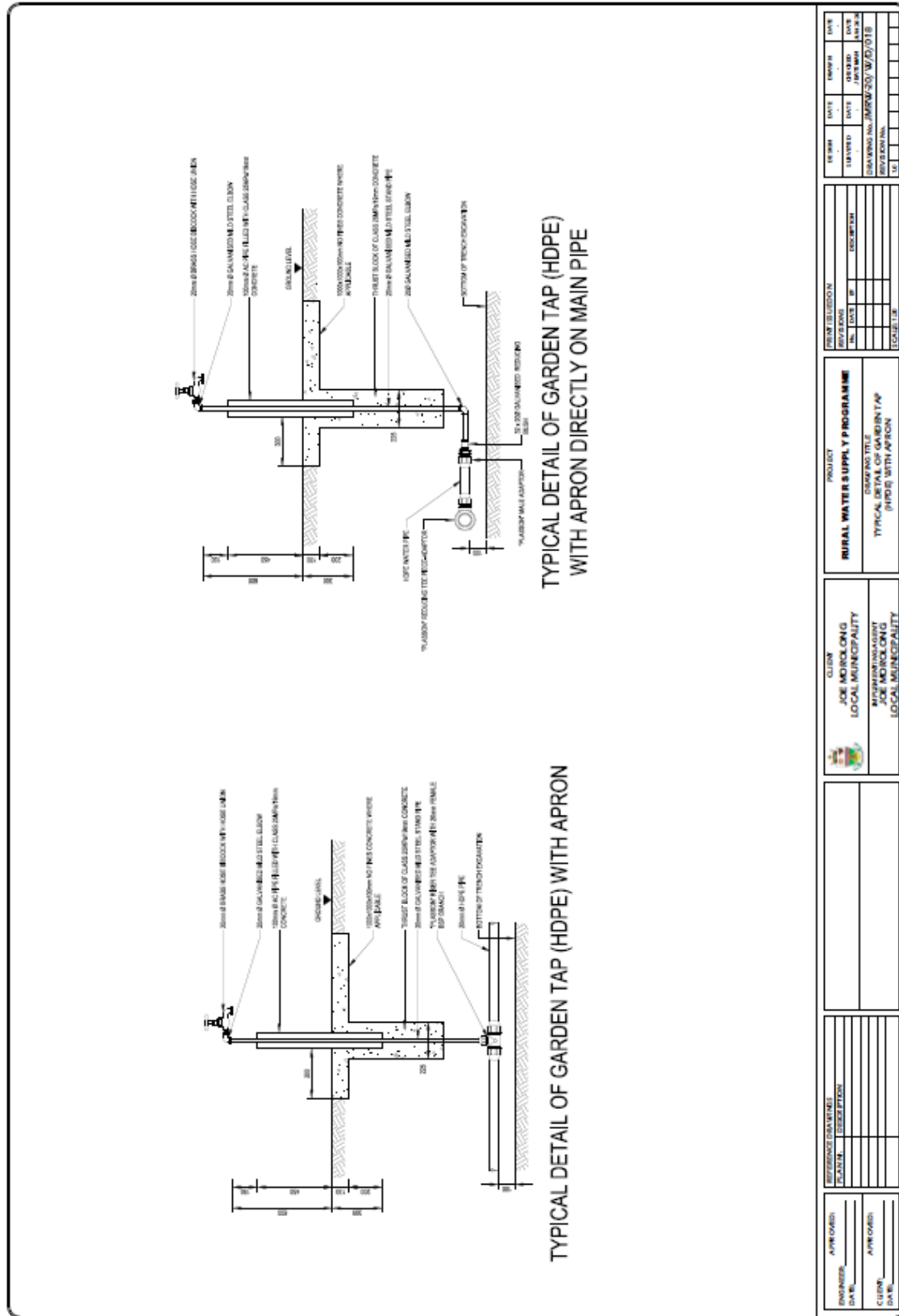
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



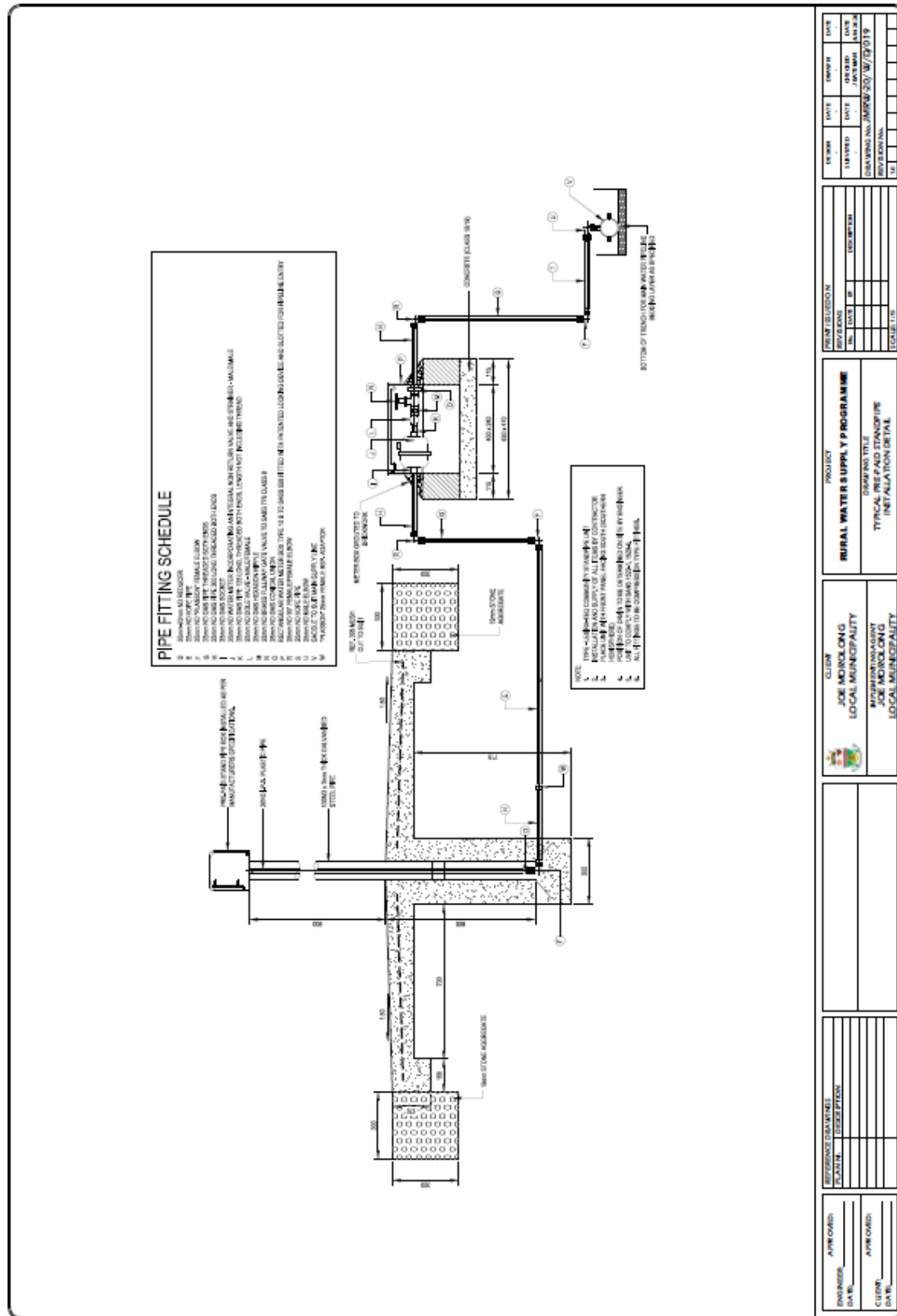
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



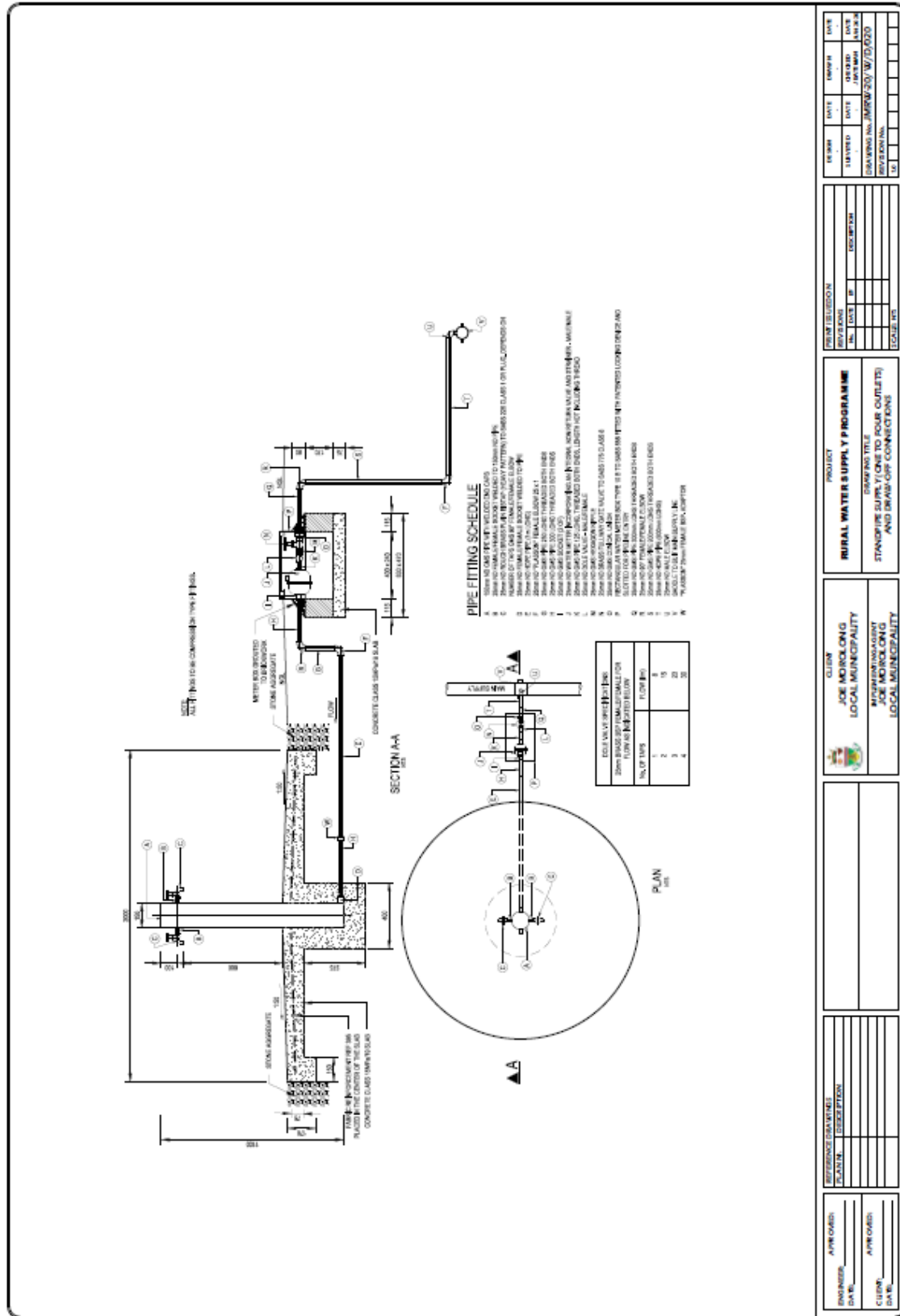
					
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

[illegible]

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Verified **Claw Piles** :

L. Excavation for Pipe Trenches:

1. Coal Iron Pipes:

2. Timbering and Shoring of Trenches :

2. Timbering and Shoring of Trenches :

Unfractionated polymer of butadiene (pHVC) piping and pipe fittings for use above ground and for temperatures below 80°C shall be of the best quality complying with SABS 987 for above ground installation. SABS 991 shall apply for underground installations.

3. Market Excavation:

4.1. Presentation of Pipe Theories :

3. Backfilling of Pipe Trenches :

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a) Rubber rings complying with Part 1 of SAE J2174 to be used for flexible joints.
b) Flexible joints to be tight with no signs of leakage when tested according to Subclause 4.4 of Section I.D of Part 3 of SAE J1200.

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PROJECT	PRINT ISURDON		
	REVISED		
	DATE	BY	DATE

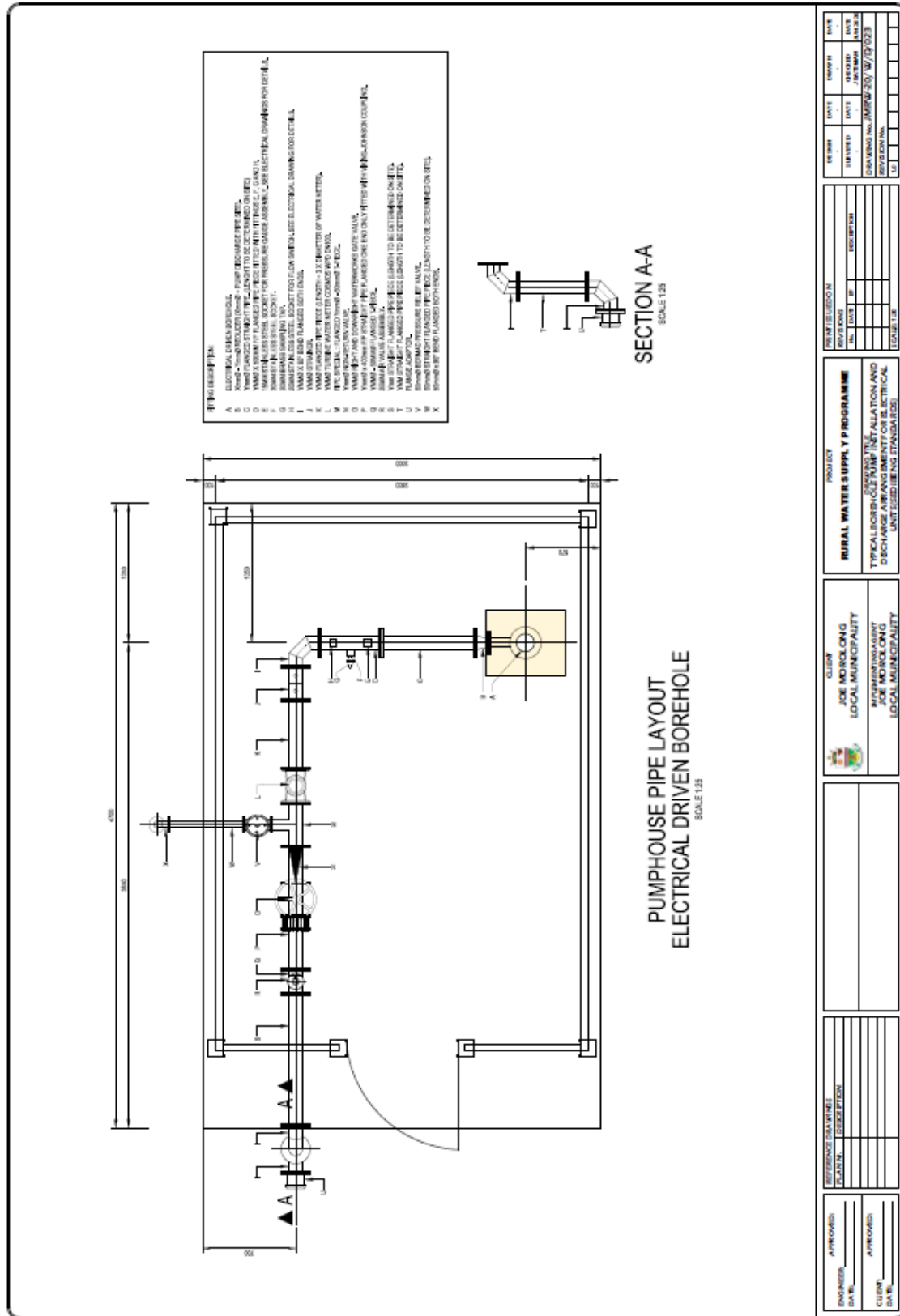
291

DRAWING TITLE	DATE	SHEET NO.	TOTAL SHEETS
ON MANHOLES & ACCESS CRIBS & NOTICES OF EXCAVATION, PREPARATION &			

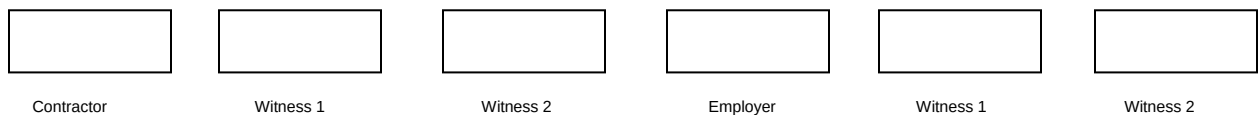
PACKAGING

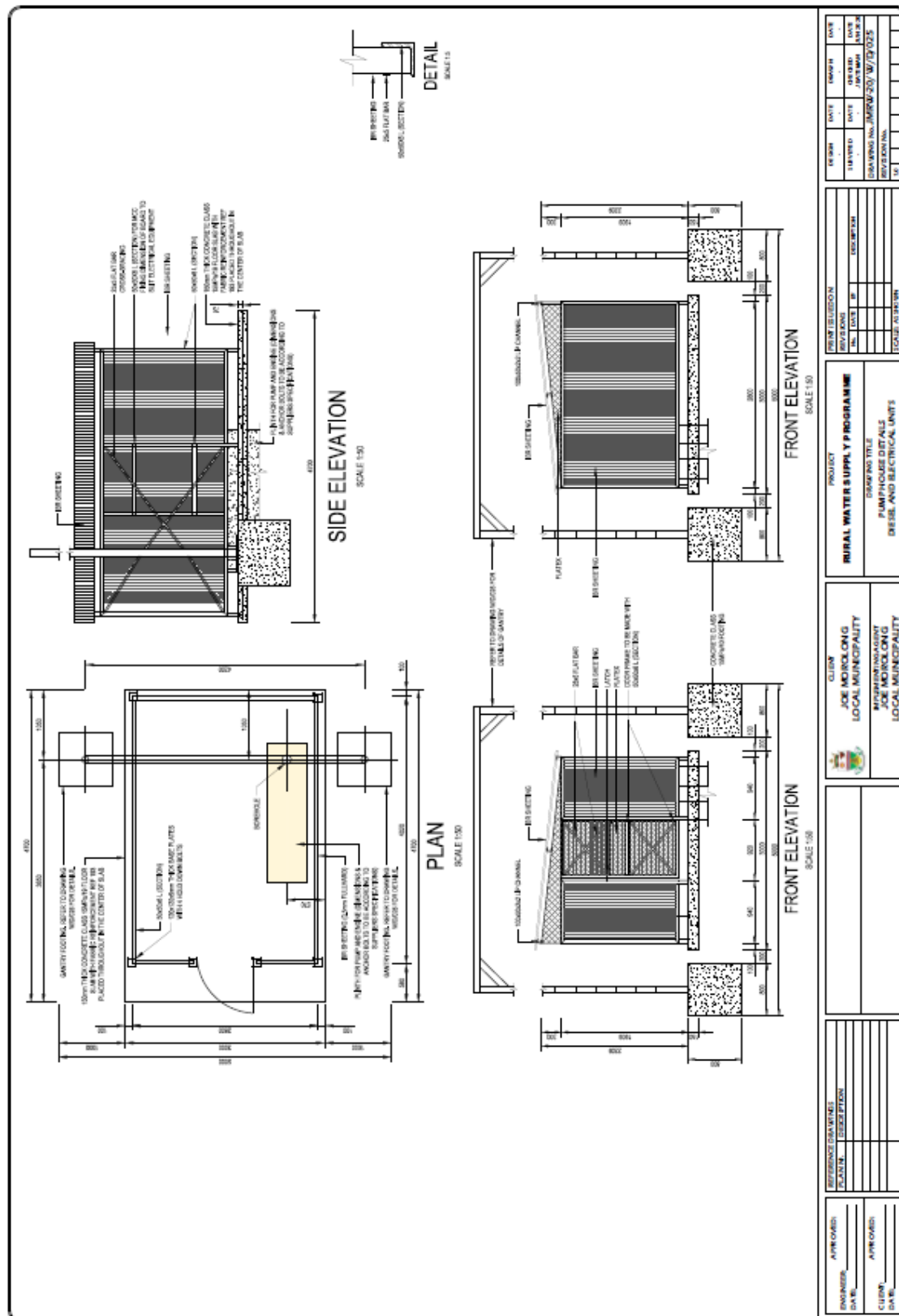
PACKAGING OF INSTRUMENTS	TOUGHNESS

Witness 2



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2





Contractor

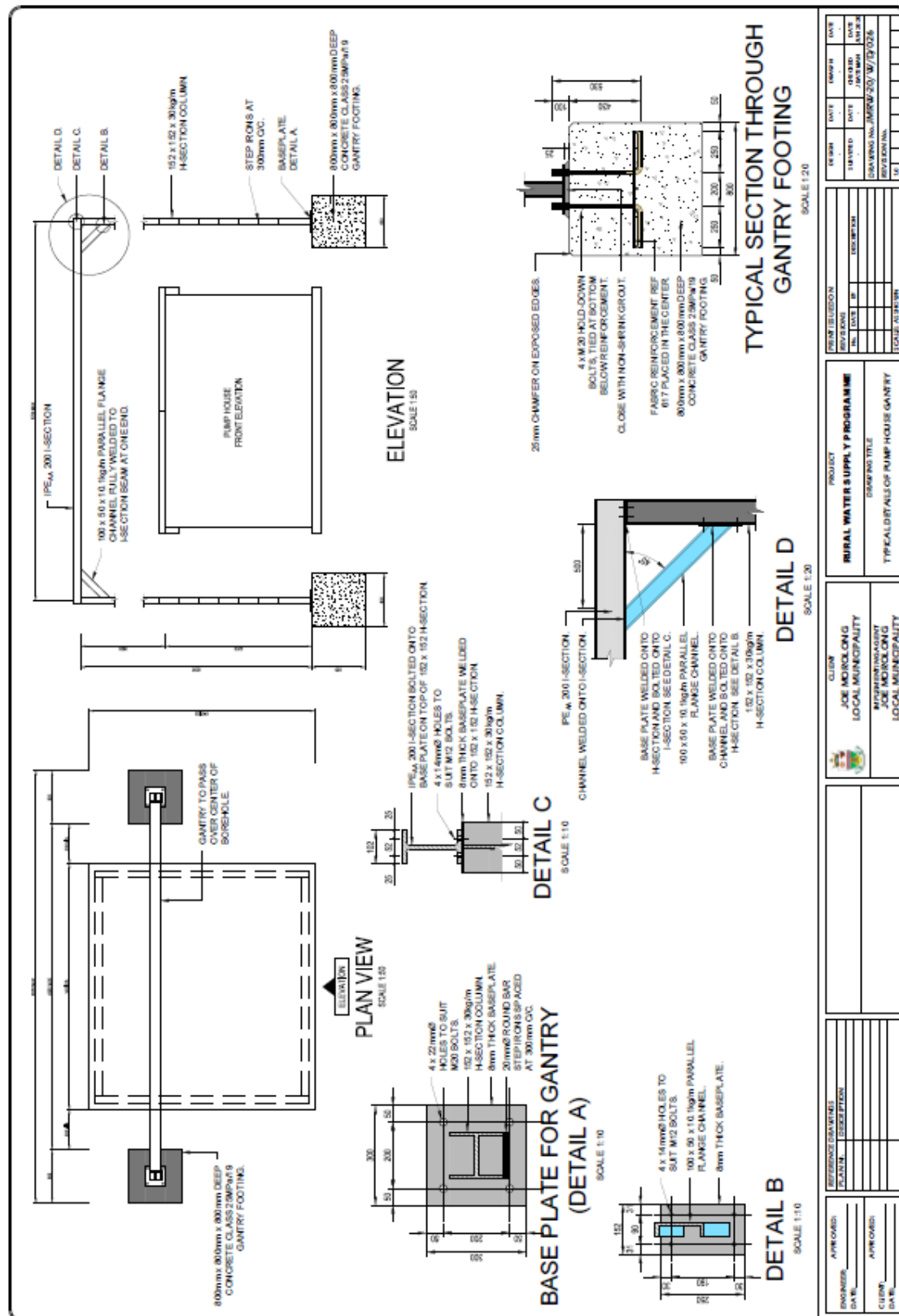
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Employer

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Contractor

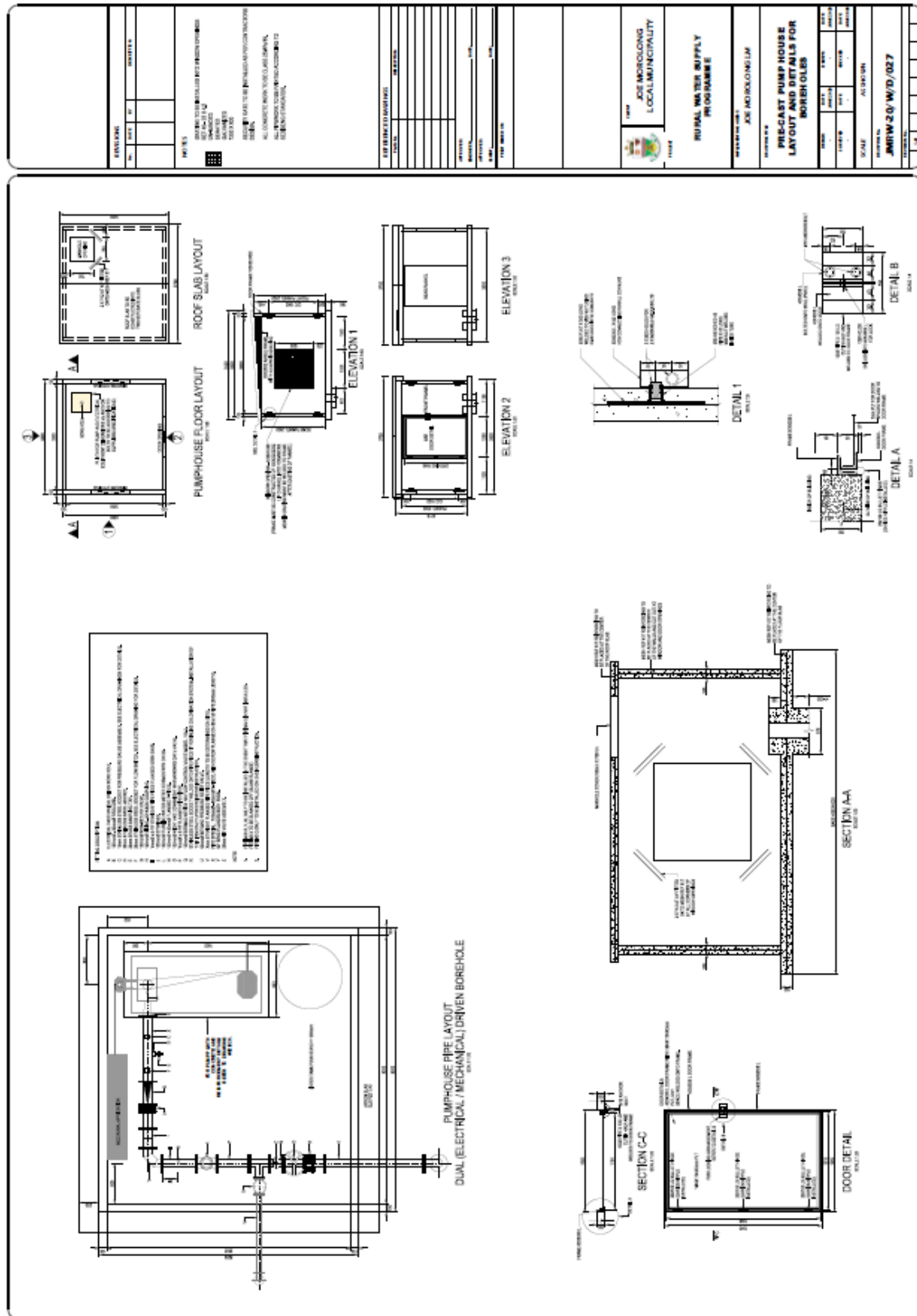
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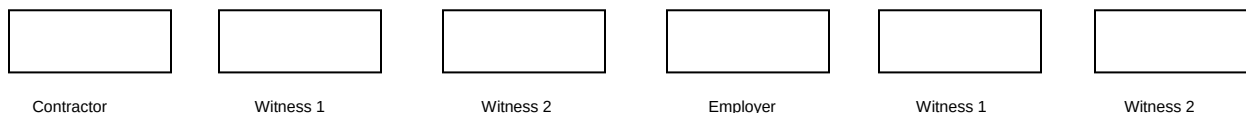
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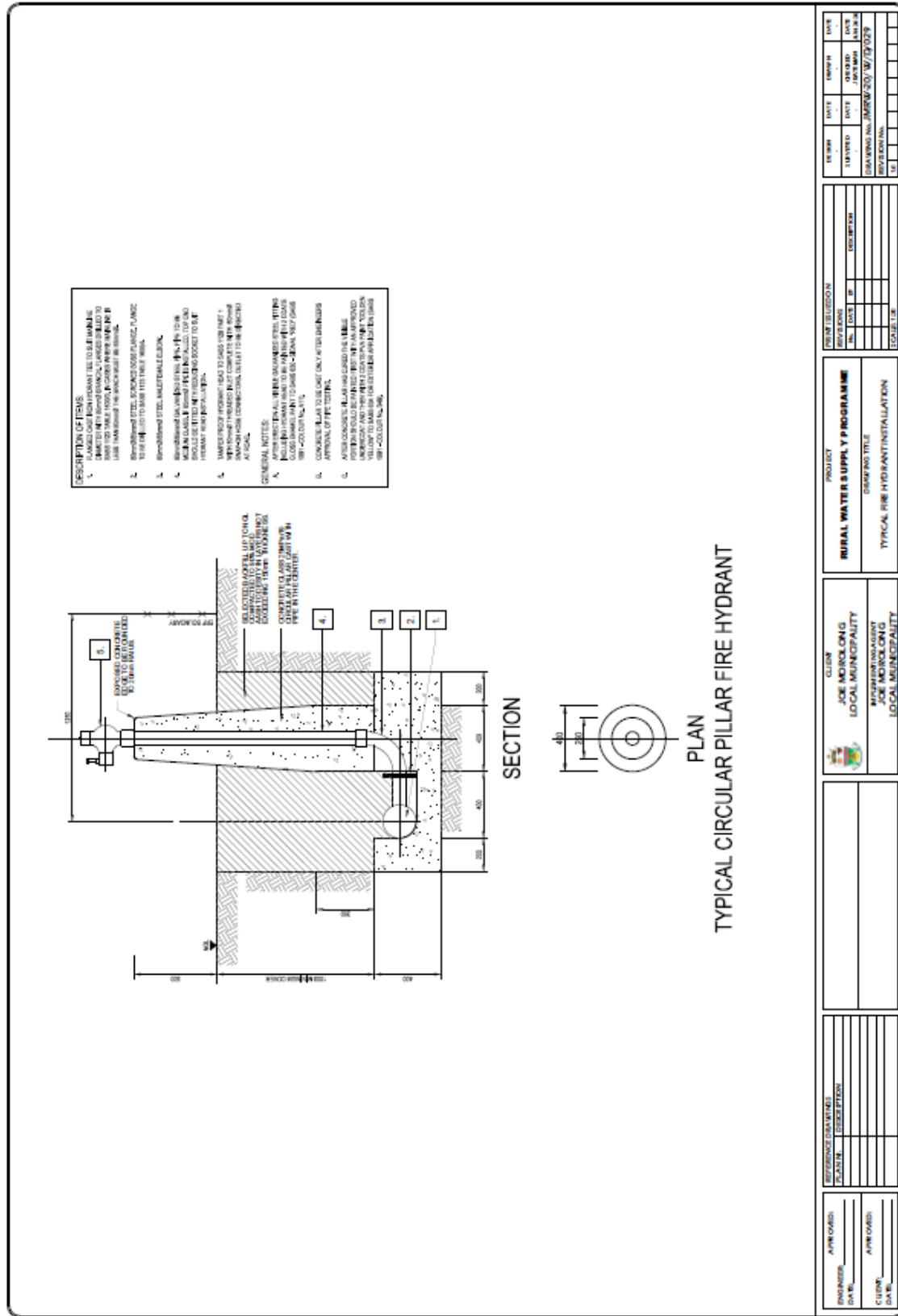
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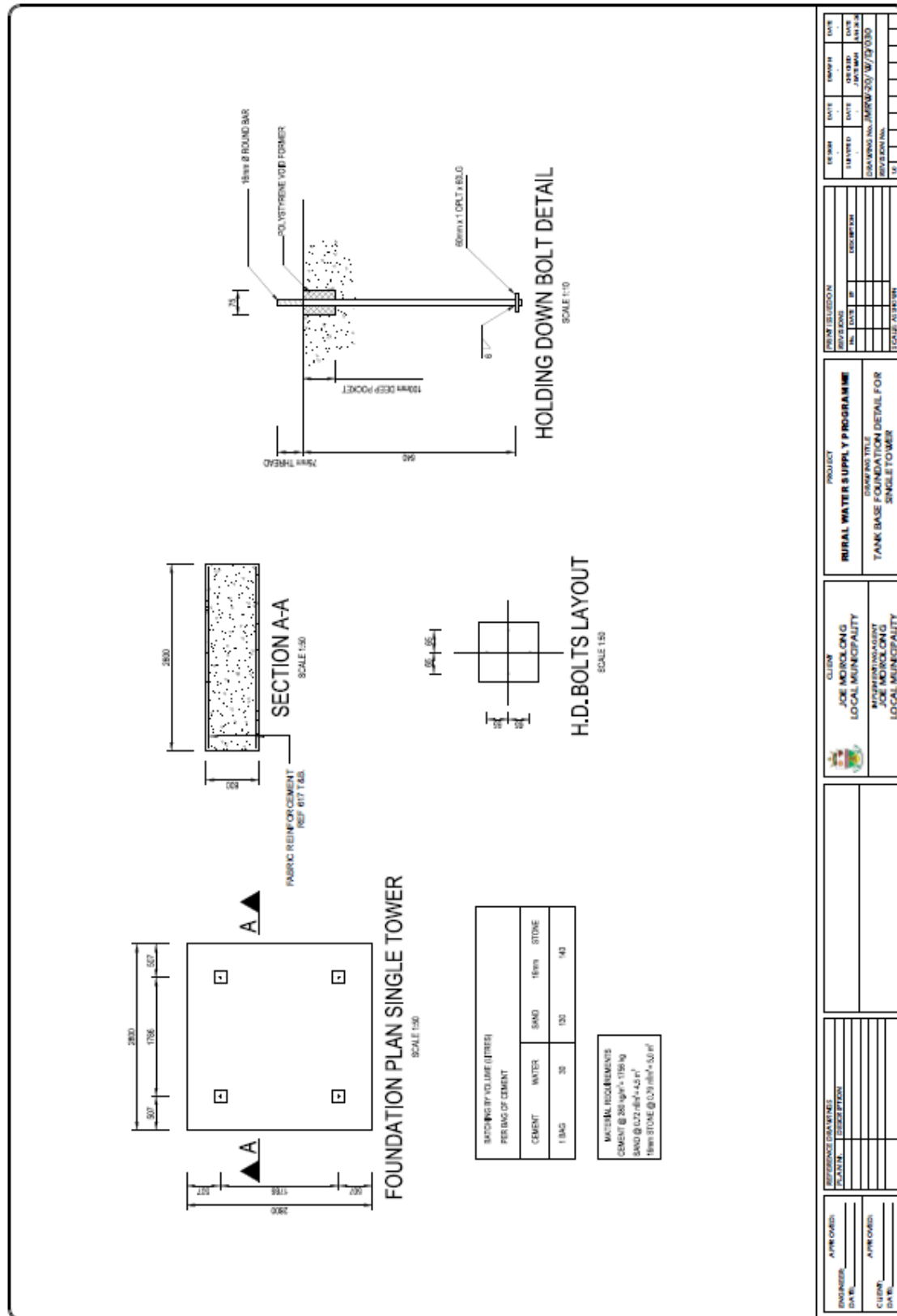


Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

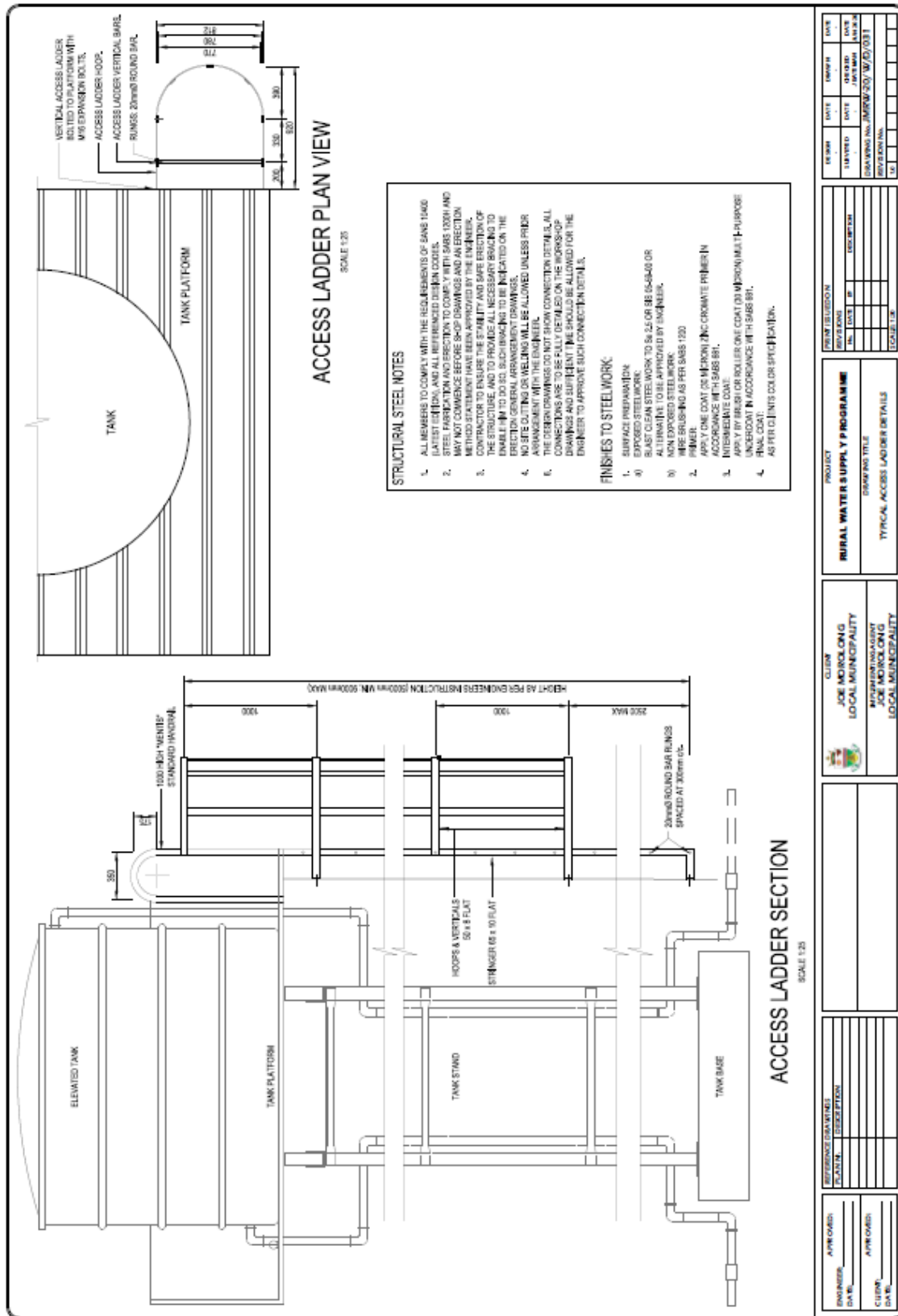




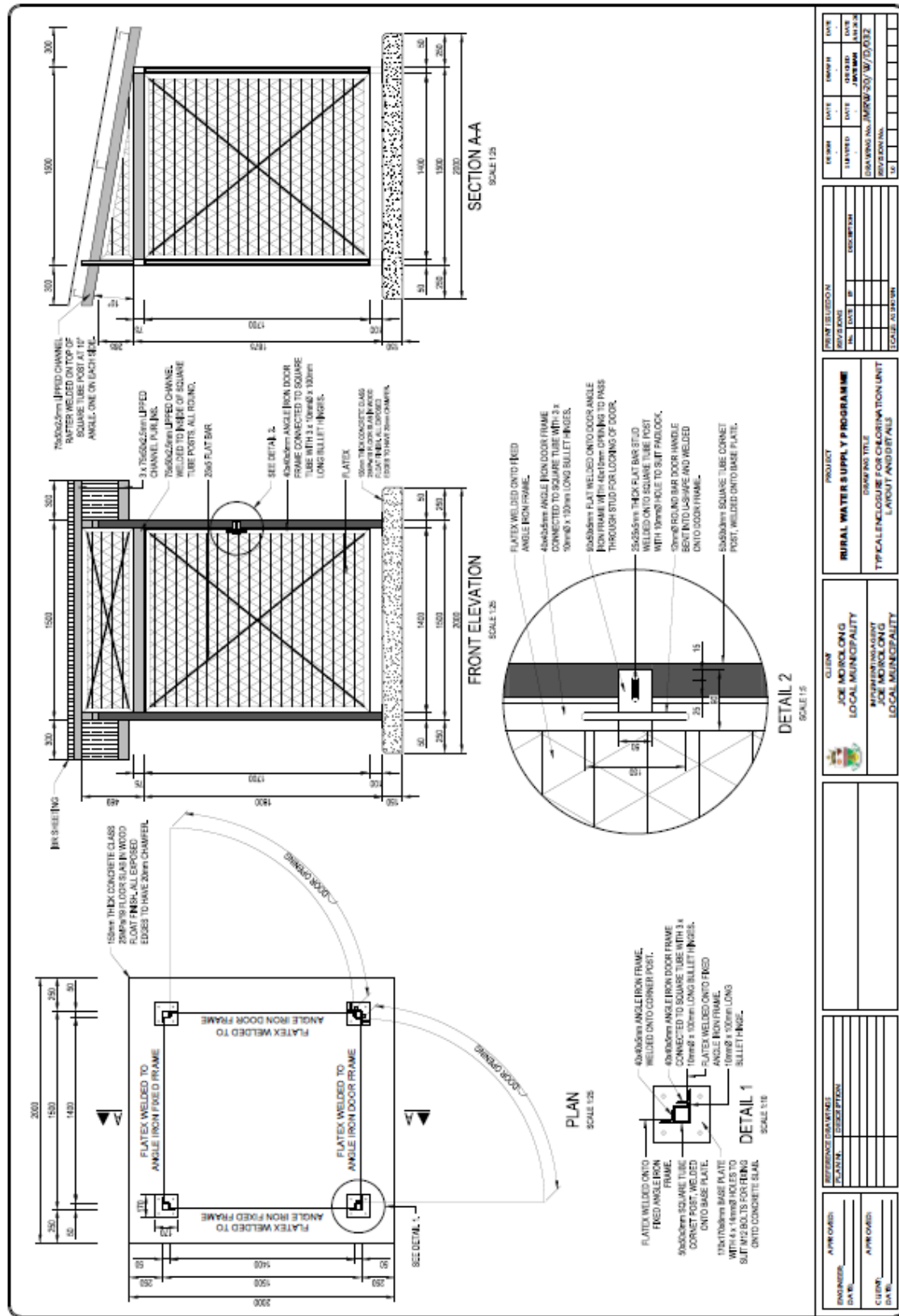
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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Contractor

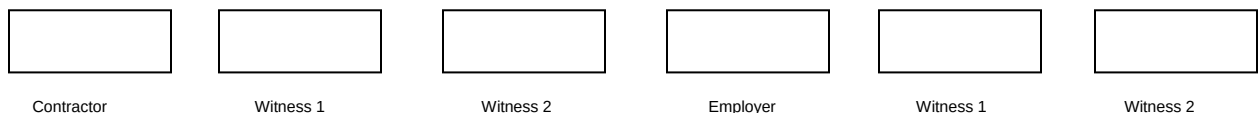
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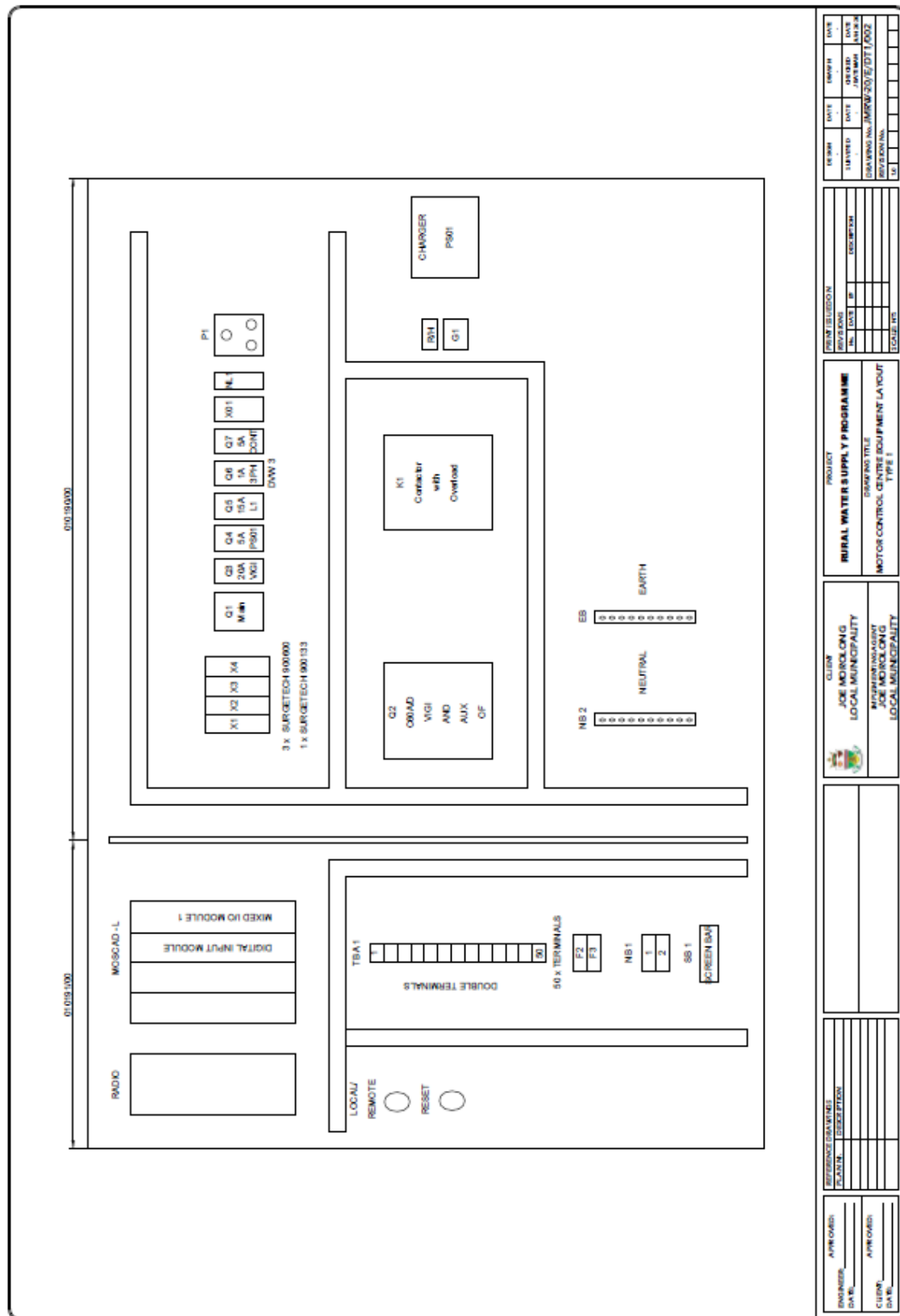
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Employer

Witness 1

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Contractor

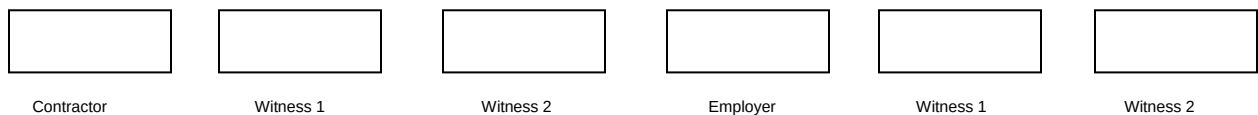
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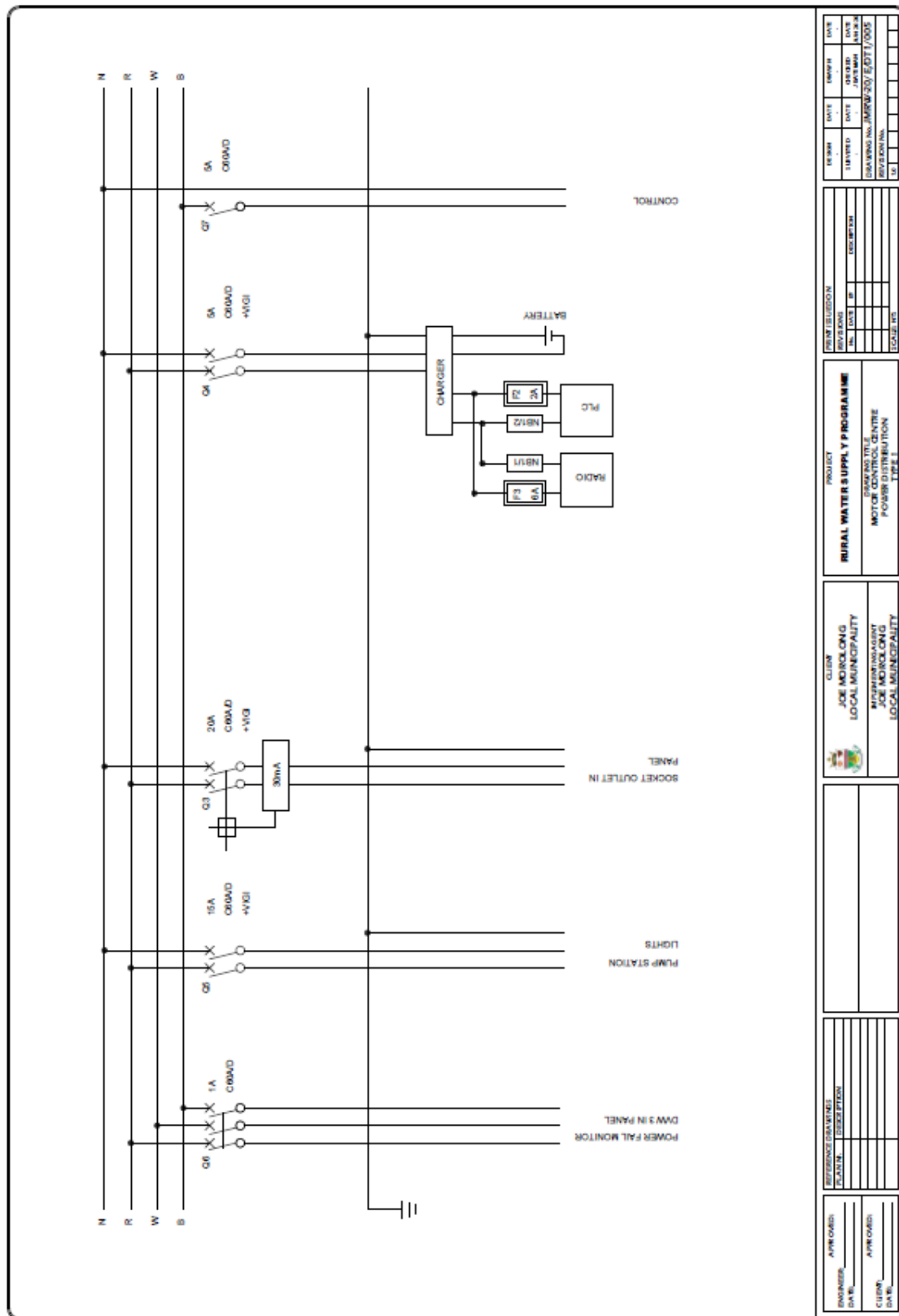
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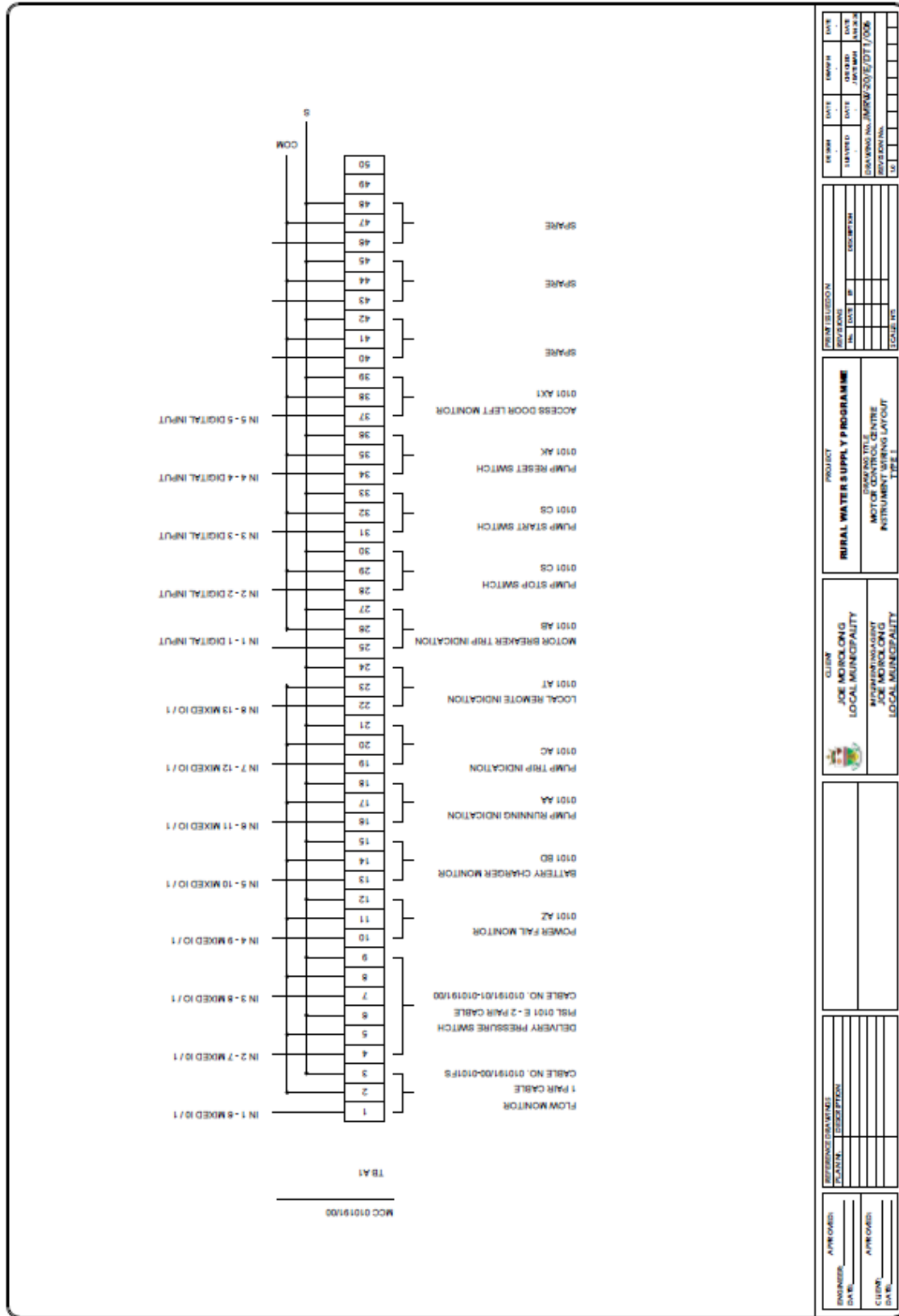
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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

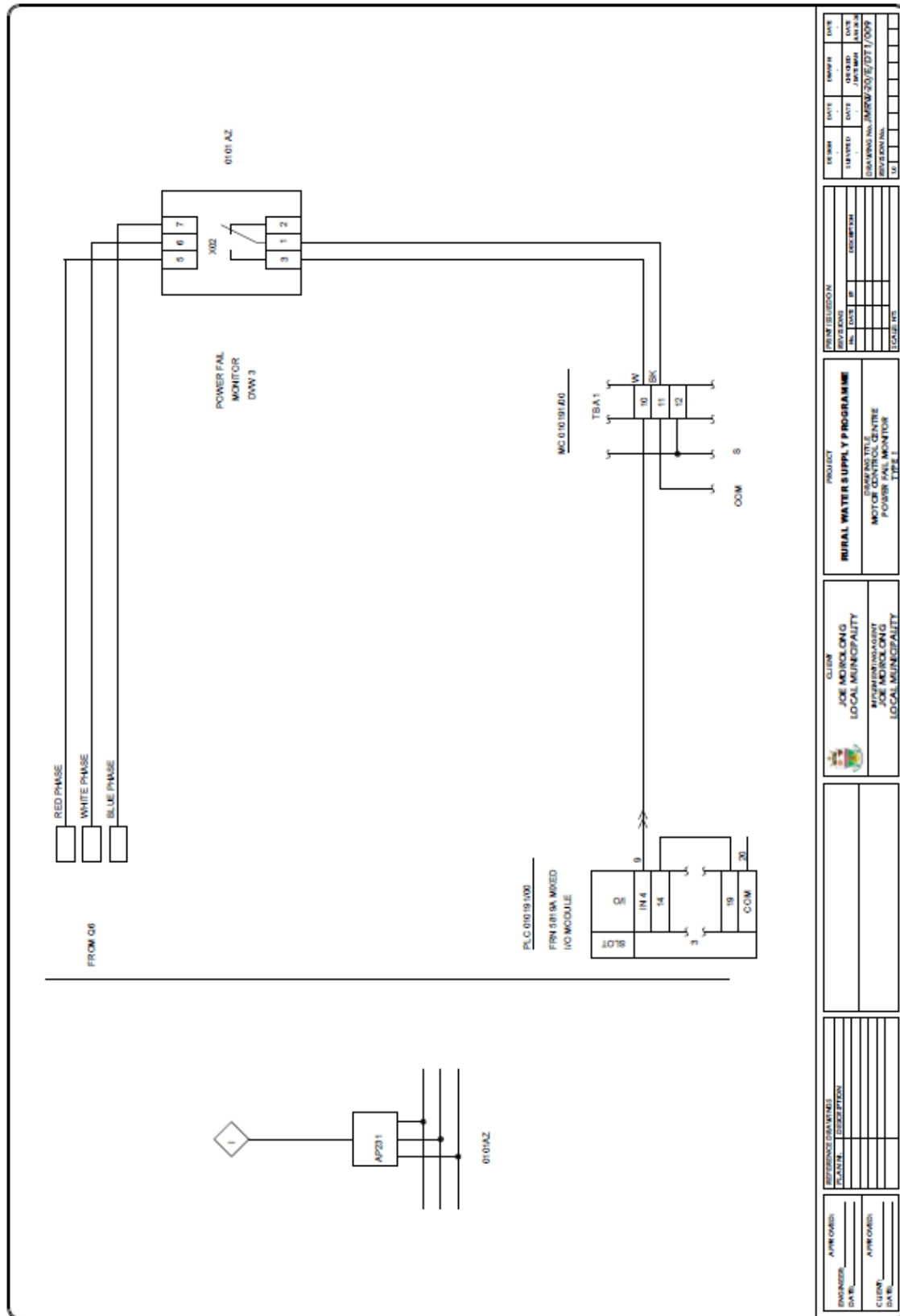


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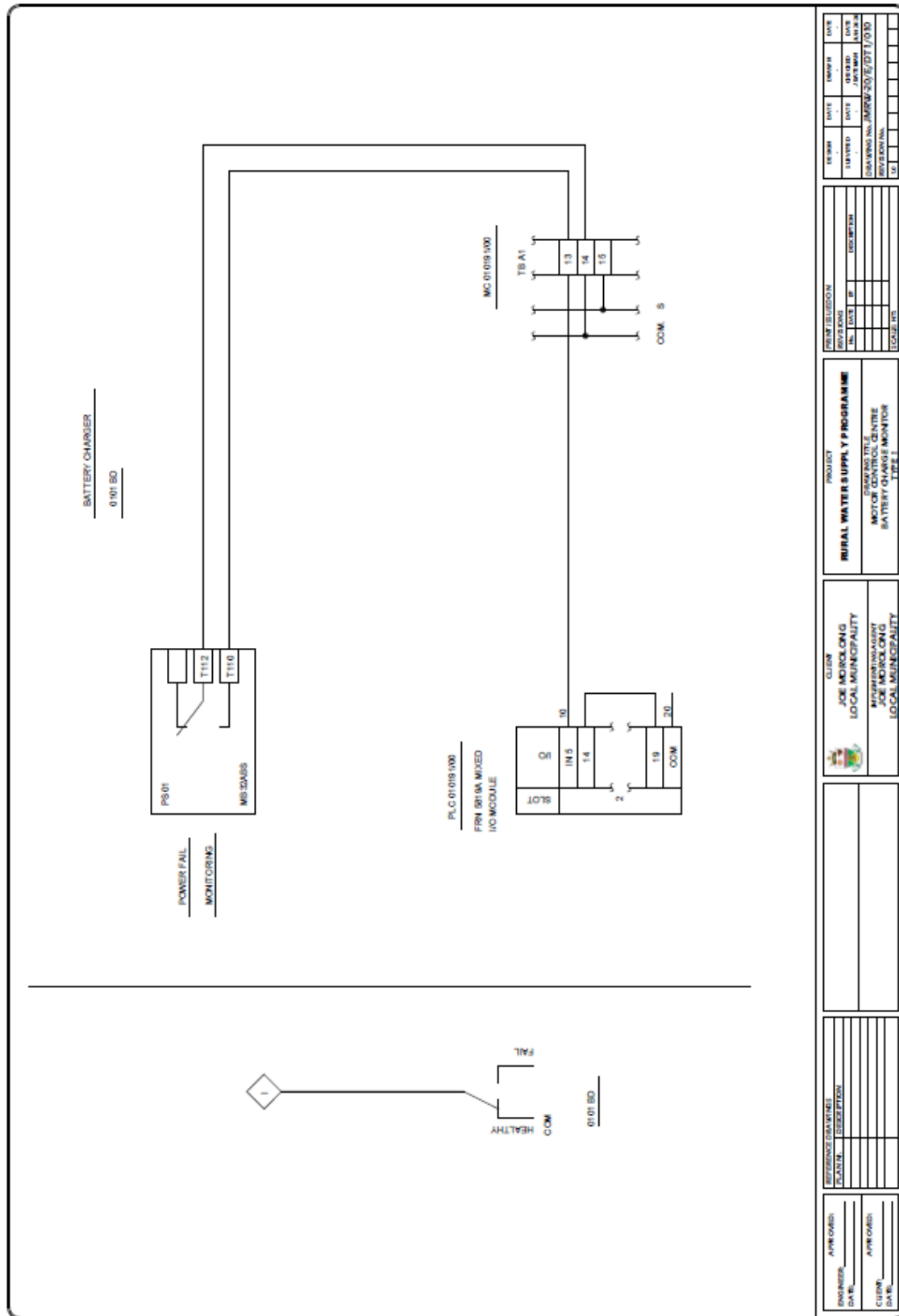
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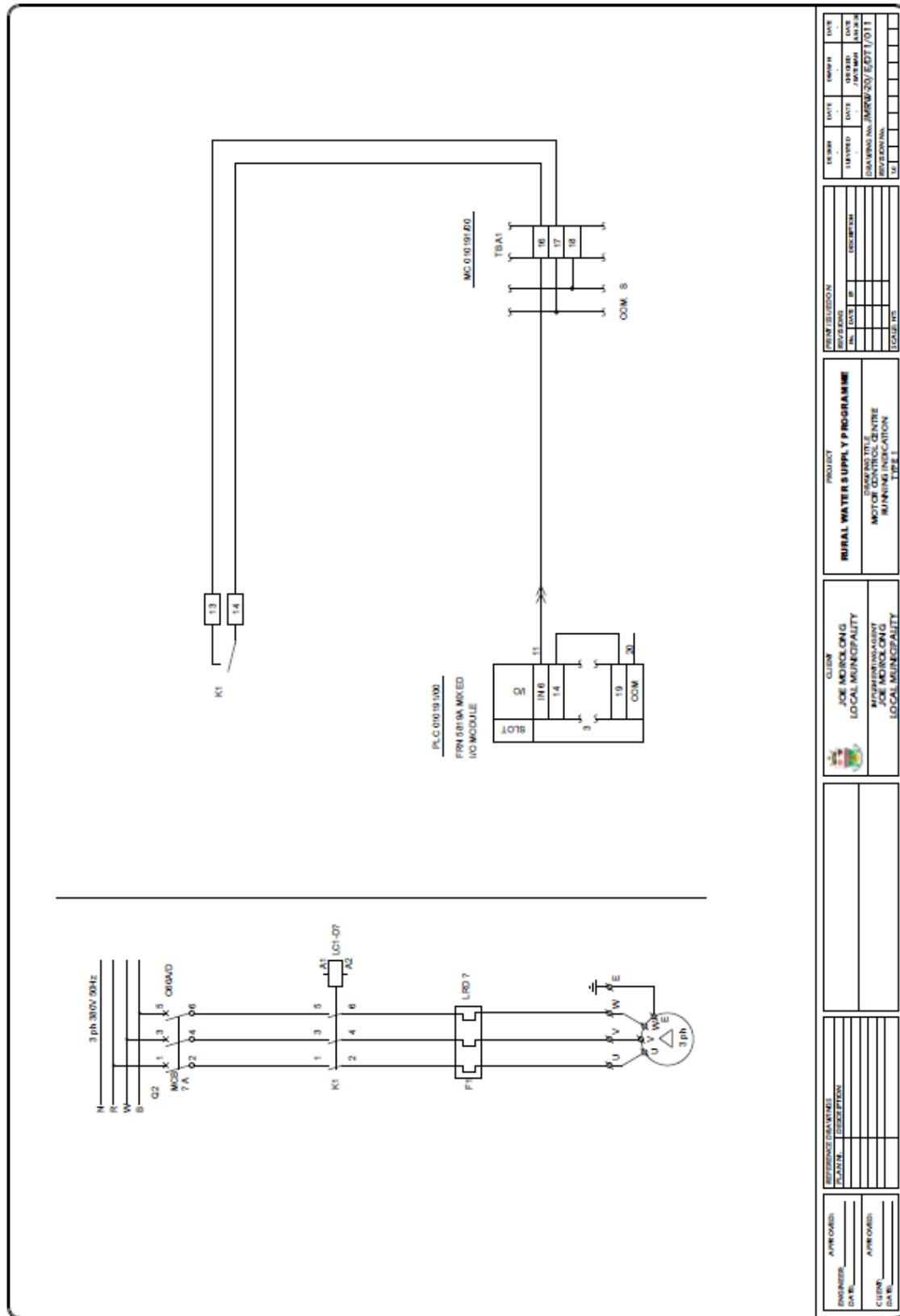
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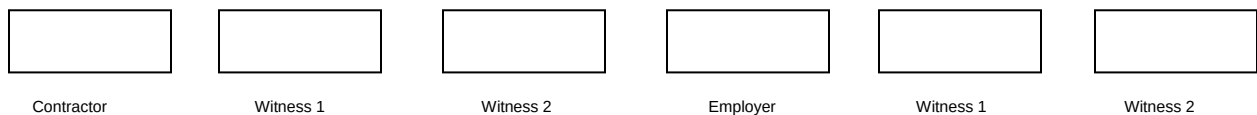
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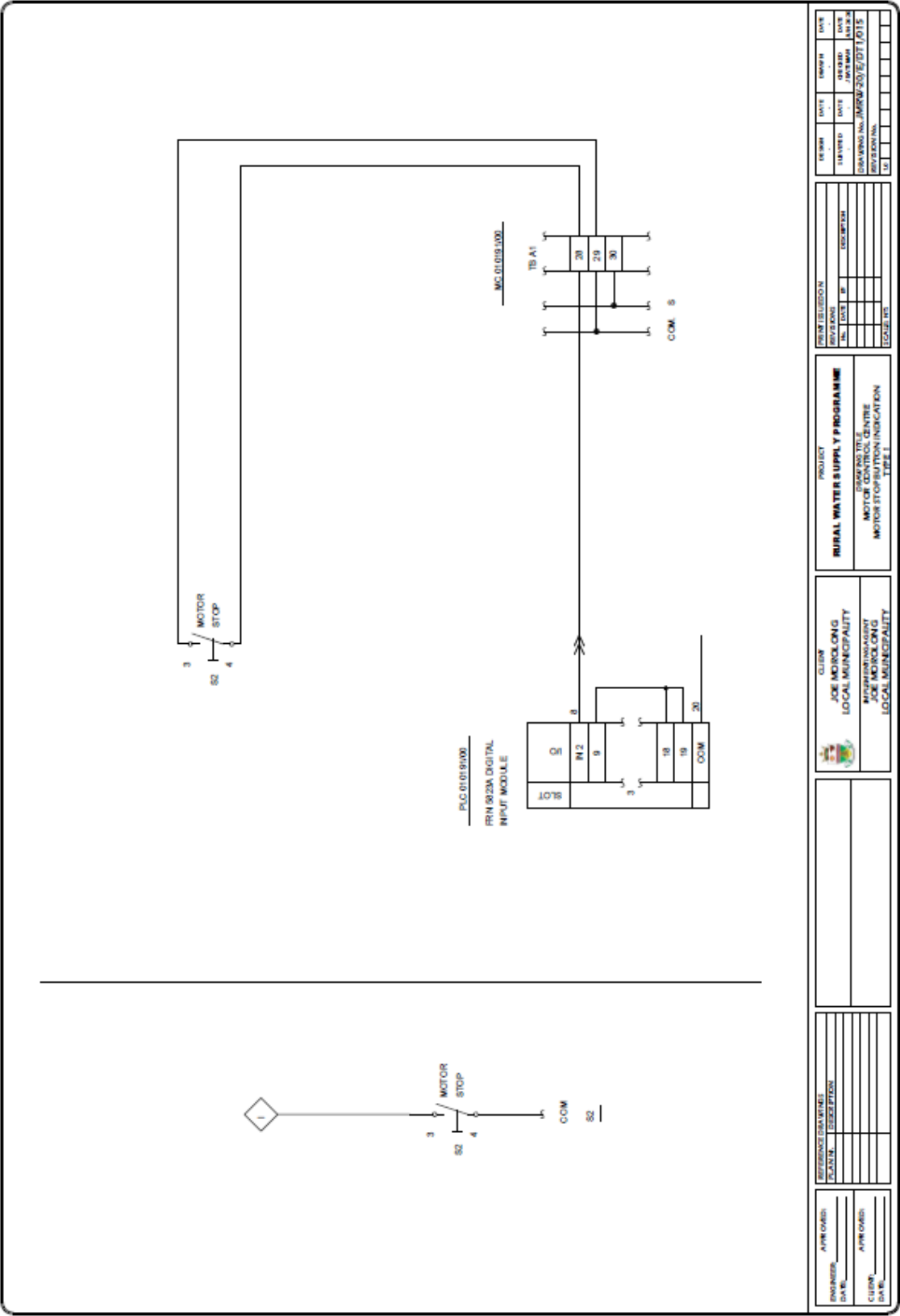
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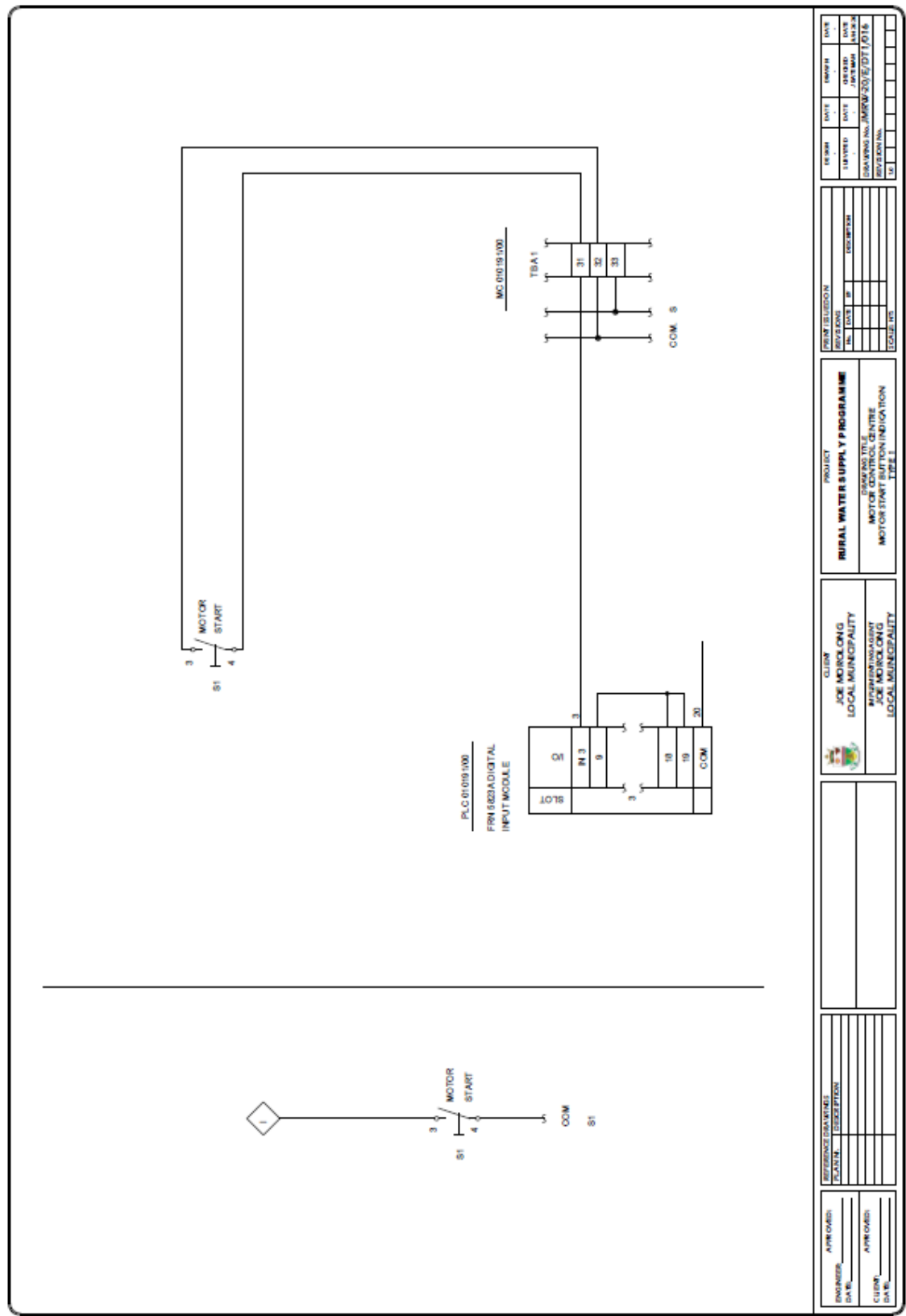
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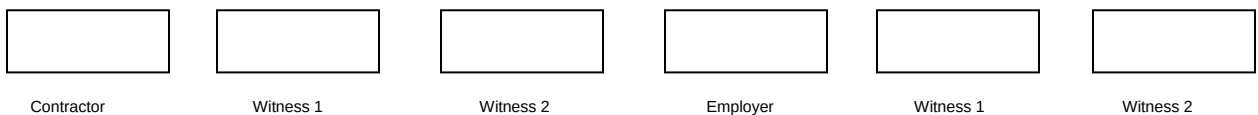
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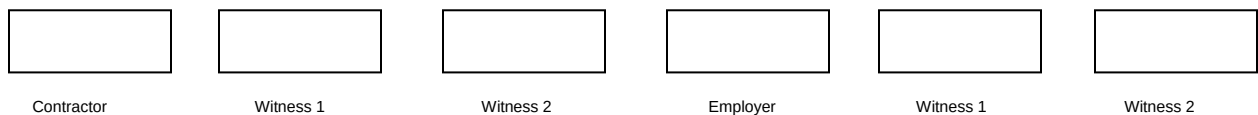


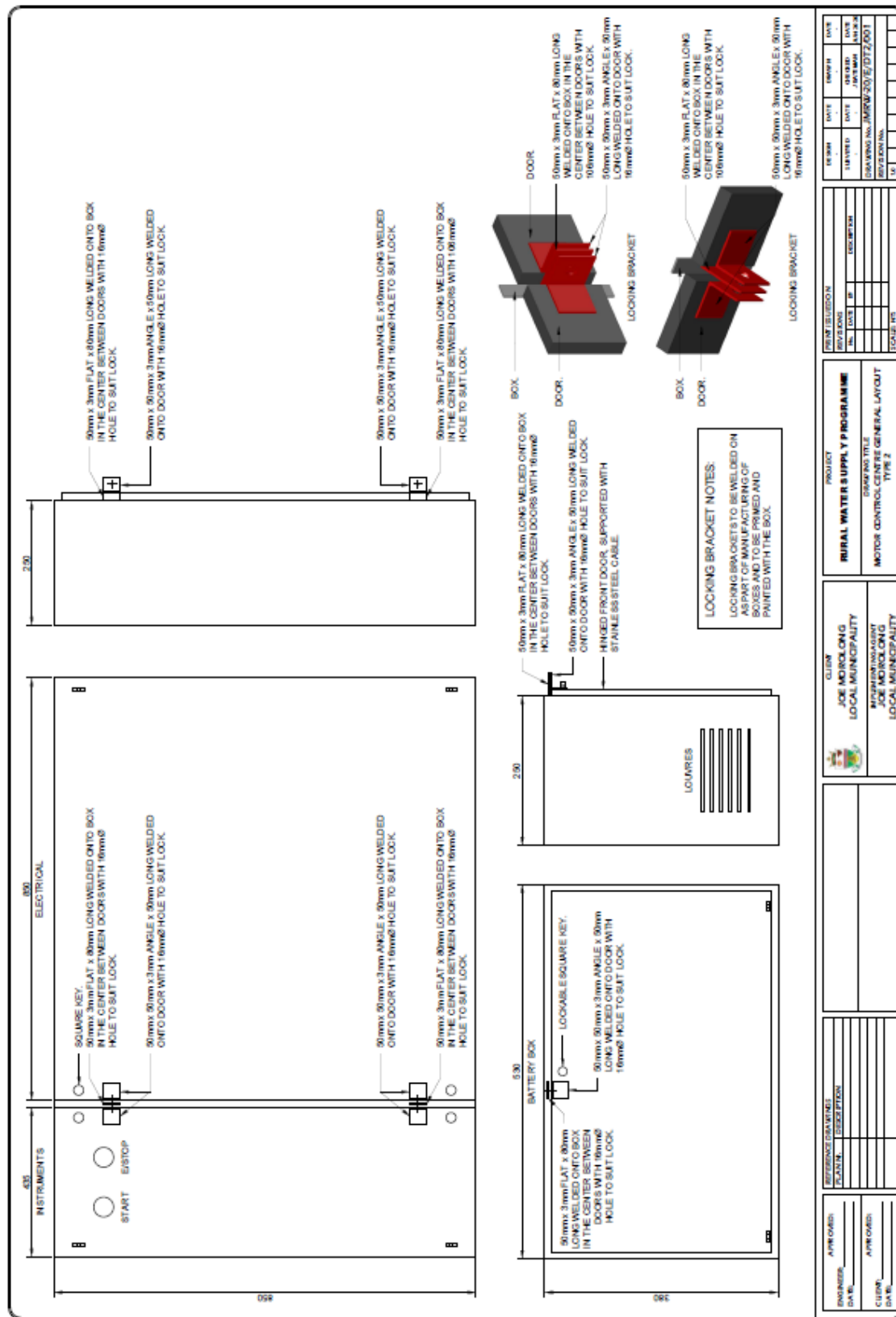
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2







Contractor

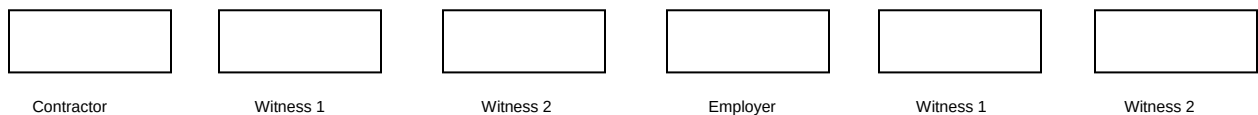
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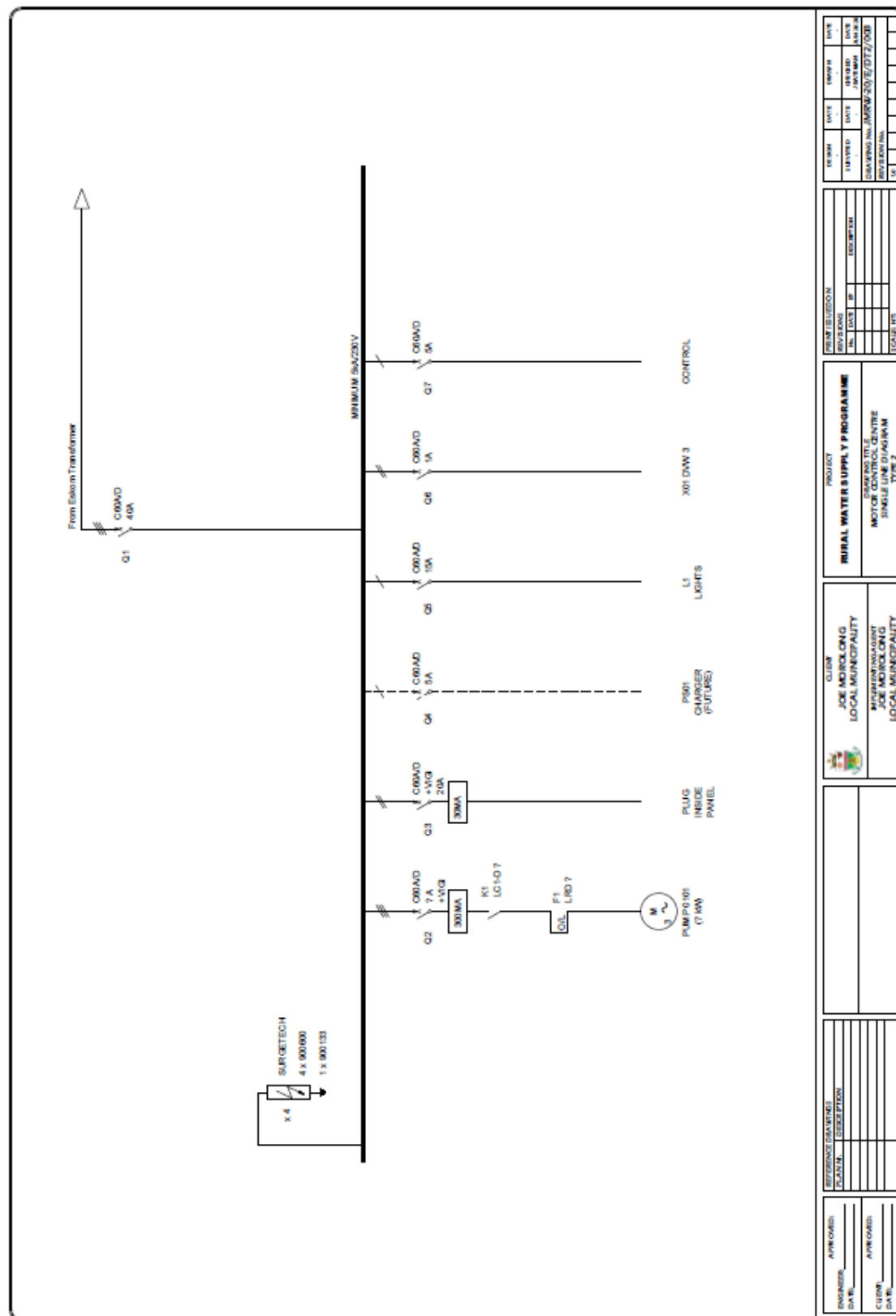
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Employer

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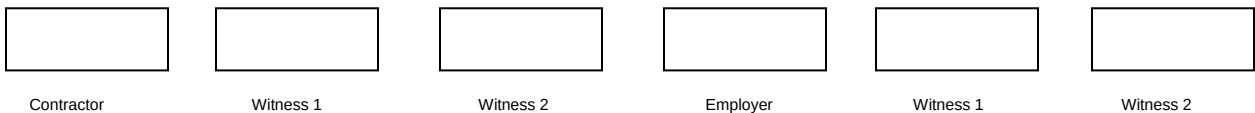
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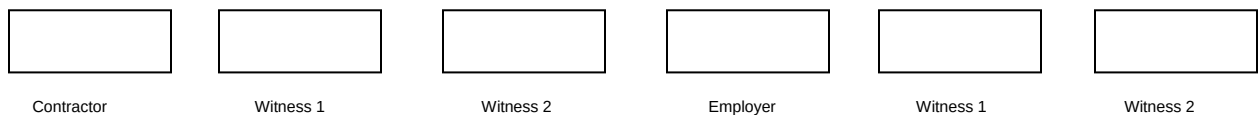
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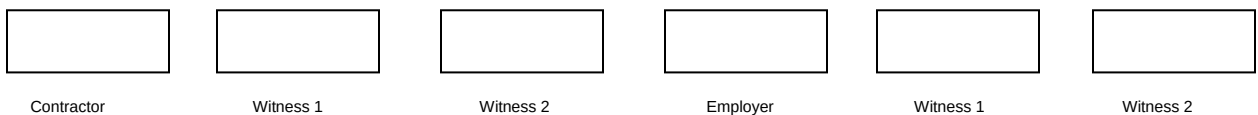
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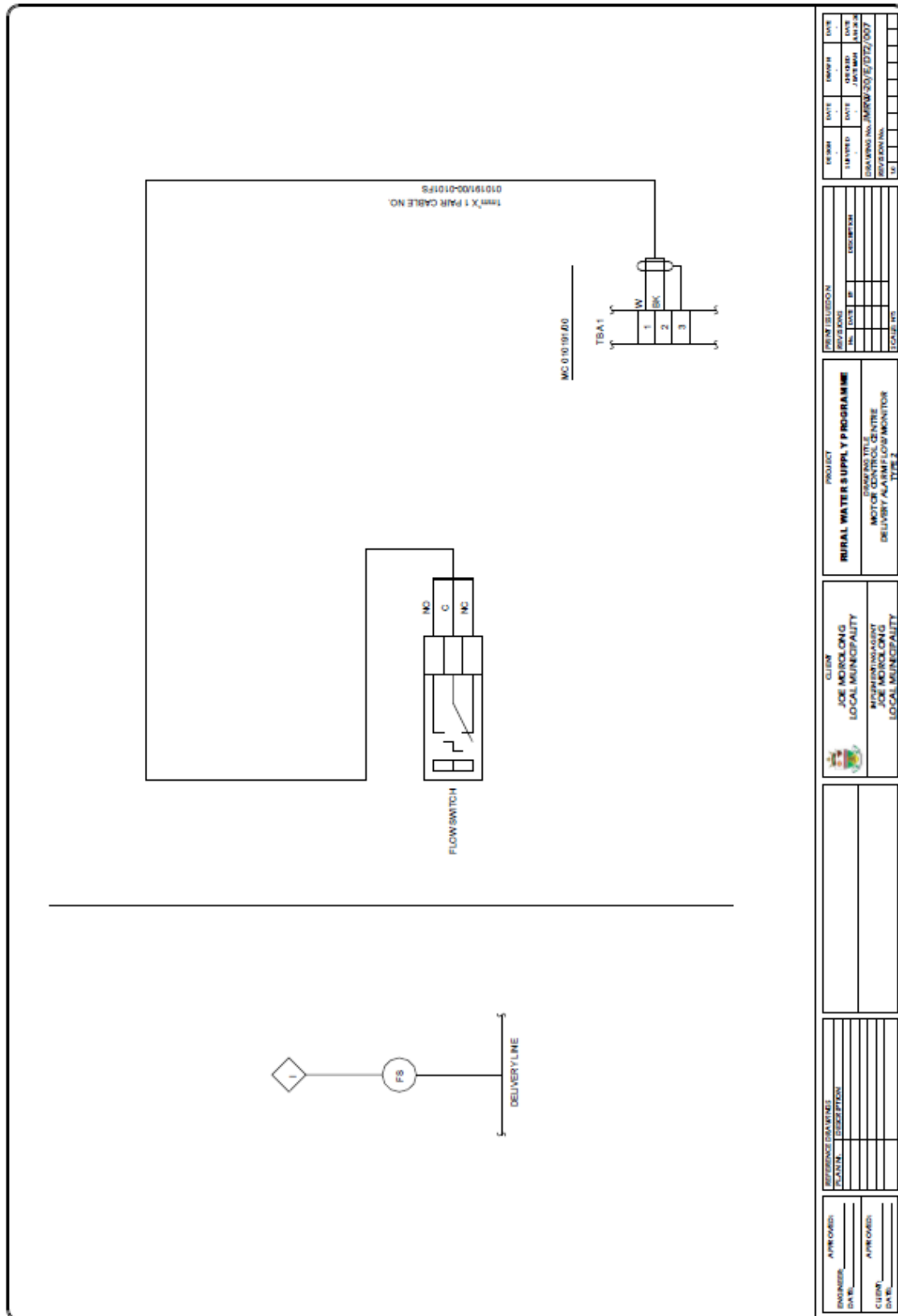
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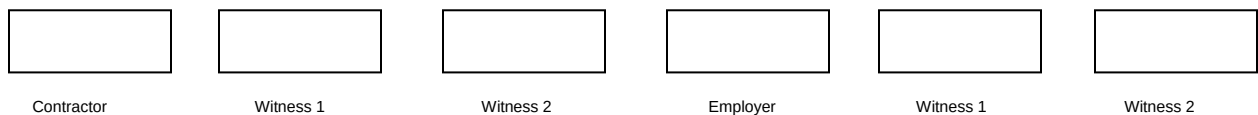
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Employer

Witness 1

Witness 2



SECTION C3.3: PROCUREMENT

C3.3.1 Procurement Principles

The Employer decided to adopt the Standard of Uniformity in Construction Procurement published by the Construction Industry Development Board (CIDB) for his procurement process.

The Standard for Uniformity in Construction Procurement establishes minimum requirements that:

- promote cost efficiencies through the adoption of a uniform structure for procurement documents, standard component documents and generic solicitation procedures;
- provide transparent, fair and equitable procurement methods and procedures in critical areas in the solicitation process;
- ensure that the forms of contract that are used are fair and equitable for all the parties to a contract; and
- enable risk, responsibilities and obligations to be clearly identified.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



SECTION C3.4: CONSTRUCTION

CONTENTS LIST FOR STANDARD SPECIFICATIONS

Section	Description
Section C3.4.1	Standard Specifications
PS	The Works

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C3.4.1 STANDARD SPECIFICATIONS

The Standard Specifications on which this contract is based are the South African Bureau of Standard's Standardized Specifications for Civil Engineering Construction (SABS 1200). (Note: "SABS has been changed to "SANS"; the SABS 1200 specifications are due to be replaced in the foreseeable future by SANS 2001 amongst other specifications).

Although not bound in nor issued with this Document, the relevant sections of the standard specifications shall form part of this Contract. These documents are available at the Contractor's expense from the SA Bureau of Standards, Private Bag X191, PRETORIA, 0001.

The applicable SANS 1200 Standardised Specification for this Contract shall be the following

- A - General
- AB - Engineers office
- C - Site clearance
- DA - Earthworks (Small Works)
- DB - Earthworks (Pipe Trenches)
- DK - Gabions and pitching
- GA - Concrete (small works)
- HA - Structural steelwork (sundry items)
- HB - Cladding and sheeting
- L - Medium pressure pipelines
- LB - Bedding (pipes)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PS PROJECT SPECIFICATIONS

PORTION 1: THE WORKS

PS 1 GENERAL DESCRIPTION OF THE WORKS

Refer to Section C3.1.2.

PS2 DESCRIPTION OF SITE AND ACCESS

The work to be undertaken will be in the Local Municipalities in the Joe Morolong Local Municipality's area of jurisdiction. The access to the individual sites is generally very poor and it could be expected that four-wheel drive vehicles should generally be required.

It is of critical importance that the Contractor should under all circumstances liaise with Joe Morolong Local Municipality, Local Municipalities and Tribal Authorities prior to going on site to ensure that the community is informed of work to be carried out by the Contractor. If the representatives of the abovementioned structures cannot be contacted, the Contractor should then not enter into a village for working purposes.

PS3 DETAILS OF THE CONTRACT

Refer to Section C3.1.2.

PS4 GEOLOGICAL AND GEOHYDROLOGICAL DATA

Existing geological data are available on request. These include reports of the anticipated drilling conditions from existing records and no claims for misinterpretation will be entertained. The following descriptions are intended to assist the Contractor in preparing his Tender only and departures in depth and geological conditions are to be expected.

No claims for extra payment for such variations will be entertained nor do such variations relieve the contractor from any responsibility hereunder nor from fulfilling any or all of the terms and requirements of this Contract. The major rock types present within the region include:

Alluvium, colluvium, ferricrete, calcrete, wad, diabase, shale, conglomerate, dolomite, chert, banded ironstone, quartz porphyry, lava, tuff, andesite, basalt, granite, norite, gabbro and amyphibolite.

Varying degrees of weathering and fracturing may be encountered within the above rocks.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PS5 LABOUR AND PERSONNEL

PS5.1 Contractors Personnel

The Contractor shall limit the utilisation of his permanently employed personnel to that of key personnel only on the Works, as defined below, and shall execute and complete the Works utilising a temporary workforce employed directly by the Contractor and/or by his sub-contractors, using the assistance of the Labour Desk(s), or similar arrangements which have been established for this purpose from the local community which is established in proximity to the Works or which will be consumers from the Scheme.

Without derogating from the Contractor's obligations to complete the Works within the specified time for completion in terms of Clause 5.5 of the Conditions of Contract, the numbers in each category of the Contractor's key personnel, as stated by the Contractor in Section T2 of his Tender, will be strictly controlled during the contract period and any increase in numbers will be subject to the prior approval of the Employer.

Key personnel means all contracts managers, site agents, site clerks, materials and survey technicians, quantity surveyors, trainers, supervisors, foremen, skilled plant operators, brick layers, welders, shutter hands and the like, and all other personnel in the permanent employ of the Contractor or his sub-contractors who possess special skills, and/or who play key roles within the Contractor's or his subcontractor's operations.

The Employer's Agent may at his discretion, upon receipt of a written and fully motivated application from the Contractor, and where he deems the circumstances so warrant, authorise in writing that the Contractor may utilise in the execution of the Works, workers not being his key personnel but who are in his permanent employ. Without limiting the generality of application of this sub-clause, circumstances which may be considered by the Employer's Agent to warrant authorisation of the use of the Contractor's permanent employees other than key personnel, include:

- a) The unavailability from local sources of sufficient numbers of temporary workers and/or sub-contractors to execute the Works, provided always that the Contractor has satisfied the Employer's Agent that he has exercised his best endeavours and taken all reasonable actions to recruit sufficient temporary workers and sub-contractors from local sources.
- b) The unavailability within the temporary worker pool and/or from subcontractor sources available to the Contractor in terms of the Contract, of sufficient skills necessary to execute the Works or specific portions thereof, in situations where the completion period allowed in the Contract is insufficient to facilitate the creation of the necessary skills through the provision of suitable training as contemplated in the Contract;

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- c) Any other circumstances which the Employer's Agent may deem as constituting a warrant.

PS5.2 Temporary Workforce

The Contractor shall employ labour from the local communities through the Labour Desk(s), or similar arrangements which have been established for this purpose. Accordingly, the workforce that is employed on Site shall consist of local residents, except for approved key staff in the permanent employ of the Contractor, to the maximum extent that is compatible with the requirements of Clause 4.11 of the Conditions of Contract.

The Labour Desk(s), or similar arrangements which have been established for this purpose shall assist in identifying available local labour and, where available, semi-skilled labour as well as local sub-contractors. The Labour Desks shall also assist and advise regarding conditions of employment, minimum wages, disputes and disciplinary procedures. The function of the Labour Desk(s) shall however in no way diminish the responsibilities of the Contractor in terms of Clause 4.10 of the Conditions of Contract.

Although the Contractor shall adhere to the statutory minimum wage rates (see Clause 4(5) of the Conditions of Contract), he is however at liberty to negotiate additional incentive payments based on performance.

A contract of employment or subcontract should be signed between the Contractor and each of his employees or sub-contractors, as the case may be. Likewise contracts of employment must be entered into between each such sub-contractor, and each of the specific subcontractor's employees. Employment and subcontract agreements shall make clear reference to at least the following conditions:

- The minimum agreed wage rate per hour in respect of labourers;
- The agreed pay rate per unit of production where applicable;
- UIF and WCA payments;
- Minimum working hours per day;
- Start and end times of a daily shift;
- Lunch break times;
- Company Policy regarding:
 - Rain time
 - Sickness and absenteeism
 - Disciplinary matters
 - Grievances
- Method and frequency of payment;
- Work clothes and safety equipment to be issued.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PS5.3 Labour Intensive Construction

Joe Morolong Local Municipality has decided that labour intensive construction methods are to be introduced and practised in some of the activities of this project.

Labour Intensive Construction shall mean the economically efficient employment of as great a portion of labour as is technically feasible to produce a standard of construction as demanded by the Specifications with completion by the Due Completion Date, thus the effective substitution of labour for equipment.

Appropriate portions of the Works included in the Contract shall be executed using labour intensive construction methods. Portions of the works to be executed using Local Labour intense methods are:

- clearing and grubbing of the Site;
- bush clearance.

PS6 CONSTRUCTION PROGRAMME

PS6.1 Information to be made available

A large number of boreholes to be drilled are still to be sited. Prior to the drilling activities, borehole drilling targets will be provided by the Geohydrologist to the drilling Contractors indicating the various drilling sites. The drilling programme to be undertaken within a specific area/district will only be available approximately one week in advance. Close collaboration between the Project Employer's Agent (or his representative), the nominated Geohydrologist and the Contractor must be maintained at all times.

PS6.2 Phasing of the works

The works will be scheduled, as far as is practically possible.

PS6.3 Interruption in work schedule

If information or particulars on new drilled sites as mentioned in clause PS6.1 or boreholes to be rehabilitated, is not available from the Client for any period of time, the Contractor will be ordered in writing to discontinue work in that specific region or site. When the Contractor is requested to resume work, establishment cost will be paid as if the Contractor moved in from another borehole or his base camp whichever the situation might be. Establishment costs shall be as per tendered rates. No adjustment will be made in any of the rates in the Schedule of Rates.

No Time Related Preliminary and General will be payable for the period from discontinuation of work until re-continuation of work (viz 1 month after the order in writing to resume work).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PS6.4 Format and Approval

As soon as information is available with regard to a batch of boreholes to be drilled or rehabilitated, the Contractor shall supply within one week (7 days) a suitable and realistic construction programme for the consideration of the Engineer. This programme shall show the proposed scheduling and methods of execution of the Works and the resources to be allocated to each item or phase of the work. Quantities proposed for execution during each month and the anticipated cash flow based upon these quantities should be shown, due allowance being made for price escalations and retention moneys.

The Contractor will be expected to progress with the Works in accordance with the approved programme and shall not deviate from the order of execution shown in the programme without the prior approval of the Employer's Agent or his Representative. Should such approval be given an adjusted programme shall be produced within 7 days and submitted to the Employer's Agent for evaluation. Progress in advance of the programme or certain portion or phase of the Works shall not be considered adequate reason for poor progress on another portion or phase.

PS6.5 Partial Completion and Monthly take over

Boreholes that have been drilled will be taken over once per month in a batch for which a Certificate of Completion will be issued. The maintenance period on the work completed will commence with the issuing of the Certificate of Completion. The retention on the completed work will be reduced to fifty percent of the amount of retention (ten percent) to a maximum of five percent of the estimated value of work. Boreholes that have been drilled will not be taken over by the Joe Morolong Local Municipality or paid for unless the drilling reports on the boreholes have been signed and handed over to Joe Morolong Local Municipality or the Engineer.

PS6.6 Penalties

The penalties for late completion are indicated in the Contract Data. The penalty in respect of each instruction/batch shall remain in force until all work for the particular instruction/batch has been completed. The penalties for the instructions/batches will be applied independently and are accumulative.

PS6.7 Programme to be submitted by the Contractor

The Contractor shall supply within the period stated in the Contract Data and for consideration by the Employer's Agent, a suitable and realistic drilling programme that is based on the instruction/batch issued by the Employer's Agent for drilling of boreholes. This programme shall show the proposed drilling scheduling, as well as the resources that will be allocated to each item.

The Contractor will be expected to progress with the Works in accordance with the approved programme, and shall not deviate from the order of execution shown in the

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

programme without the prior approval of the Employer's Agent or his Representative. Should such approval be given an adjusted programme shall be produced within seven (7) days and submitted to the Employer's Agent for evaluation.

Progress in advance of the programme on certain portions of the Works shall not be considered adequate reason for poor progress on another portion.

PS7 SITE FACILITIES AVAILABLE

PS7.1 Camp and Depot

No specific area can be made available to the Contractor for erection of his camp and depot, where materials and plant can be stored and from which the administration of the contract could be undertaken by the Contractor. All arrangements in this regard must be made by the Contractor himself.

PS7.2 Water Supply

Water supply will not necessarily be available at the camp or depot.

PS7.3 Power Supply

Power supply will not necessarily be available at the camp or depot or at boreholes to be drilled.

PS7.4 Ablution Facilities

No ablution facilities are available at the camps and depots or at boreholes to be drilled.

PS7.5 Housing

Should the Contractor wish to house personnel on site, he shall make the necessary arrangements with the controlling authorities for any approval that may be required.

PS8 SITE FACILITIES REQUIRED

PS8.1 For the Contractor

Whatever may be required for the satisfactory execution of the Contract.

PS8.2 For the Engineer

None.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PS9 FEATURES REQUIRING SPECIAL ATTENTION

PS9.1 Schedule of Rates Contract

Contractors' attention is again drawn to the fact that the contract is a **“Schedule of Rates”** Contract.

The individual rates for drilling of boreholes shall not be altered for any reason or claim. Additional payment for time related preliminary and general aspects and establishment costs will only be paid as specified in the contract document.

The standard drilling method to be employed for the drilling of boreholes for rural community water supplies will be that of rotary air percussion. The use of other drilling methods (mud-rotary and odex) and specialised borehole construction methods may be required in some instances where specialised geological drilling conditions prevail. The use of and rates for specialised drilling and borehole construction methods must be approved by the Client prior to it's application.

Tenderers are to take note that the drilling contractor should have at all times two complete drilling rigs available of this contract.

PS9.2 Built-up Areas

The Contractor's attention is drawn to the fact that portions of Works will be executed close to built-up areas. The Contractor shall exercise all necessary precautions and take all necessary steps to ensure the safety and convenience of the public.

PS9.3 Care of the Site

At all times during drilling of boreholes and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store all materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

PS9.4 Control of Water

The Contractor shall at all times and in all respects be responsible for the handling of discharge water of the Works. No separate payment shall be made in this regard, as all costs related thereto shall be deemed to be included in the rates tendered for the various items of work that are included in the Schedule of Rates.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PS10 STATUTORY REGULATIONS

The Occupational Health and Safety Act, Act 85 of 1993 (referred to as “the Act” below), and all regulations promulgated thereunder must be adhered to by the Contractor, with

specific reference to the safety of all employees and the public, irrespective of whether such employees are employed by the Contractor or by his subcontractors (including local subcontractors). The Contractor, in entering into this Contract, hereby agrees with the Employer in terms of Section 4.4 of the Act, that the Contractor as an employer in its own right and in its capacity as Contractor for the execution of the Works, shall have certain obligations and that the following arrangement shall apply between the Contractor and the Employer to ensure compliance by the Contractor with the provisions of the Act, namely:-

- (i) The Contractor undertakes to acquaint the appropriate officials and the 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 will be fully complied with; and
- (iii) The Contractor hereby 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 and the Employer’s Agent from being obliged to comply with any of the aforesaid duties, obligations and prohibitions in respect of the Works; and
- (iv) The Contractor shall be obliged to report forthwith to the Employer and the 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 on behalf of the Employer, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



CONTENTS LIST FOR AMENDMENTS TO THE STANDARD SPECIFICATIONS

Section	Description
Section C3.4.2	Amendments to the Standard Specifications
PSA	General
PSAB	Employer's Agent's Office
PSC	Site Clearance
PSDA	Earthworks (Small Works)
PSDB	Earthworks (Pipe Trenches)
PSDK	Gabions and Pitching
PSGA	Concrete (Small Works)
PSHA	Structural Steel (Small Works)
PSL	Medium Pressure Pipelines
PSLB	Bedding (Pipes)
PSLF	Erf Connections

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C3.4.2 AMENDMENTS TO THE STANDARD SPECIFICATIONS

The following variations and additions to the Standard and Particular Specifications will be applicable to this contract.

The various documents listed in C3.4.1 shall be treated as mutually explanatory. However, should any requirement of Section C3.4.2 or C3.4.3 conflict with any requirement of Standardised Specifications or with any requirements of the Particular specifications, then the requirement of Sections C3.4.2 and C3.4.3 shall prevail.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSA GENERAL

PSA1 SPECIFICATION DRAWINGS (Clause 2.7)

Specification Drawings may be included in this document as annexures to the Project and Particular Specifications. Where such Specification Drawings depict items and standard structures according to layouts and details differing from those shown in the Standardised Specifications, the layouts and details shown in the annexures to the Project and Particular Specifications shall be adopted.

PSA2 QUALITY (Clause 3.1)

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

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.)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSA3 MATERIALS

PSA3.1 Supply of Materials

The Contractor will be responsible to supply all the materials necessary for the proper execution of the works. He shall also be fully responsible for quality of materials used and/or installed.

PSA4 PLANT (Clause 4.3)

Except where the use of plant is essential in order to meet the specified requirements by the Due Completion Date, the Contractor shall use only hand tools and equipment in the construction of those portion(s) of the Works that are required in terms of the Project Specifications to be constructed using labour intensive construction methods.

PSA5 CONSTRUCTION

PSA5.1 Setting Out of the Works

Where labour-intensive work is specified, the Contractor shall also be responsible for the setting out of daily tasks.

PSA6 TESTING (Clause 7)

- (a) All test results obtained by the Contractor in the course of his process control of the Works shall be submitted to the Employer's Agent or his Representative prior to requesting inspection of the relevant portions of the Works. Any request for inspection shall be submitted on the prescribed forms that are appended as annexures to the Specifications.
- b) 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 Employer's Agent to order suspension of the Works without additional remuneration in terms of Clause 39 of the Conditions of Contract, or for him to recommend determination to the Employer in terms of Clause 55 thereof.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- c) The Contractor shall deliver to the Employer's Agent, 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.

PSA7 SITE CORRESPONDENCE

PSA7.1 Instructions by the Employer's Agent

Site instructions by the Employer's Agent, addressed to the Contractor at his office on the Site, will be numbered consecutively and will be deemed to have been received by the Contractor's Representative unless a break in the sequence of numbers is brought to the notice of the Employer's Agent in writing immediately.

PSA7.2 Site Diary

A site diary, which will be supplied by the Employer's Agent, must be filled in on a daily basis and submitted to the Employer's Agent on a monthly basis. No claims will be considered without the site diary's schedule properly completed (on a daily basis) and submitted. A site diary will be kept one per site.

PSA8 SITE MEETINGS

Refer to Section C3.5.1.10.

PSA9 PAYMENT (Clause 8.2)

Refer to Section C3.5.1.11.

PSA10 REPORTS

The submission of each monthly payment certificate shall be accompanied by a completed Progress Report.

This report is a pre-requisite for the approval of each monthly payment certificate and shall be completed in full to illustrate all work completed the preceding month, as well as work in progress at the time of submission of the report.

Each of these reports must be accompanied with the relevant, completed appurtenant Borehole Schedules (refer to the Annexures). Relevant day work reference must be attached to each Equipping Schedule.

Labour intensive activities must be reported separately.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSA11 SUMS STATED PROVISIONALLY (Clause 8.5)

PSA11.1 Contingencies

No provisional sum has been included in Schedule 1 for contingencies. No percentage mark-up will be applicable to any payments made using contingency money other than those included in prices for variations determined in terms of Clause 6.4 of the Conditions of Contract.

PSA11.2 Contract Price Adjustment

No provisional sum has been included in Schedule 1 for Contract Price Adjustment (CPA). No percentage mark-up will be applicable to any payments made using CPA money other than as determined by the CPA Formula applicable to the Contract.

PSA11.3 Materials for Dayworks

A Provisional Sum has been included in Schedule 1 for materials to be used during the execution of dayworks. In addition to the abovementioned amount, provision is made in Schedule 1 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.

PSA11.4 Royalties for Borrow Materials

A Provisional Sum has been included in Schedule 1 for any royalties that may become payable by the Contractor in obtaining suitable borrow materials from sources designated by the Engineer. Payment will be based on the royalties actually and necessarily paid. In addition to the above amounts, provision is made in Schedule 1 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 clause 6.6 of the Conditions of Contract.

PSA11.5 Chlorine Dosing Plant (Supply of Materials)

A Provisional Sum has been included in Schedule 1 for the supply of a Chlorine Dosing Plant. The rate shall include for the design, manufacturing, transport to site and off-loading of all material, tanks, pipes, valves, meters, filter media, dosing equipment, chemicals, pumps, motors, electrical panels etc required for the proper installation of the

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

plant. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in clause 6.6 of the Conditions of Contract.

PSA12 PRIME COST ITEMS (Clause 8.6)

PSA12.1 Acceptance Control Testing of Earthworks

A Prime Cost Item has been included in Schedule 1 for acceptance control testing of earthworks ordered by the Employer's Agent 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 above-mentioned amount, provision is made in Schedule 1 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 Clause 6.6 of the Conditions of Contract.

PSA12.2 Labour Desk Officers

A prime cost item has been included in Schedule 1 for the compensation of the Labour Desk Officer. Payments will be done to the Labour Desk Officer on instruction of the Employer's Agent, in writing. In addition to the abovementioned amount, provision is made in Schedule 1 for a mark-up on the payments made to Labour Desk Officers. This mark-up shall be regarded as a full compensation for overheads, charges and profits as provided for Clause 6.6 of the Conditions of Contract.

PSA12.3 Artisan and Skills Training

A Prime Cost Item has been included in Schedule 1 for payments to be made to specialists for the training of unskilled or semi-skilled persons in industry accredited management and generic skills. Payment to the Contractor will be based on invoices certified by the Employer's Agent and issued by training specialists to the Contractor for work undertaken in terms of this item.

In addition to the above amounts, provision is made in Schedule 1 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 Clause 6.6 of the Conditions of Contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSA12.4 Telephone Calls and Rental

A Prime Cost Item has been included in Schedule 1 for telephone calls and facsimile transmissions as well as rental and maintenance associated with the telephone(s) to be supplied to the Employer's Agent's Representative(s) for the duration of the Contract as specified in section PSAB below. Payment will be based on call and rental costs, but excluding any deposits and installation costs which shall be priced under the preliminary and general items. In addition to the above amount, provision is made in Schedule 1 for a mark-up on any payments made by the Contractor. This mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in Clause 6.6 of the Conditions of Contract.

PSA12.5 Electrical Connection Fees

A prime cost has been included in Schedule 1 for payments to Eskom in respect of electrical connection fees for borehole equipment. In addition to the above-mentioned amount, provision is made in Schedule 1 for a mark-up on the connection fees paid. This mark-up shall be regarded as full compensation for overheads, changes, administration and profits as provided for in Clause 6.6 of the Conditions of Contract.

PSA12.6 Specialist Contractors

A prime cost has been included in Schedule 1 for payments made to Specialist Contractors, which will be executed specialist work. In addition to the above-mentioned amount provision is made in Schedule 1 for a mark-up on the Specialist Contractors paid. This mark-up shall be regarded as full compensation for overheads, charges, administration and profits as provided for in Clause 6.6 of the Conditions of Contract.

PSA12.7 Prepaid Water Meters

A prime cost has been included in Section 1 for the supply and delivery of pre-paid water meter units and accessories. In addition to the abovementioned amount, provision is made in Schedule 1 for a mark-up for paying for the supply of pre-paid water meters and accessories. This mark-up shall be regarded as full compensation for overheads, charges and profits provided for Clause 6.6 of the Conditions of Contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSA12.8 Initializing of Pre-paid Meters and Household Tokens

A prime cost has been included in Section 1 for the initializing of pre-paid meters and household tokens as well as the registration of households. In addition to the abovementioned amount, provision is made in Schedule 1 for a mark-up for paying for the initializing of pre-paid meters and household tokens as well as the registration of households. This mark-up shall be regarded as full compensation for overheads, charges and profits provided for clause 6.6 of the conditions of Contract.

PSA12.9 Accommodation for Employer's Agent's Representative

A Prime Cost Item has been included in Schedule 1 for accommodation to be supplied to the Employer's Agent's Representative(s) for the duration of the Contract as specified in section PSAB below. Payment will be based rental costs and include any deposits and /or booking costs. In addition to the above amount, provision is made in Schedule 1 for a mark-up on any payments made by the Contractor. This mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in Clause 6.6 of the Conditions of Contract.

PSA12.10 Management of approved emerging local sub-contractors

A prime cost has been included in Schedule 1 for management of approved emerging local sub-contractors, which will be executed during works. In addition to the above-mentioned amount provision is made in Schedule 1 for a mark-up on amounts paid to the approved emerging local sub-contractors. This mark-up shall be regarded as full compensation for overheads, charges, administration and profits as provided for in Clause 6.6 of the Conditions of Contract

PSA13 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 Project Specifications, no adjustment to the total for time-related preliminary and general items will be applicable.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSA14 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.

PSA15 ADJUSTMENT OF PRELIMINARY AND GENERAL ITEMS DUE TO INTERRUPTION IN WORK SCHEDULE

Should the period of completion be automatically extended in terms of clause PS5.6 as a result of interruption in the contractors work schedule during execution of the contract, no adjustment to the total for time related preliminary and general items would be applicable. Time related preliminary and general items will be paid only if the Contractor has been established on site during a specific period. Therefore, if the Contractor was not established on site, time related P & G-items will not be paid.

If he was on site for only a limited period during a specific month, time related P&G items are to be paid in full for such a month.

PSA16 PAYMENT FOR ESTABLISHMENT OF FACILITIES AND ADDITIONAL ESTABLISHMENT OF FACILITIES ON THE CONTRACTS

PSA16.1 Amend clause 8.3.2 of SABS 1200 A as follows:

Change the heading of clause 8.3.2 to :

"First establishment of facilities on site at the depot or contractors main camp."

Item 8.3.2.1. to 8.3.3 as per the SABS 1200 A : No change

The purpose of this payment item is to remunerate the contractor for all establishment costs at the **single main depot/camp** where the contractor will establish for the duration of the contract. (Only payable at first establishment. For re-establishment, see Clause PSA 16.4).

Important Note :

The contractor will also not be paid any additional establishment costs in each Local Municipality or inter-borehole movements, when the contractor moves into a Local Municipality to re-do defective or maintenance work in that Local Municipality.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSA16.2 Amend clause 8.3.4 of SANS 1200A as follows:

Change the heading of clause 8.3.4 to:

"Remove Contractor's site establishment on completion of contract or interim de-establishment (on instruction of the Engineer)."

The purpose of this clause is to remunerate the contractor for all de-establishment costs (interim or at the end of the contract) and shall provide for the making good and restoring of the site to the satisfaction of the Engineer.....Unit : Sum

PSA16.3 Include the following Clause 8.3.6:

Village Movement / Site Movement

All movements ordered by the Employer's Agent, shall be priced as follow:

Distances measured in one direction only along the shortest, most feasible route:

- (a) This rate to make provision for fixed charge items relating to movement from the Contractor's base camp to an equipping site where construction is in progress, and shall include all actions necessary to temporarily establish at the required village, all travelling costs to and from that borehole, as well as re-establishment at the borehole where construction had been interrupted or completed.

This rate to apply to the equipping of boreholes, construction of rudimentary networks, secondary networks and/or house connections 10 km or less in distance from where construction is in progress for the following:

- As per Engineers Instruction less than R500 000 in construction value (Excluding Schedule 1 items) **Unit: No**
- As per Engineers Instruction where the construction Value (Excluding Schedule 1 is greater than R500 000.00 but less than R1 000 000.00**Unit: No**
- As per Engineers Instruction where the construction value (Excluding Schedule 1 Items) is greater than R1 000 000.00 but less than R5 000 000.00.....**Unit: No**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- As per Engineers Instruction where the construction value (Excluding Schedule 1 items) is exceeding R5 000 000.00
 **Unit: No**

- (b) This rate to be an extra-over rate above PSA16.3(a) activities in excess of 10 km from where programmed construction is in progress measured in one direction only along the shortest, most possible route.....**Unit: Km**

Site movement will be paid only once. For example, if a reticulation is to be installed in a village, a "site movement" will be paid only once, irrespective if such installation could be spread over a long period.

- (c) The client reserved the right to replace the site movement items (a) and (b) with daywork rates for any specific Engineers Instruction.

PSA16.4 Include the following clause 8.3.6

"Additional establishment cost payable to the Contractor on re-establishment."

- This item must cover all costs incurred by the Contractor when re-establishing after a previous de-establishment on instruction of the Engineer. Such re-establishment cost must not be confused with the initial establishment costs.....**Unit: Sum**

PSA16.5 Time Related Items

All time related items will be for the programme and not per single instruction or village.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSAB EMPLOYER'S AGENT'S OFFICE

PSAB1 NAME BOARDS (Clause 3.1)

Two name boards confirming to the standard requirements of the South African Association of Consulting Engineers and as shown on drawing JMRW-20/G/D/001-002 must be provided and erected at points to be designated by the Employer's Agent during the duration of the Contract for this purpose.

PSAB2 OFFICE BUILDING (Clause 3.2)

An office building shall be provided per appointed Contractor and maintained for the duration of the Contract. The following variations and additions to the requirements of SANS 1200AB shall apply

- a) The office shall have a floor area of at least 32 m².
The office to be divided into two equal sections with access between offices.
- b) The minimum glazed area shall be 6 m².
- c) The minimum window opening shall be 4.0 m².
- d) Ten (10) office chairs and three (3) desks of 1.5 m² are required in addition to those furnishings specified in SANS 1200AB.
- e) Rack for hanging contract drawings shall be provided.
- f) One 15 amp plug point is to be installed within each of the offices.
- g) A 0,75kW air conditioner with suitable power supply (reverse cycle/compressor type) is to be installed in each of the offices.

PSAB3 TELEPHONE (Clause 5.4)

Two cellular telephone of an approved type shall be provided for the exclusive use of the Employer's Agent's Representative for the duration of the Contract.

The Contractor shall make all arrangements necessary for the provision of the cell phone, and shall pay all necessary deposits and installation costs that may be applicable. A prime cost item has been allowed in Schedule 1 to cover all call and rental costs that are associated with the provision of this facility for the Employer's Agent's Representative.

PSAB4 PERSONAL COMPUTER

The Contractor shall provide and maintain in good working order two personal computers and printers on site for the exclusive use of the Employer's Agent's Representatives with the following specifications:

(a) Computer:

- Dell Inspiron 3593 i5 1035G1 Notebook
- Windows 10
- 15.6-inch HD Anti-Glare Display
- 8GB RAM & 1TB HDD
- 10th Gen Intel Core i5 1035G1 Processor
- 3-Cell Battery, 42WHr (Integrated)
- Intel UHD Graphics
- WIFI 802.11ac 2x2
- Gigabit LAN port, Bluetooth
- 3 USB ports, HDMI 1.4b slot
- 5-in-1 Card reader, HDMI HD (720p) Webcam with Single Digital Microphone

(b) Printer

- HP Laser MFP137fnw All-in-One or similar approved
- 20ppm

PSAB5 SURVEY ASSISTANTS (Clause 5.5)

Two suitably educated and trained survey assistant shall be made available for the sole use of the Employer's Agent's Representative(s) for the duration of the construction.

PSAB6 SURVEY EQUIPMENT

The survey equipment listed hereunder shall be made available for the exclusive use of the Employer's Agent for the duration of the Contract. Equipment shall be insured and maintained for the full duration of the Contract.

(a) Automatic surveyor's level complete with tripod and carry

case such as Zeiss N1-2 or equivalent 2 No

(b) 20-second tachometer with optical plum bob complete with tripod

and carry case such as Sokkisha TM20C or equivalent. 2 No.

(c) Nylon-coated steel surveyor's tape 100m long and 10mm wide 2 No.

(d) 5m long steel tape 2 No.



(e) 5m long three-piece telescopic survey staves (metric double-face)	
complete with angle bracket level	2 No
(f) 2kg hammer with rubber handle	2 No.
(g) Steel pegs, 300mm long and 12mm dia	200 No.
(h) Measuring wheel	2 No
(i) Tripod holders for ranging rods (heavy duty)	4 No.
(j) Optical square (Sokkisha or Wild), complete with	
telescopic aluminium rod and bubble	2 No.
(k) 100m long 50 kg strength fish line	2 No.
(l) One metre long spirit level	2 No.
(m) DCP	2 No.
(n) 100m Dip meter (water level meter)	2 No.
(o) A Troxler nuclear system complete with accessories and store 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. (Troxler Model 341B).	

PSAB7 CARPORTS

The Contractor shall provide four carports of at least 30 m² each, two at each Engineers Office, which is so constructed as to provide shelter for the vehicles from the rain and the direct rays of the sun. The floor shall consist of crushed aggregate to alleviate dusty and muddy conditions.

PSAB8 DIGITAL CAMERA

The Contractor shall provide, insure and maintain for the full duration of the contract two approved digital cameras complete with data zoom features.

PSAB9 LABORATORY

No laboratory buildings or fittings are required by the Engineer. The Employer's Agent will arrange separately with a commercial laboratory or designate specialists to carry out all acceptance control testing including cube testing, but excepting for density control tests. See clause PSA12 for detail of the Prime Cost item provided for this purpose. The



Contractor shall remain responsible for carrying out the process control testing that is required by the Standardised, Particular and Project Specifications.

The Contractor shall supply the following equipment and maintain same for the duration of the Contract:

- (a) Nine concrete cube moulds, 150mm nominal size.



PSC SITE CLEARANCE

PSC1 DISPOSAL OF MATERIAL (Sub-Clauses 3.1 and 8.2.1)

Materials arising from clearing and grubbing shall be disposed of at a site to be arranged by the Contractor, in accordance with the provisions of Clause PSD4. Trees and stumps necessarily removed shall not be burnt unless authorised by the Employer's Agent, but shall be cut and stacked at areas designated by the Engineer.

PSC2 AREAS TO BE CLEARED AND GRUBBED (Clause 5.1)

The areas to be cleared and grubbed will be indicated by the Engineer. Should a portion or the whole of the site have been cleared and grubbed by nature or by others prior to the start of construction, then no clearing and grubbing will be ordered or payment made with respect to the applicable portion of the site.

PSC3 PRESERVATION OF TREES AND SHRUBS (Sub-Clause 5.2.3)

The penalty in respect of every individual tree and shrub designated as a tree or shrub to be preserved that is damaged or removed unnecessarily by the Contractor, shall be

R2 000. 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 OVERHAUL (New Sub-Clause)

No overhaul will be payable on the disposal of material arising from clearing and grubbing.

PSDA EARTHWORKS (SMALL WORKS)

PSDA1 FREEHAUL AND OVERHAUL (Clause 5.2.5)

The freehaul distance for all material to be imported or spoiled shall be considered as 5 km for mechanically driven vehicles and a 200m for wheelbarrows from the outer ring of houses which defines the village, or as agreed upon in the specified case of “wheelbarrow haul”.

PSDA2 BORROW PITS (Clause 5.2.2.2)

Borrow materials shall be obtained from designated borrow pits approved by the Engineer.

PSDA3 DISPOSAL OF SURPLUS MATERIAL

All surplus or unsuitable materials arising from excavation shall be spoiled and spread where indicated by the Engineer. The Employer’s Agent shall determine the point of spoil and spreading depending on the nature of the material.

PSDA4 HAUL AND SPOIL ROADS

The contractor shall be responsible for the provision of all haul and spoil roads that he may require for the construction of the works and that the employer’s Agent may approve. No additional payment will be made in this regard.

PSDB EARTHWORKS (PIPE TRENCHES)

PSDB1 MATERIALS (Clause 3)

PSDB1.1 Methods of classifying (Clause 3.1)

Replace the contents of this sub-clause with the following:

PSDB1.1.1 Save and except in respect of those portions of the Works which are specified in Portion 1 of the Project Specifications to be executed utilising Labour Intensive Construction Methods, the Contractor may use any method he chooses to excavate any class material, but his chosen method of excavation shall not determine the classification of the excavation. The Employer's Agent will determine the classification of the materials.

PSDB1.1.2 The classification will be based on the specified construction methods, inspection of the material to be excavated and on the criteria given in PSDB1.2 below, as applicable.

PSDB1.1.3 Where the utilisation of Labour Intensive Construction Methods is specified in Portion 1 of the Project Specification for certain classes of excavation only, the material for those classes of material to be excavated using Labour Intensive Construction Methods will be classified in terms of PSDB1.2.2 and for those classes of excavation which are not required to be executed by Labour Intensive methods, classification will be based on the criteria given in PSDB1.2.1

(i.e. Where it is specified that the excavation of soft materials only shall be executed using Labour Intensive Construction Methods, the classification of the soft material to be so excavated will be based on the criteria given in PSDB1.2.2(a) and the Contractor will be required to excavate all such soft material by Labour Intensive methods. However, when the material is classified in terms of PSDB1.2.2(b) to be "intermediate" and is thus no longer required to be excavated by Labour Intensive methods, the classification of the material not required to be excavated using Labour Intensive methods will be based on the criteria given in PSDB1.2.1 (thus a material classified as "intermediate" in terms of PSDB1.2.2(b) may in terms of PSDB1.2.1 be deemed to be "soft" and will be measured and paid as such under such circumstances.).

PSDB1.1.4 All tools and equipment referred to in PSDB1.2 shall be in good mechanical and operational condition.

PSDB1.1.5 "Efficiently" as used in PSDB1.2.2(a) - (c) shall be taken to mean "in a manner that can be reasonably expected of a Contractor, having regard to the production achieved".

PSDB1.1.6 The classification of material other than "soft excavatability" shall be agreed upon before excavation may commence.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSDB1.1.7 The Contractor shall immediately inform the Employer's Agent if and when the nature of the material being excavated changes to such an extent that a new classification is warranted for further excavation. Failure on the part of the Contractor to advise the Employer's Agent in good time shall entitle the Employer's Agent to reclassify, at his discretion, such excavated material.

PSDB1.2 Classes of Excavation (Sub-Clause 3.1)

Add the following new sub-clause:

PSDB1.2.1 Classes of excavation where Labour Intensive Construction Methods are NOT specified

The excavation of material will, in the case of work which is NOT required in terms of the Contract to be executed utilising Labour-Intensive Construction Methods, be classified according to SANS 1200D for the purpose of measurement and payment.

Add the following new sub-clause:

PSDB1.2.2 Classes of excavation where Labour Intensive Construction Methods are specified

Classes of excavation where Labour Intensive Construction Methods are specified.

The excavation of material will, in the case of work which is required in terms of the Contract to be executed utilising Labour Intensive Construction Methods, be classified in accordance with Table B.1 and Table B.2 in Annex B of SANS 1921-5:2004, i.e. based on the number of blows which causes a dynamic cone penetrometer (DCP) to drop by 100mm. Failing such classification, the excavation of material will be classified in accordance with Table B.3 of the same document (pro-rated to an 8 hour task). The said appendix makes provision for the following material classifications:

- a) Soft excavation, Class 1,
- b) Soft excavation, Class 2,
- c) Soft excavation Class 3,
- d) Intermediate excavation, and
- e) Rock excavation.

For soft excavation classes 1, 2 or 3, the excavation of isolated boulders not exceeding 0,04 m³, will be considered to be included in their respective category. The excavation rates are those of an average able-bodied labourer or group of such labourers.

The following definitions will in addition to those provided in Table B.1 apply:

- a) Intermediate excavation

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Intermediate excavation shall be excavation in material which requires ripping or loosening by mechanical means prior to removal of the loosened material utilising the methods described for Soft material.

b) Hard rock excavation

Hard rock excavation shall be excavation of undecomposed boulders exceeding 0,04 m³ and excavation in solid rock occurring in bulk or in banks or ledges, which requires loosening or breaking up by drilling, wedging, splitting or blasting or by other approved quarrying methods, prior to being excavated and removed from the excavation utilising only picks, crowbars, shovels and similar hand tools.

(NOTE : Such excavation generally includes materials such as formations of un-weathered rock that can be removed only after blasting.)

The Employer's Agent will instruct which portions of the Works, based on evidence provided from trial holes excavated at approximately 200 m spacing by the Contractor for this purpose, will be executed utilising Labour-Intensive Construction methods. The Trial hole shall be excavated to trench depth utilising a Cat 416 Backactor or similar."

PSDB2 PLANT

PSDB2.1 Excavation Equipment (Sub-Clause 4.1)

Replace the contents of this sub-clause with the following:

- a) To the extent that the provisions of the Specifications permit the use of mechanical plant and equipment in the excavation of trenches, the Contractor may use trenching plant that will excavate to a width such that the side allowance does not exceed the appropriate value specified in 5.2 by more than 50%, except that where in terms of the Project Specifications or of the Drawings, the base width of a trench for a pipeline or a portion of a pipeline is not to exceed the minimum base width or a stated value, the Contractor may use trenching plant which will produce the required trench width or he shall accept the responsibility for all costs incurred in strengthening the relevant pipeline.

PSDB2.2 Compaction Equipment (Sub-clause 4.2)

Replace the contents of this sub-clause with the following:

PSDB2.2.1 Machine Compaction

- (a) Where the compaction is not required to be executed utilising Labour Intensive Construction methods, or where the utilisation of mechanical compaction plant and

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

equipment is allowable in terms of the contract, the contractor may use mechanical compaction equipment, but he shall select such equipment and operate it in such a manner that the pipeline, duct or cable is not stressed or damaged during the compaction operation.

- (b) Machine compaction shall not be used directly above the pipe until sufficient backfill has been placed to ensure that machine compaction loads transmitted to the top of the pipe are no greater than would be imposed by normal traffic loads over a pipeline with cover of 600mm.

PSDB2.2.2 Labour Intensive Construction Methods

- (a) Unless and to the extent as may be otherwise provided in Portion 1 of the Project Specifications, the contractor shall, in the compaction of materials by Labour Intensive Construction methods, utilise only hand held manually powered tampers, rollers and similar compacting hand tools and equipment.
- (b) Compaction shall be carried out in such a manner as to ensure that the pipeline cable or duct is not stressed or damaged. The material above the pipe shall not be compacted until sufficient backfill has been placed to ensure that the compaction loads transmitted to the top of the pipe are no greater than would be imposed by normal traffic loads over a pipeline with cover of 600mm.

PSDB3 ACCOMMODATION OF TRAFFIC (Sub-Clause 5.1.3)

Traffic must be accommodated along construction works which falls within or adjacent to any road reserve.

The Contractor shall tender a lump sum in Schedule 8 for accommodating traffic during the duration of the Contract, which sum shall cover 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. Payment shall be made monthly pro-rata to the overall progress of the Works.

If crossing of the road in half widths is allowed, the road shall remain continuously open to traffic. The Contractor shall make provision to ensure the safe passage of traffic using this public road whilst installing the pipe through the road, and to ensure that any disruption to the public is kept to a minimum providing safe detours when so instructed by the Engineer. Each half width shall be completed in one day. No open trenches will be allowed overnight. If the half width is not completed by 16:00 the trench shall be backfilled, in which case the Contractor shall re-excavate the trench at a later stage to complete the work at his own expense. 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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSDB4 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 Employer's Agent orders that the Contractor should undertake the repair of such service, then such repair will either be measured and paid as dayworks or alternatively as a contractual variation in terms of Clause 6.4 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 Employer's Agent, which approval shall only be given subject to the acceptance of a modus operandi that will ensure the integrity of such structures during construction.

PSDB5 TRENCH WIDTHS (Sub-Clauses 4.1 and 5.2)

Trenches in general shall not exceed the widths laid down in Sub-Clause 8.2.3. If trenches exceed the specified width the Contractor shall be liable for the cost of any thicker pipes or more expensive bedding which may be required as a result of the additional trench width.

PSDB6 MINIMUM BASE WIDTH (Sub-clause 5.2)

Side allowance for pipes of diameter 125 mm or more (Sub-clauses 5.2 and 8.2.3):

The minimum base width of trench for pipes of external diameter less than 125 mm but larger than 70 mm laid at a depth of 1,5 m or less shall be 550 mm.

The minimum base width of trenches for pipes of external diameter less than 70 mm laid at a depth of 1,0 m or less shall be 400 mm.

The minimum base width of trenches where labour-based excavation is concerned, shall be at least 150 mm on either side of the pipe's outer diameter to allow proper compaction of backfilling materials.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSDB7 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 Employer's Agent 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 Employer's Agent in each particular case, at the cost of the Employer. Backfill other than concrete, shall be placed in layers of 100mm uncompacted thickness, each layer thoroughly compacted to the entire satisfaction of the Employer's Agent, to provide adequate support for the pipe bedding to be placed on top of it.

Should the Contractor remove more ground than is required to secure the proper grade of the pipeline, the Contractor must, at his own cost, backfill the excess excavation with approved selected material or concrete, as directed by the Employer's Agent in each particular case.

PSDB8 DISPOSAL OF EXCAVATED MATERIAL Error! Bookmark not defined.(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 PSD4.

PSDB9 FREEHAUL AND OVERHAUL (Sub-Clause 5.6.8)

The provisions of Clause PSD1 shall apply.

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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSDB11 REINSTATEMENT OF EXISTING BITUMEN SURFACED ROADS (Clause 3.6 and 5.9.4)

Pipe trenches through the existing bitumen surfaced roads shall be reinstated with a 150mm upper selected subgrade layer compacted to 93 % mod AASHTO density, followed by a 150mm sub base layer compacted to 95 % mod AASHTO density and a 150mm graded crushed stone base compacted to 98 % of mod AASHTO density. The road shall be provided with a 25mm thick asphalt seal.

The upper selected subgrade layer shall have a CBR of at least 15, a grading modulus of at least 0.75 and a maximum PI of 12. The sub base shall conform to SANS 1200 ME and the base to SANS 1200 MF.

PSDB12 MEASUREMENT AND PAYMENT (Clause 8.3.2)

PSDB12.1 Basic Principles (Clause 8.1)

Insert the following heading for Clause 8.1.2:

"Trenches not required to be excavated by Labour Intensive Construction methods"

Add the following new sub-clause : (Clause 8.1.5)

"Works required to be executed utilising Labour Intensive Construction methods"

Separate items will be provided for works covered by this Specification which are required to be executed by Labour Intensive Construction methods and for works for which the utilisation of such methods is not required.

The trench depth increments referred to in Clause 8.1.2(b) and the trench depth increment for 8.1.5 shall be:

- a) up to 1.5 m in depth

Trenches shall be measured volumetrically, irrespective of length.

Measurement and payment for works covered by this Specification and required to be executed utilising Labour Intensive Construction (LIC) methods shall, unless otherwise stated, be *mutatis mutandis* in accordance with the provisions of SANS 1200DB as amended in this Project Specification.

PSDB12.2 Excavation (Sub-Clause 8.3.2)

Excavate, in all materials for trenches 0 – 1.0 m wide, backfill, compact and dispose of surplus material utilising Labour Intensive Construction methods up to

- (a) 1.5 m in depth m³

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Extra over the above for:

(1)	Soft excavation Class 2	(refer PSDB1.2.2)	m ³
(2)	Soft excavation Class 3	(refer PSDB1.2.2)	m ³
(3)	Intermediate excavation	(refer PSDB1.2.2)	m ³
(4)	Hard rock excavation	(refer PSDB1.2.2)	m ³

Excavate, in all materials for trenches 0 – 1.0 m wide, backfill, compact and dispose of surplus material utilising Conventional Construction methods

(a) up to 1.5 m in depth	m ³

Extra over the above for:

(1)	Intermediate material	m ³
(2)	Hard rock excavation	m ³
(3)	Backfill and compact by means of Labour Intensive Construction methods	m ³
(4)	Disposal of surplus material by means of Labour Intensive Construction methods within 20 m from the source of spoil material using wheel barrows	m ³

Backfill should be in 200 mm thick layers compacted to 90% Mod AASHTO.

Payment for the excavation and backfilling of trenches shall be made at the tendered rates and at the following stages of the construction:

- (i) upon completion and approval of the trench bottom, prior to bedding : 40 %
- (ii) upon completion and approval of top of selected backfill: 70% (cumulative)
- (iii) upon completion and approval of the mainfill: remaining 30 %.

PSDB12.3 Excavation of Trial Holes

Excavation of trial holes as described in PSDB1.2.2 will be measured by number and shall include for backfilling after inspection.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSDB12.4 Stone Bedding

Stone bedding will be measured per cubic metre under the appropriate item in SANS 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 Employer's Agent will be measured as day works under the appropriate item in Schedule 2.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PSDK GABIONS AND PITCHING

SDK1 GEOTEXTILE (Sub clause 3.1.4)

Shall be Kaytech Geotechnical Fabric U24, or similar approved.

PSDK2 PITCHING (Sub clause 3.2.1.2)

Type of pitching shall be grouted Ordinary Stone Pitching, unless otherwise instructed by the Engineer.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSGA CONCRETE (SMALL WORKS)

PSGA1 CEMENT (Sub-Clause 3.2.1)

Only the use of Ordinary Portland Cement to SANS 471 will be permitted.

PSGA2 CONCRETE FINISHES (Sub-Clause 4.4.2)

Concrete against which earth will be backfilled shall be classified as rough. All exposed concrete surfaces shall be classified as smooth. Degree of accuracy II shall prevail.

PSGA3 STRENGTH CONCRETE (Sub-Clause 5.4.1.5)

The grade of concrete and nominal size of aggregate shall be as specified on the Drawings. The successful tenderer will be required to submit samples of the coarse and fine aggregate, which he proposes using, to the Employer's Agent's Representative(s) for tests regarding the suitability of such aggregates. The Contractor shall prepare trial mixes. These mixes shall be designed for vibration. All data and reports prepared by the Contractor shall be submitted to the Employer's Agent for information and approval prior to the commencement of concreting operations.

PSGA4 ANCHOR AND THRUST BLOCKS

At tees, bends, terminal valves, end caps, and where otherwise directed, anchor/thrust blocks shall be constructed to dimensions ordered, shown on the Drawings or agreed to by the Engineer. Unless otherwise specified, anchor/thrust blocks and pedestals shall be constructed of prescribed mix 15/37.5 concrete.

The concrete shall be well punned round the pipe and, if in trenches, against the undisturbed faces and bottom of the trench. Backfilling behind or under thrust faces will not be permitted. Excess excavation shall be replaced with the prescribed mix concrete given above for anchor/thrust blocks at the Contractor's expense, unless an item is scheduled to cover payment of over break. Care shall be taken to leave the joints accessible. No anchor/thrust blocks and pedestals shall be concreted until the approval of the Employer's Agent has been obtained.

Anchor and thrust blocks will be measured by volume of concrete; the rate tendered shall include for any form work required constructing the block.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Should the Contractor offer an alternative method of coupling involving flexible joints, he shall design suitable thrust and anchor blocks in order to prevent movement of the pipeline under operating and test conditions. The working and test pressure to be used by the Contractor for the calculation of anchor and thrust blocks shall be in accordance with the design information that is issued together with the tender. The earth bearing pressure to be used for the calculation of anchor and thrust blocks shall be based on field tests. The factor of safety to be used in calculating the above shall be 2.5.

PSGA5 GROUTING TO MACHINE AND STRUCTURAL BED PLATES (Sub-clause 5.5.13)

PSGA5.1 Materials

- a) Water. Water for grout shall comply with the requirements given in sub-clause 3.3 of SANS 1200G.
- b) Aggregates. Notwithstanding the requirements of Sub-clause 3.4.1 of SANS 1200G, the grading of fine aggregate (sand) and coarse aggregate (stone or pea gravel) shall conform to the gradings given in Tables 1 and 2, respectively, below.
- c) Cement. Cement shall be ordinary Portland cement complying with SANS 471.
- d) Admixtures. Admixtures shall comply with the requirements of Sub-clause 3.5 of SANS 1200 G, and shall have a proven record of satisfactory performance under conditions encountered in the North West Province.
- e) Proprietary Grouting Materials. Unless otherwise approved by the Employer's Agent, Proprietary Grouting Materials shall be obtained ready mixed in sealed pockets as supplied by the manufacturers.

Table 1 - Sand		Table 2 - Stone or Pea Gravel	
1	2	1	2
Test sieve	% Passing	Test sieve	% Passing
Nominal	(by mass)	aperture	(by mass)
aperture		size, mm	
size, mm			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



Table 1 - Sand		Table 2 - Stone or Pea Gravel	
9.5	100	9.5	100
4.75	95-100	4.74	95-100
1.18	45-65	2.36	0-5
0.3(300)	5-15		
0.15(150)	0-05		

* Portland cement (ordinary, rapid-hardening, and sulphate-resisting).

PSGA5.2 Preparation and Procedures

- a) Before a machine or structural bed plate is placed on the concrete the following shall be carried out :
 - 1) All defective concrete, laitance, dirt, oil, grease and loose material shall be removed from the concrete foundation by bush-hammering, chipping, or other means until sound clean concrete is obtained. The surface of the foundation shall be scabbled, but shall not be so rough as to interfere with proper placing of the grout. All foundation bolt sleeves shall be cut out, or cut off flush if the sleeves cannot be removed. The top of the foundation shall be reshaped if necessary.
 - 2) The underside of each steel base, particularly in the bearing areas, shall be cleaned and any burrs and ragged edges removed before the base is placed in its final location.
 - 3) All holding-down bolt sleeves shall be thoroughly cleaned of any materials that may prevent the grout from flowing freely to the bottom of the bolt sockets.
- b) The base shall be properly aligned and levelled and shall be maintained in that position during grouting.
- c) After the machine or structural bed plate has been placed the following precautions shall be observed:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



- 1) Shimming shall be kept to a minimum. Steel plates shall be used for packing and shall be ground to the required thickness, where necessary.
- 2) Before grouting is started all loose dirt, oil, grease and other foreign matter on the surface of the foundation, the underside of bed plates, and in the bolt holes shall be removed by means of compressed air or other approved means. The surface of the foundation slab shall be thoroughly saturated with clean water and free water shall be removed from the surface and the bolt holes just before the grout is placed.
- 3) The grouting shall not be carried out until the alignment of all units to be grouted has been checked and approved by the Engineer.
- 4) Special care shall be taken with grouting in hot or cold weather to ensure proper setting and gain of strength and, in the case of Proprietary Grouting Materials, by having ice or hot water available, as the case may be, in accordance with the instructions of the manufacturer. Enclosures shall be provided for the grout such that, until it has set, its temperature will be in the range 15-27°C. Shields to protect the grout from the sun and from hot winds shall be provided by the Contractor when so ordered.

PSGA5.3 Form work

Form work for grouting shall comply with the applicable requirements of Sub-clause 5.2 of SANS 1200 G. Forms shall be caulked where necessary. Adequate clearance between forms and bed plates shall be provided to enable the grout to be worked into place.

PSGA4.4 Mixing (All free-flowing grouts except epoxy grouts)

The grout shall be mixed to a homogenous uniform mixture and delivered ready for placing at a temperature between 15°C and 25°C.

The materials and water shall be mixed in a mortar mixer for at least 3 min. or, in the case of small jobs only, shall be thoroughly mixed by hand, the entire mass being turned over enough times to ensure even distribution of its components.

The mixing shall be done as close as possible to the place(s) where the grout is placed. No more grout shall be mixed at any one time than can be placed in a period of 20 min. After the grout has been mixed it shall not be re-tempered by the addition of water.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSGA4.5 Grouting (All free-flowing grouts except epoxy grouts)

The grout shall be placed quickly and continuously to avoid the undesirable effects of over-working. (These effects are segregation, bleeding and breaking-down of initial set). The method of placement shall be subject to approval. The means of placing the grout shall be such that the grout will completely fill the space to be grouted, will be thoroughly compacted, will be free of air pockets and will have evenly distributed contact over an area in excess of 80 % or, in the case of expanding grout, 95 % of the bearing area of the item to be supported.

Wherever applicable, grout shall be placed from one side only and where this is not practicable, care shall be taken to ensure that any entrapped air is released. After the grout has taken its initial set :

- a) the forms shall be removed;
- b) excess grout shall be so cut away as to leave a smooth and neatly finished job;
- c) except where the grout is intended to provide resistance to side thrust, all edges shall be trimmed at 45° to the vertical, from the bottom edge of the bed plate; and
- d) all excess grout on or about the bed plate shall be removed.

Damage to paint work, if any shall be repaired within 24 hours. Packing plates, shims and other levelling devices shall remain in position.

PSGA4.6 Dry-packed grout (Standard dry sand and cement grout)

Dry-packed grout shall have a minimum compressive strength at 28d of 20MPa. The quantity of water after placing shall be kept to a minimum consistent with placing conditions, and the cement, sand and, where applicable, pea gravel proportioned by mass shall be as follows:

- a) Where the clearance between bed plate and foundation is 25 mm or less: 1 part of Portland cement, and 2 parts of sand;
- b) Where the clearance exceeds 25 mm : 1 part of Portland cement, 1 part of sand and 1 part of pea gravel. Dry-packed grout shall be rammed by means of tamping rods against form work placed along three sides of the bed plate.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSGA4.7 Non-shrink grout with metallic aggregate

The manufacturer instructions shall be observed when non-shrink grout with metallic aggregate is used.

Where the clearance between the bed plate and the foundation is less than 50 mm a sand-based mix shall be used. Where the clearance exceeds 50 mm the Employer's Agent may order a mix with a base of sand plus pea gravel to be used.

PSGA4.8 Expanding grout with powdered aluminium additive

The manufacturer instruction shall be observed when the expanding grout powdered aluminium additive is used.

Where the clearance between the bed plate and the foundation is less than 25 mm, a sand-based mix shall be used. Where the clearance exceeds 25 mm the Employer's Agent may order mix with a base of sand plus pea gravel to be used.

Each batch shall be mixed for at least 6 minutes after the powdered aluminium has been added. Where a ready-mixed grout is used, the powdered aluminium shall be added at the placing site and the batch mixed as specified. Grout shall be placed within 45 minutes after the addition of the powdered aluminium.

The Contractor shall not use powdered aluminium additive when the ambient temperature is below 5°C.

PSGA4.9 Epoxy grout (epoxy mortar type only)

The manufacturer's instructions shall be observed when an epoxy grout is used.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSHA STRUCTURAL STEEL (SMALL WORKS)

PSHA1 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 SANS 0162-1982.

Structural hot-rolled steelwork to be to Grade 300W with the minimum properties as tabled in "Steel design date: No. 6" of the South African Rolled Steel Producers Co-ordinating Council and the South African Institute of Steel Construction.

PSHA2 SHOP DRAWINGS (Sub-Clause 5.1.2)

The contractor is to provide shop details.

Steelwork generally of welded construction with site connections bolted:

All holes 18 dia. for M16 bolts

All gussets ex 8 mm U.O.S.

All welds, 6 mm fillet

The Employer's Agent must be notified, (at least 72 hours before hand) of the completion of the fabricated steelwork at the contractors' workshops, to enable him to make an inspection if he so desires. The fabricated steelwork, thus to be inspected shall be in its prepared specified state immediately before the application of prime coat painting.

PSHA3 WELDING (Sub-Clause 5.3.4)

Delete this clause in its entirety and add the following clause:

Welding shall be done in accordance with the relevant requirements of SABS 0162 BS5135 and AWS.D.1/18 (American Welding Society).

Welding shall be Grade B welding.

The qualification of welders shall be in 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 Employer's Agent's approval.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The Contractor shall provide evidence, acceptable to the Employer's Agent, that welding procedures and welders have been tested in accordance with the requirements of AWS D1.1.

PSHA4 PROTECTIVE TREATMENT (Sub-Clause 5.3.9)

PSHA4.1 Shop Painting

- a) Steelwork after fabrication shall be wire brushed to a finish equal to or better than Grade St3 or SIS 05 59 00.
- b) Within 4 h after the completion of wire brushing, 2 coats of an approved primer such as a Type II. Grade 2 red lead, on a zinc chromate or red oxide (see Sub clause 3.7 of SABS 1200 H) shall be applied to provide a dry film of thickness between 25 and 30 microns. Except that red lead shall not be sprayed, a primer may be applied by means of brush, roller, or spray.

PSHA4.2 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 microns. 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 % authalic anhydride, shall be applied to provide a dry film of thickness between 25 and 30 microns.
- d) The total dry film thickness of the paint and primer coats shall be between 70 and 100 microns.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSHA4.3 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 microns, thus giving a minimum equivalent mass per unit of 455 g/m².

PSHA5 SITE WELDING (NEW CLAUSE)

No welding shall be permitted on site without the express approval of the Employer's Agent, with the exception of those details shown on the drawings as site welded.

PSHA6 CUTTING (NEW CLAUSE)

No oxy-acetylene or other gas cutting and bending will be permitted on site without the Employer's Agent's approval.

The Employer's Agent will have no hesitation in considering any relevant component, member or unit should oxy-acetylene or other gas cutting and bending, process be carried out by the Contractor without the Employer's Agent's approval.

PSHA7 ERECTION PROCEDURE (NEW CLAUSE)

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 Employer's Agent's approval. (Refer to paragraph 2 of PSHA6).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSL MEDIUM PRESSURE PIPELINES

PSL1 WATER SUPPLY MAINS

1. The pipes to be used for pressure mains are as follows:

50 mm and larger - Unplasticised Poly vinyl Chloride (uPVC)

Fibre Cement (FC)

HDPE

2. 40 mm and smaller - High density Polyethylene Type IV

Couplings for uPVC pipes to be watertight and be able to withstand the relevant test pressures, unless otherwise indicated. uPVC pipe fittings shall be cast iron or aluminium.

Couplings for HDPE pipe fittings shall be compression fittings only.

PSL2 GRADE OF STEEL FOR STEEL PIPES

All steel piping shall be made electric welded low carbon steel pipes in accordance with the requirements of SANS 719-1971 and BS 534-1966. Where non-standard specials have been detailed on the drawings, such dimensions shall be adhered to. All flanged pipes and fittings shall have flanges as specified, and shall be supplied complete with all packings, nuts, bolts and washers. Steel piping shall be made from Grade A steel. The minimum wall thickness for steel pipes of nominal outside diameter exceeding 500 mm shall be 6 mm. Viking Johnson couplings complete with all seals, bolts, nuts, etc. shall be used where detailed. Where new installations couple up with existing, the Contractor shall ascertain what the flange drillings are the same as all existing fittings prior to any placement or order and shall confirm this information with the Engineer.

PSL2 PIPE COUPLINGS FOR OTHER PIPES (Additional to clause 3.7)

PSL2.1 Polyvinyl Chloride pipes and fittings shall be supplied with factory fitted 'Z type' couplings. Solvent welded joints will be permitted for pipes of diameter smaller than 50 mm. PVC pipe fittings shall be Aluminium or Cast Iron.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSL2.2 Polyethylene pipes shall be supplied suitable for, and with compression or insert type fittings as scheduled. No screwed fitting shall be used without written approval. Polyethylene pipe fittings shall be Nylon.

PSL3 FIBRE-CEMENT PIPE FITTINGS (Clause 3.8.1)

Fibre Cement pipe fittings shall be Cast Iron or Steel. Where steel fittings are provided, they shall be adequately reinforced against ovalness (over the entire circumstances and width corresponding to half the width of the approximate standard AC coupling) by means of welded collars of minimum thickness 12mm.

PSL4 VALVES (Clause 3.10)

PSL4.1 Gate Valves

i) General

All gate valves in compliance with SANS 664, waterworks application, clockwise closing, with a non-rising spindle and plain thrust collar. Valves and flanges (if any) to be to the class specified.

Valves to be operated by either hand wheel, cap top and tee-key or extended spindle and hand wheel/tee-key. Operation to be specified.

Valves to be flanged or spigot ended as specified.

Note :

"As specified" will mean as described in the schedule of quantities. In the event of no description in the schedule the following will prevail:

- Valves to be at least class 10 with a standard hand wheel operator and valves to be flanged.

ii) Gate valves of 300mm diameter or smaller

All gate valves falling into this category to be fitted with resilient seal, rubber lined gates similar to "Elypso compression-sealing valves".

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSL4.2 Butterfly valves

All Butterfly valves to be of the 'Boving' (or similar approved) resilient sealing type and shall be supplied complete with geared operator and hand wheel. All geared operators shall have horizontal spindles.

PSL4.3 Valve spindles

All extended valve spindles shall be supplied at both ends with cast iron tops for valve key operation. The spindle shall be fitted into the valve box with a bearing for easy operation. The lengths of extended spindles are to suit the dimensions of their installation positions, all spindles supplied supported at 4m max. intervals.

PSL5 STEEL FLANGES (Clause 3.8.3)

PSL5.1 All flanges to be drilled to SANS 1123 table 15 unless otherwise specified.

PSL5.2 All valve and hydrant tee flanges to be drilled as follows:

AIR VALVE SIZE (inlet dia. mm)	FLANGE OD (mm)	BOLTS no. x dia.	PCD
50	203	4 x M16	165
80, 100 and 150	SANS 1123	Table 15	

Flange holes to be drilled to allow exact alignment vertically and horizontally as detailed on the drawings of all pipe work and equipment.

PSL6 CORROSION PROTECTION (Clause 3.9)

PSL6.1 General

No separate payment will be made for work described in this sub-section.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSL6.2 Mechanical preparation

The valves shall be rendered smooth and free from undercuts, protrusions, sharp edges and spatter. Edges should have minimum radius of 1 mm.

Cast materials shall only be cast in a mould coated with a suitable mould wash.

Castings shall similarly be ground smooth and surface blow holes accepted after mechanical inspection shall be filled with weld metals or an approved epoxy filler and ground down to a smooth surface.

PSL6.3 Surface Cleaning

Surfaces to be coated shall be abrasive blast cleaned in accordance with SABS 064, Section 4.3, especially Procedure 4.3.4, to the following parameters.

DESCRIPTION AND MATERIAL	BLAST MEDIUM	PROFILE MICROMETERS	CLEANLINES S SA	RESIDUE
Fabricated or cast iron valves	Clean, fine non-metallic & non-recycled or metallic	Fabricated max. 75 Casting Max 50 Min 30	3	0.3%

Other preparation methods, where required or agreed upon shall also be in accordance with SABS 064 as described in the appropriate sections. Laminations, scabs and occluded scale which become visible after cleaning shall be ground out and the ground area re-cleaned. Excessive grinding depth may be repaired by welding, or the metal shall be rejected at the discretion of the Engineer.

PSL6.4 Casting

The first cast shall be applied as soon as possible, but never exceeding 4 hours after blast cleaning if the relative humidity (RH) is below 70% or 2 hours if the RH is between 70% and 85%. Coating shall not take place if the RH is 85% or above, nor when the surface is less than 2 above dew point.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

If unfavourable conditions prevent applications of the first coat, the surface shall be re-cleaned when conditions are acceptable.

Strict cleanliness between coats shall be maintained. The directions laid down by the specification and by the paint manufacturer for mixing, curing, use of solvents, suitable environmental conditions, and over-coating times shall be strictly adhered to. Adequate ventilation to remove volatile matter shall be ensured.

PSL6.5 Quality of coating

The fully cured coating system shall be uniform, smooth, glossy and have acceptable adhesion. Excessive runs and sags, wrinkling, bubbling, blisters, change in colour or gloss, excessive orange peel, dirt, dust or fluff occlusions and other visible defects shall not be permitted. Paint work showing evidence of entrapped solvents after full cure will also be rejected. No inter-cast lamination must take place.

The colour of each coat shall be different to that of the previous coat except where two finishing coats of the same colour are necessary to achieve colour uniformity.

All coating surfaces for water immersion or frequently wetted in service shall show no electrical insulation defects when tested in accordance with the inspection parameters.

Finishing coat colours.

In addition to the finishing coat colour, if specified, the colour recommended for identification marking in SANS 0140 shall apply. Where not specified, the selection of paint colours shall be decided.

All damage that occurs during handling, assembly, transport, storage and erection shall be repaired to the requirements of the specifications. All damage sustained during transport will be repaired by the Contractor.

Proprietary items

Components supplied already painted or protected e.g. gear boxes, etc, may be accepted in this condition provided that they meet the requirements of this specification in general.

Quality control by the Contractor

The Contractor shall produce his own quality control records and tests carried out during all stages of corrosion protection procedures. These shall be made readily available to the Department's Inspector.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSL6.6 Paint Systems required

All valves and fittings shall be coated as follows:

SURFACE	COATING	THICKNESS (MICROMETERS)
Lining (inside surface)	Epoxy	300
Coating *outside surface)	(i) Epoxy plus (ii) Vinyl enamel colour Brilliant Green	200 25
Flange faces	Epoxy	125
Stainless steel components	Pickled and passivated with Duva chemicals or equivalent	-
Fasteners	Cadmium plated and dichromate (yellow) passivated	15 to 20

The epoxy applied shall be polyamide cured and preferably be solvent free in accordance with SANS 1217. Solvent containing epoxies will, however, be considered.

All external fasteners shall be Epoxy coated after assembly and testing.

PSL7 HANDLING AND RIGGING (Clause 4.1)

PSL7.1 Transportation

Pipes and valves shall be protected during transportation and handling against damages caused by impact, dropping, etc. Special care shall be taken during transportation to protect pipes. Rubber lined vertical posts shall be spaced on the sides of transporting vehicles to provide adequate support to the loaded pipes. Large diameter fibre cement and concrete pipes (that is, diameter above 800mm) shall be supported on supporting stools in transit. All pipes shall be inspected for defects immediately before laying and faulty pipes or pipes which have suffered damage which would affect their serviceability shall not be used in the Works.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSL7.2 Off-loading and storage

Pipes which cannot be off-loaded by hand shall only be lifted by means of suitably approved broad band slings. The use of wire, chains, hooks, crowbars and similar items shall not be permitted and the pipes, fittings and specials shall not be handled in such a manner as could cause damage to occur.

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, fittings or special. Particular care shall be taken where pipes with fitted couplings are handled or stacked to prevent any pressure on the couplings. Where loose AC-couplings are provided the couplings shall be stored flat on their sides and under no condition be rolled or stored in an upright position.

All PVC-pipe work as well as the rubber sealing rings in pipe couplings shall be protected from the elements to prevent deterioration of the pipe work.

PSL7.3 Inspection on delivery

The Employer's Agent's Representative will thoroughly inspect all pipes, fittings and specials delivered to the site but his acceptance of same as being in good condition shall not relieve the Contractor of any of his obligations or responsibilities under this Contract.

Materials rejected by the Employer's Agent shall be removed from the site and shall be replaced by other approved materials by the Contractor at his own expense.

PSL8 SETTING OUT (Clause 4.2)

Alignment of the pipes may be done either by means of infrared sighting equipment or by sight rails. The following method should be followed if alignment is to be done by sight rails:

Prior to the preparation of the pipe bedding, the Contractor is to erect sight rails of 38mm x 150mm timber at intervals of a maximum of 60m or at points of change of pipe gradient, whichever may be the lesser. These shall be supported by wooden posts on each side firmly fixed on solid ground and the rails shall be accurately placed in position as regards alignment and invert level of the proposed trench.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The centre line of the trench (i.e. pipeline) shall be denoted on each sight rail, both back and front by a single vertical line drawn therein, and the rail on either side of the centre line painted in two contrasting colours. The Contractor shall also provide boning rods of an approximate length marked in even decimetres for use in the fixing of the trench bottom to the correct line and level.

PSL9 LAYING AND JOINTS

No pipe laying shall commence on any particular section until the Employer's Agent has approved of the trenches and bedding. No pipes shall be laid in trenches with free standing water. The pipes shall be laid true to the lines, levels and grades shown on the drawings or ordered by the Employer's Agent, to within a tolerance specified.

The open ends of all pipes and fittings shall be suitably closed to prevent the ingress of soil or other matter into the pipes. After the pipes have been laid, they shall be inspected and checked by the Employer's Agent for grade, direction and line. If any pipes have been inaccurately laid, the work shall be rectified as ordered by the Employer's Agent at the Contractor's expense.

All valves and fittings are to be checked beforehand to ensure their operational order before being placed in the line. They are to be set correctly in position as indicated on the drawings or as ordered by the Employer's Agent, and where required, are to be supported by bedding or concrete supporting stools. Care shall be taken to ensure that no loose fill material or foreign matters enter the pipes or fittings. After the pipelines have been inspected and passed by the Employer's Agent, backfilling shall proceed and brought up evenly on both sides of the pipe with selected material as specified.

Jointing of pipes shall be carried out strictly in accordance with the manufacturer's instructions. Ends of pipes and joints shall be completely free of dirt and grit when the joints are assembled.

PSL10 BACKFILL

Following the inspection by the Employer's Agent with respect to the grade, direction and line, as well as the successful testing of the pipeline, the Contractor shall promptly refill trenches and excavations.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSL10.1 Material and Method

The Contractor shall promptly refill trenches and excavations as soon as the works have been inspected, tested and passed by the Engineer.

The backfilling in contact with pipes and for a distance of 200 mm above the barrels of the pipes shall consist of selected material from the excavations, free from excess clay, vegetable matter and stones. Shortages of selected material in any section of a trench shall be made up free of additional cost by borrowing from adjacent excavations containing a surplus of suitable material.

The selected material shall be brought up in 150mm layers, uniformly moistened to the optimum moisture content to attain the specified compaction and shall be thoroughly compacted round the pipes and joints. Special care shall be taken in filling joint holes and the selected material shall be firmly punned in, slightly moistened if required in order to ensure bearing for the length of each pipe.

Sufficient topsoil shall be set aside during excavation to form not less than the upper 150 mm of backfill material for re-establishment of vegetation.

In no case shall any filling be deposited in water. Trenches shall be kept free of water until backfilling has been completed. From above the top of the selected backfilling, unselected excavated material, excluding stones larger than 150 mm in any dimensions, shall be used for backfilling, which shall be compacted in layers not exceeding 150 mm.

Only equipment approved by the Employer's Agent shall be used for the compaction of the fill.

The superimposed loading resulting from the use of self-propelled or tractor-drawn compaction equipment shall not exceed the maximum external loading for any particular pipe in accordance with H20 Highway Loading as specified by the manufacturers.

The backfill shall be mounded to a height of 100 mm above ground level with gaps allowed at regular intervals for cross drainage.

Immediately after completion of the backfilling all surplus materials shall be levelled off adjacent to the pipeline.

Any settlement during the excavation of the contract and the period of maintenance shall immediately be made good by the Contractor with topsoil of the same type as that adjacent to the trench.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The Contractor shall fill in with approved material and consolidate all cavities caused by slips, rain, floorings, etc. or any other cause whatever at his own expense, to the satisfaction of the Engineer.

The Contractor shall make good promptly, to the entire satisfaction of the Employer's Agent at his own expense, during the whole period that the works are in his hands, including maintenance period and, as often as necessary, any settlement that may occur in the surface of roads, footpaths, private or public property, etc., caused by his trenches or excavations. He shall be liable for any accidents caused thereby and repair at his own cost any damage caused to property by such settlement.

During the execution of the Contract, the Contractor shall maintain a regular patrol, particularly after rains, of all completed backfilled excavations, in order to locate any subsidence, which he shall make good properly without any delay and shall not defer such action until complaints are received.

PSL11 TOLERANCES

The more stringent of SANS 1200 L 6.2 and 6.3, and the following relative deviation shall be applicable to pipe work.

- a) Relative Deviation laterally from line : 0,1% of distance between points.
- b) Deviation from gradient
 - Design gradient less than 1% : 0,04%
 - Design gradient greater than 1% : 0,08%

PSL12 PIPELINE MARKERS

A detail of the required concrete pipeline marker is included in the Annexures to the Specifications. Measurements will be per unit and the payment made accordingly shall be full compensation for the supply and installation of the pipeline marker.

PSL13 MARKING OF ROUTE AND POSITION

The route and position of reticulation and bulk supply mains shall be marked on the surface by one of the following methods:

- pipeline route markers
- standard service markers

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



- painted service marking

PSL15 STANDARD HYDRAULIC PIPE TEST (Clause 7.3)

Field test pressures shall be 1,5 times the recommended maximum working pressure for the class of pipe and/or valves, specials and fittings being tested.

PSL16 MEASUREMENT AND PAYMENT

PSL16.1 Principles

Measurements of the pipelines, specials and valves shall be as per the appropriate items in SANS 1200L i.e. Items 8.2.1, 8.2.2 or 8.2.3.

Payment shall be subdivided as follows:

- a) Supply of pipes to site - the percentage allowed for in the Appendix to the Form of Tender. (i.e. 80%)
- b) Successful testing of pipeline - remainder of the tendered amount, save for the normal retention.

PSL16.2 Scheduled Items

PSL16.2.1 Supply, Lay and bed Pipes complete with couplings Unit : m

Pipelines will be measured by length over all lengths as laid. No deduction will be made for specials and valves. Separate items will be scheduled for each diameter and each type and class of pipe laid. The rates shall cover the cost of the provision of the pipes complete with couplings, and the costs of the handling, inspecting, transporting, bedding, laying, jointing, cutting, testing and when relevant, disinfecting of the pipes and the joints.

PSL16.2.2 Extra-over 15.2.1 for the supplying, laying and bedding of specials complete with couplings Unit : no

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PSL16.2.3 Extra-over 15.2.1 for the supplying, fixing and bedding of

valves

Unit : no

Specials and valves will be measured by the number of each type, class and size.

The rates which shall be extra-over the rates for 15.2.1, shall cover the cost of provision of each special or valve, complete with couplings and the cost of the handling, fixing, bedding and testing of the special or valve, as applicable and the cutting of the pipes.

No extra payment over and above the rates will be made in respect of any additional cutting, turning and jointing of pipes required for the location of valves, specials, etc., in the positions given on the drawings.

Unless specific provision is made in the schedule, no separate payment will be made for the supply and fitting of any additional joints and jointing materials which may be required for the connection of shortened pipe lengths.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PSLB BEDDING (PIPES)

PSLB1 BEDDING (Sub-Clause 3.3)

PSLB1.2 Rigid Pipes

All steel, clay and concrete pipes shall be laid on a class C bedding as shown on Drawing LB-1 of SANS 1200LB.

PSLB1.3 Flexible pipes

uPVC, and polyethylene pipes will be regarded as being flexible and shall be bedded as per Drawing LB-2 of SANS 1200 LB.

PSLB2 MATERIAL NOT AVAILABLE FROM TRENCH EXCAVATION (Clause 3.4.2)

Bedding and selected fill materials shall be obtained from trench excavation, other necessary excavations or from borrow pits in accordance with the provisions of Clause PSD3. The employer's Agent 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 a separate bedding for pipes where the in-situ material proved to be of good quality.

PSLB3 CLASS A BEDDING (Sub-Clause 5.2.1)

Concrete to be used in class A bedding to pipes shall be of grade 20/19.

PSLB4 CONCRETE CASING TO PIPES (Sub-Clause 5.4)

Concrete to be used in the casing of pipes shall be of grade 20/19.

PSLB5 TOLERANCE ON COMPACTION OF BEDDING MATERIAL

Degree of accuracy II shall prevail.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C3.4.3: PARTICULAR SPECIFICATIONS

CONTENTS LIST

Section	Description
PA	BUILDING WORK
PB	FENCING
PC	FINISHING AND CLEANING UP
PD	EQUIPPING OF BOREHOLES
PE	ELECTRICAL AND ELECTRONICS INSTALLATION
PH	TANKS AND TANK STANDS
PXB	ELECTRICAL MATERIAL AND EQUIPMENT

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PA BUILDING WORK

PA1 SCOPE

This section of the Specifications deals specifically with all the building work associated with the Works.

Concrete work, steelwork, cladding, pipe laying, mechanical and electrical equipment, etc. forming part of or to be housed in a building erected in terms of this specification shall conform to the requirements of the relevant standardised or particular specifications referred to in the Project Specification.

PA2 INTERPRETATIONS

The relevant SANS 1200 Standardised Specifications such as Site Clearance, Earthworks, Earthworks (pipe trenches), Concrete (structural), Low pressure pipelines, Bedding (pipes), Sewers and Stormwater drainage shall also apply to the work under this section.

PA3 MATERIALS

All materials used for the Building Work shall, where such mark has been awarded for a specific type of material bear the SABS mark.

PA3.1 Brick and Plasterwork

Cement, sand and water shall conform to the requirements of SANS 1200 G - Concrete.

Unless otherwise described cement mortar shall be composed of six parts by volume of sand to one part by volume of cement. The materials are to be mixed dry until the mixture is of a uniform colour and then clean water is to be added gradually through a fine rose and the mixture turned over until the ingredients are thoroughly incorporated.

Cement mortar must be mixed in small quantities and must be used within one hour of mixing, as the use of cement mortar that has commenced to set will not be permitted.

Plaster on concrete ceilings, beams, columns, etc. shall be mixed one part cement to three parts sand.

Bricks shall be of the best quality sound hardburnt pressed bricks or in the absence of clay bricks, concrete bricks; even in size and shape and equal to a sample submitted to an approved by the Employer's Agent prior to commencement of work.

Clay bricks shall conform with the requirements of SANS 227 and concrete bricks to SANS 987.

Damp proof courses, unless otherwise described, shall be an asphaltic damp proof course with a base of fibre felt, and complying with the requirements of SANS 248 Horizontal Damp Proof Courses, and with a mass of 3,25kg/m² or a plastic damp proof course of 15 micron thickness as Type B, complying with the requirements of SANS 952.

PA3.2 Fascias, Barge Boards and Window sills

Asbestos cement fascias and barge boards, where specified, shall be 10mm thick pressed sheets, 200mm wide free from cracks, twists, blemishes or other defects and complying with the requirements of SANS 685.

Internal asbestos cement sills shall be in single lengths cut between reveals, fitted with fixing lugs and solidly bedded in 3:1 cement mortar with a slight projection beyond the finished wall face below. Sills shall be pressed asbestos cement of approved manufacture 152 x 15mm thick set level.

PA3.3 Paintwork

PA3.3.1 Primers

Plastered surfaces must be cleaned down and have one coat alkali resisting primer of an approved brand applied in strict accordance with the manufacturer's instructions, before any undercoats are applied.

Galvanised metal surfaces must be treated with one coat Metal Elch Primer complying with the requirements of SANS 723.

Steel surfaces must be treated with one coat Tupe Zinc Chromate Primer complying with the requirements of SANS 679.

Steel windows and doors and steel door frames, before being built in, must have all loose primer together with all rust spots, dirt, etc. removed and be treated with one coat red oxide zinc chromate primer complying with the requirements of SANS 909.

Wood surfaces to receive paint finish must be cleaned down, all knots treated with knotting and be primer with Type I Wood Primer externally and Type III Wood Primer internally, both complying with the requirements of SANS 678.

PA3.3.2 Emulsion paint for interior use must be Grade I Emulsion Paint complying with the requirements of SANS 663. Emulsion paint for exterior use must be of the Synthetic Polymer Base Type complying with the requirements of SANS 634.

PA3.3.3 High Gloss Enamel Paint shall be used on all surface other than specified above. High Gloss enamel paint must be Grade I paint complying with the requirements of SANS 630 for decorative High Gloss Enamel Paints with a Non-Aqueous Solvent Base, for Interior and Exterior use.

Undercoats for paints, except Emulsion paints, must be Type I undercoat Paint complying with the requirements of SANS 681.

PA3.4 Doors, Windows and Glazing

PA3.4.1 Doors

Unless indicated otherwise on drawings all doors and door frames shall be of solid hardwood. Frames shall be fitted with suitable tie bars and braces at bottom, and lugs for building in, three to each jamb or frames with fanlights. All doors shall be provided with locks to the requirements of SANS 4 and each lock shall be provided with a duplicate key.

PA3.4.2 Windows

Steel windows must be of approved manufacture and design, constructed of rolled mild steel sections, properly mitred and welded at angles with welding cleaned off smooth on all faces and complying with the requirements of SANS 727. Window types and sizes shall be as specified on the drawings.

PA3.4.3 Glazing

Sheeting glass for glazing, unless otherwise specified, must be flat drawn clear glass of the thicknesses indicated below:

For panes not exceeding 0,65 m² : 3mm

For panes exceeding 0,65 m² and not exceeding 1,5 m² : 4mm

PA3.5 Tiling

PA3.5.1 Adhesive and Grouts

a) Wall adhesive

A grey, cement-based thin bed, wall tile powder adhesive for fixing tiles to walls.

b) Floor adhesive

A grey, cement-based thick bed, floor tile powder adhesive for fixing heavy tiles to floors or walls.

c) Wall grout

A cement-based, plasticized grouting compound for wall tile installation.

d) Bonding agent

A latex modified for use with adhesives and grouts to improve water resistance.

PA3.5.2 Tiles

Tiles shall be of first grade quality, white in colour, a maximum size of 160mm square, of a minimum thickness of 5mm and shall be glazed ceramic tiles (unless specified to the contrary).

PA3.6 Vinyl Asbestos Floor Tiles and Accessories

Vinyl asbestos floor tiles shall be semi-flexible vinyl floor tiles, 300mm x 300mm and 2,5mm thick to the colours specified. The colour scheme shall be approved by the Employer's Agent before any tiles are ordered - irrespective whether colours has already been specified on the drawings.

Skirtings shall match the colour of the floor tiles and shall reach 100mm up against the wall.

Stair nosings shall be provided where vinyl asbestos tiles are to be provided on the stairs.

PA3.7 Electrical connection

Electrical wiring and fittings are to comply with the requirements laid down by:

- (i) The latest issue of the "Standard Regulations for wiring of premises" issued by the South African Institute of Electrical Engineers.
- (ii) The Factories, Machinery and Building Works Act of 1941.
- (iii) The local authorities By-laws and any special requirements of the Local Supply Authority.

PA3.8 Sink units

Sink units shall be fitted with one shelf and a stainless steel sink and fluted drainer unit, with tiling key to one or more sides as required, complying with the requirements of the relevant SANS specification and bearing the standardisation mark of the SANS. The stainless steel shall be of Grade 1770 and of such gauge as laid down for the particular size of fitting. Outlet of bowls shall be fitted with chromium-plated brass work fittings with vulcanite plug and chromium-plated chain. Each 1500mm long sink unit shall have a single bowl, either left hand or right hand as shown, size 460 x 350 x 150mm deep. Each sink to be fitted with chromium-plated bibcocks and connected to hot and cold water supply.

PA3.9 Sanitary equipment

PA3.9.1 Pedestal Water Closet Pans

Pedestal water closet pans shall be of wash-down type approximately 450mm high, of white glazed fireclay or vitreous china, complying with the requirements of the relevant SANS specification.

Pans shall be bedded on the floors in 3:1 cement mortar. Pans shall be fitted with approved plastic seats with double flap of size and shape required to fit the pans and each attached to pan with two non-ferrous metal fixing bolts.

PA3.9.2 Flushing Cisterns

Low level P.V.C cisterns, no less than 12mm thick in any part, shall be provided complying with the relevant SANS specification and shall have a capacity of +- 12 litres and shall be of the valve less siphonic type of approved manufacture.

Cisterns shall be fixed to walls with 6mm brass bolts, 150mm long, two to each cistern, built into walls in 3:1 cement mortar, with leather compression washers and brass nuts.

PA3.9.3 Hand wash basins

Hand wash basins shall be of the bracket type of white fireclay or vitreous china, complying with the requirements of the relevant SANS specification and having overflow, fitted with chromium plated grid.

Unless otherwise specified, basins shall be size 585 x 430mm each fitted with 38mm plug and chromium-plated chain, and with two 12mm chromium-plated brass easy clean pattern screw down pillar to PHS. Basins shall be fixed on concealed wall hangers fixed to walls with 6mm brass bolts, 150mm long.

PA4 PLANT

Plant, equipment, tools, scaffolding, etc. utilised in building work shall be of suitable capacity, condition and design to ensure the satisfactory and timeous completion of the Works within the specified period and in terms of these specifications and good building practices.

Only registered artisans (e.g. plumbers, electricians, etc.) shall be employed on any work where this is compulsory building practise.

PA5 CONSTRUCTION

PA5.1 Brick-and-Plasterwork

PA5.1.1 Normal brick walls

Brickwork, wherever practicable, and not otherwise described, must be built in English bond. Half brick walls, walls in two skins and cavity walls must have the separate skins built in stretcher bond. No false headers are to be used and none but whole bricks except where legitimately required to form bond. The bricks are to be well wetted with water before being laid and the course of bricks last laid is to be well wetted before bedding fresh bricks upon it. All perpends and angles are to be kept plumb. The brickwork is to have the joints flushed up at every course solid throughout the whole width of the course, and each course is to be laid on a solid bed of mortar. Pointing is to be done as the work proceeds.

The joints of all walls to be plastered or tiled are to be raked out 15mm as the work proceeds to form a key for plaster or screed. All walls are to be built up in regular and horizontal courses and carried out so that no part built is more than 1,2m higher than any adjoining walls. Mortar beds generally are not to exceed 12mm thickness.

PA5.1.2 Face brick walls

In all faced brickwork the bond must be set out on the first level course of brickwork, at floor level internally and two courses below ground level externally. The bond, if necessary, is to be broken in the centre of panels under windows or to piers between windows. All perpend must be kept true and all courses must be built to gauge rods. Facings must be carefully protected from damage, mortar droppings, paint splashes, etc. during the whole period of the Contract and, on completion, they must be thoroughly cleaned down and left perfect. The practice of oiling facings on completion will not be allowed.

PA5.1.3 Cavity Walls

Cavity walls are to be built with two brick skins with a cavity between the skins and the two skins tied together with wire ties, four to the metre square, carefully laid and in no case to fall inwards towards the inner skin of the wall.

Care must be taken to keep the cavity free of mortar droppings or other matter by movable boards or other means, and temporary openings must be left at plinth level through which any such droppings, etc. can be removed, and the openings made good on completion.

At door, window and other openings, the cavities shall be stopped 102,5mm back from heads, jambs and sills of openings.

PA5.1.4 Reinforced Brick Lintels

Brick lintels are to be built of normal, sound, well burnt, good quality building bricks, similar to the facings where exposed properly bonded longitudinally and bedded and pointed in cement mortar as described. Special care must be taken to ensure solid bedding, particularly where the reinforcement occurs.

The lintels are to be reinforced with straight continuous mild steel rods of the size and number scheduled. The rods must each extend 300mm on each side of the opening and are to be evenly spaced across its thickness in the first horizontal joint above the soffit.

Brick lintels in cavity walls must have all rods placed below the solid sections of the walls, excepting for those rods specifically scheduled to occur below the cavity.

Cavity walls must be built solid for the number of courses scheduled above the lintel soffit. This solid section must extend the full width of the opening, plus 300mm on each side. Combined brick and concrete lintels may have the reinforcement divided proportionately between the brick and the concrete skins. Where two or more openings are less than 665mm apart, the lintel shall be continuous over all such openings and the dividing piers, plus 300mm bearing at each extreme end as before, shall have such height and reinforcement as scheduled for widest openings spanned.

Span in mm	Min. height of lintels above soffit course, in brick courses	Reinforcement per half-brick thickness of wall above for solid walls		Additional reinforcement for cavity, placed below cavity	
		No. of Rods	Dia. mm	No. of Rods	Dia. mm
600	2	1	6	1	6
900	3	2	6	2	6
1200	3	3	6	1	6
1500-1800	4	2	10	1	10
2100-2400	5	3	10	1	10

PA5.1.5 Damp proof courses

The sheeting is to be cut into strips of the required width and laid on all foundation walls to the full thickness of the walls to the full thickness of the walls and without any longitudinal joints. At ends, angles and intersections the sheeting must be lapped 150mm and sealed. In cavity walls the sheeting must be laid across the full width of the wall, including the cavity, and must be stepped up one course in the cavity, over a cement triangular fillet, so that the sheeting under the inner skin of the wall is higher than that under the outer skin of the wall.

Under all window sills exposed to the weather, the sheeting must be laid to form damp proof course as detailed above for solid walls and cavity walls.

PA5.1.6 Reinforcing in Brick walls

Reinforcing (brickforce) on an approved manufacture shall be place on every fifth course in all brick walls. In half-brick and cavity walls 80mm wide reinforcing mesh shall be used and 150mm wide mesh in the case of the one-brick walls.

PA5.1.7 Plasterwork

All chases must be cut and electrical conduiting and boxes fixed before any plastering is done. On no account will chasing be allowed in finished plaster work, and if such chasing is necessary, the entire wall surface must be hacked off and re-plastered.

Except where otherwise described, all external plaster is to be finished with a wooden float and all internal plaster is to be finished with steel trowel, all to perfectly true and even surfaces, free from tool marks and other defects on completion.

All finished surfaces are to be protected from injury. All joints in brickwork are to be well raked out, all surfaces, brickwork and concrete, to be plastered must be brushed down to remove all dirt and dust and be thoroughly wetted directly before plastering. Concrete surfaces must be roughened or hacked as necessary to give a proper key for plaster. The surfaces must then be sloshed with coarse cement grout before plastering is commenced. The surfaces of all internal plaster must be steel trowelled to a smooth even and true finish. External plaster must be finished to a true and even surface with a wood float. Plaster must be returned into reveals and soffit of openings and all angles and edges must be true and straight. All plaster surfaces must be free from blemish and any cracks, blisters, or other defects must be cut out and made good and the whole left perfect at completion. Plaster on walls must be not less than 12mm or more than 20mm in thickness, and plaster on concrete work must be not less than 10mm or more than 15mm in thickness, except where specifically otherwise described.

PA5.1.8 Slip Joints

Slip joints shall be provided between brickwork and concrete slabs and beams by level-ling up and steel trowelling smooth the bearing surfaces of brickwork with 3:1 mortar and covering the bearing surface before concrete is cast with 2 layers of 500m five hundred micron) black general-purpose sheeting membrane.

The ends and sides of beams and edges of concrete slabs shall be separated from the brickwork with 12mm polystyrene placed vertically against the brickwork before the concrete is cast.

PA5.1.9 Beam Filling

Unless otherwise specified, beam filling shall be half brick thick, built in cement mortar, cut in between roof timbers and carried hard up to underside of roof covering and flushed up in mortar with a groove formed between covering and mortar to the satisfaction of the Engineer.

PA5.1.10 Securing of Roofs

Roof plates shall be fixed to walls with bands of 1,6mm thick galvanised hoop iron, 32mm wide, built six (6) courses deep into brickwork or embedded 300mm deep into concrete, at not exceeding 1,5 metre centres, and well lapped and spiked to plates and to roof trusses where adjacent, otherwise taken up to an lapped round the nearest purlin and well spiked thereto. A layer of brickforce shall be provided at each alternate course above the building in of the hoop iron to fix the roofs.

PA5.2 Rainwater Goods

All gutters, downpipes and flashings shall be 0,6mm thick galvanised sheet iron. Rates for sheet iron eaves gutter and rainwater pipes shall include for short lengths and for lapped, riveted and soldered joints. Eaves gutters are to be screwed or welded to fascia boards or roof timbers/beams with 38 x 3mm galvanised mild steel gutter brackets at approximately 900mm centres, or as otherwise described. Rainwater pipes are to be fixed with sheet iron ears to and including 25 x 76 x 150mm chamfered hardwood blocks, plugged to brickwork or concrete and oiled, or with 38 x 14 gauge galvanised hoop iron straps build into walls not more than 2 meter apart, bent around pipe and bolted at back.

Finishings shall be properly cut, lapped and shaped to render a waterproof finish. Flashings turned up against walls must be finished with cover flashing bent to shape, dressed over the under flashing and with top edge wedged into joint of brickwork and pointed or secured by other approved means.

PA5.3 Paintwork

All surfaces not being painted such as face brickwork, sills, floors and stained woodwork, must be covered up and protected against paint and distemper sports before any painting is commenced. All floors must be swept clean and walls dusted down before any paintwork is commenced and no sweeping or dusting must be done while painting is in progress.

All plastered wall; ceiling and similar surfaces must be perfectly dry and in a fit state to receive the finishings, before the work is put in hand.

All coats of paints, etc. must be thoroughly dry before subsequent coats are applied, and rubbed down where necessary.

All work must be finished to colours approved by the Engineer.

The tints of undercoats must approximate those of the finishing colour and in order to indicate the number of coats applied and to avoid misses when applying a succeeding coat, a slight difference shall be made in the tint of each coat.

The Contractor must provide all necessary dust sheets, covers, etc. and shall exercise all necessary care to prevent marking the surfaces of joinery, walls, floors, glass, electrical fittings, etc. and must keep all parts of the works perfectly clean and free at all times from spotting, accumulation of rubbish, debris or dirt arising from the painting operations. Any surface disfigured or otherwise damaged must be completely renovated or replaced as necessary, by the Contractor at his own expense. The premises must be left clean and fit for occupation at the completion of the work.

PA5.4 Floor Finishes

Where a floated concrete floor finish is specified on the drawings, the requirements of SANS 1200G or GA, whichever is irrelevant, shall apply.

Granolithic finish to floors, treads and risers of steps, thresholds, landing etc. must be composed of two parts hard stone chippings; half part sand and one part cement, steel trowelled to a true and even surface. The granolithic must be laid before the concrete surface bed has matured, otherwise the surface of the concrete must be thoroughly cleaned with a wire brush and a coat of neat cement grout applied immediately before the granolithic is laid. The granolithic must be laid in panels not exceeding 6 m² in areas, and jointed to lines of panels and lined into smaller square as directed with sunk V-joint. The joints between the panels should coincide with joints in the concrete surface bed, where these occur. No dusting on of colouring pigment will be allowed.

Terrazzo floor tiles shall be even in size and shape, free from cracks, chips, twists, blemished or other defect uniform in colour and equal to samples to be submitted to and approved by the Engineer. Special care must be taken to preserve arises and faces during transit and handling.

Pointing, etc.: Terrazzo floor tiles are to be bedded and jointed solidly in cement mortar and unless otherwise described, flush pointed on all exposed faces with semi-dry cement mortar pressed in. On no account must liquid grout be poured in. Terrazzo floor tiles work must be well protected to prevent all possibility of damage or discoloration and thoroughly off cleaned on completion.

Vinyl floor tiles shall be fixed on to a screed of thickness at least 25mm. The screed shall have a wood floated finish and shall be smooth with no obstruction greater than 3mm protruding and with the screeded surface level in such a way that no gap greater than 5mm would show underneath a 3m straight-edge or part thereof.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Vinyl tile adhesives shall carry the same product name as the vinyl tiles and the adhesives shall be applied as stipulated by the suppliers.

The acceptable tolerance of the final tiled floor shall be similar to that specified for the screeded surface underlying the tiles.

PA5.5 Tiling Work

The area to be tiled, shall first be plastered as described under plasterwork leaving a wood float finish. The plastered surface shall be left for two weeks to cure before any tiling may start.

Tiles shall only be cut by approved tungsten tile cutters, or for irregular shapes by approved tile saws. The use of nibblers shall not be permitted.

A tiled panel shall be planned beforehand to minimise cuts. An initial perpendicular tiling configuration shall be laid against perpendicular fixed battens. A clear space of 1 to 2mm shall be left between tiles by inserting positive temporary spacers.

Prior to the application of any adhesives the rendering shall be vacuum cleaned. Adhesives shall be mixed with a bonding agent and not with water. The mixing proportions shall be as specified by the supplier. Adhesives shall be applied within a 15minutes period after mixing with those adhesives or used during such time to be thrown away.

Adhesives shall be applied in a solid bed, some 6mm thick and then struck with an approved serrated steel trowel. Adhesives shall not be applied by "the fire point tiling method".

Grouting of the joints shall only start 48 hours after a tiled section has been completed. The grout shall also be mixed with the bonding agent as specified by the supplier. The grout shall be worked off leaving a neat superficial rut in the joint centre. All the faces shall be cleaned directly after grouting.

No tiling shall be done over a structural joint. In large tiled panels, a movement joint shall be left every 3 metres in the horizontal and vertical direction as detailed. At a structural joint (contraction or expansion joint) the rendering, adhesive and tiles shall be interrupted over the joint and the joint sealed at the surface.

The permissible deviation on the final surface shall be a maximum gap of 3mm measured under a 3m straight edge or part thereof.

PA6 TOLERANCES

Where tolerances are not specified in the clauses above those generally accepted as representing good workmanship in the building trades shall apply.

PA7 TESTING

The Employer's Agent reserves the right to order any tests, whether at place of manufacture or on site, necessary to evaluate the quality of the work and to ensure the finished building conforms to all the specified requirements.

PA8 MEASUREMENT AND PAYMENT

PA8.1 Schedule items

PA8.1.1 Brickwork

Brickwork, if measured as a separate item, shall be measured in square metre of the nett brickwalled area (with the wall width and type of brick-finish, indicated). No adductions will be made for small openings such as air bricks, etc. The tendered price per square metre of brickwork shall include also for the following, if such items are not listed separately:

- (a) Plaster work as indicated
- (b) Damp proofing
- (c) Brick forcing (every fifth layer)
- (d) Reinforcing of lintels
- (e) Miscellaneous items built into brickwork shown on the drawings such as air bricks.

PA8.1.2 Wall, ceiling, roof and floor finishes

Cement plaster on walls and ceilings, roof screeds, floor screeds, paint and any other finish described or specified, shall if measured as separate item be measured in square metre of the nett surface are. No deductions shall be made for small openings nor shall additions be made for small protrusions and reveals. No separate payment shall be made for the processes involved and material supplied for the complete painting of all fixtures and fittings, as specified herein and the cost thereof shall be

included in the tendered price for the supply, manufacturing and erection of all such items to be erected.

PA8.1.3 Miscellaneous

- (a) Timber doors and windows shall be measured per unit of door or window complete with door frame, lock keys, glazing, painting, etc., for each type and size of door or window or as a lump sum payment for all doors and windows included in the door and window schedule of the Works.
- (b) Other items of building work, fixtures and fittings, shall be measured and paid for in the units of measurements listed in the Schedule of Rates.

PB FENCING

PB1 SCOPE

This sub-section includes all work in connection with the erection of shockproof, vermin proof, residential or security fencing as shown on the drawings or as directed by the Engineer. It also includes any work necessary on the lifting and re-erecting of existing fences. The standard of fencing, the positioning of the gates and the quantities shown in the Schedule of Quantities against each item under this section, may be subject to variation and the Contractor shall ascertain from the Employer's Agent, the exact location of, and specification to which the fencing shall be constructed, before placing any orders for material. The minimum standards of fencing required are indicated on the drawings.

PB2 MATERIALS

PB2.1 Vermin, Shockproof and Residential Fencing

Straining posts and stays, standards, and droppers shall be either of timber or steel sections. All sections shall be to the dimensions and masses indicated on the drawings. Timber sections shall be of creosote impregnated hardwood. Steel sections shall be either galvanised or painted to the specifications indicated on the drawings.

All plain wire, barbed wire, wire netting, diamond mesh and binding wire shall be according to the diameters and specifications indicated on the drawings.

PB2.2 Security Fencing

All posts, standards and droppers for security fencing shall be galvanised steel sections to the dimensions and details indicated on the drawings. Plain and diamond wire and other fencing materials shall all be according to the details indicated on the drawings.

Gates

All gates shall be to the details indicated on the drawings and components shall either be galvanised or painted according to the specifications on the drawings.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PB2.3 Bolts

Bolts shall be galvanised steel bolts of the required length and diameter which shall not be less than 12mm. Eyebolts to gates of 18mm diameter. All the necessary bolts together with nuts and washers, shall be supplied with each post or gate.

PB3 CONSTRUCTION

PB3.1 Clearing of Fence Site

All brush scrub and other obstructions which may interfere with the proper construction of the fences shall be removed and surface irregularities shall be graded so that the fence will conform to the general contour of the ground.

No separate payment will be made for this clearing and full provision for these costs must be made in the tender.

PB3.2 Connections

Existing cross fences shall be connected to the new fences. Straining posts with stays for every direction of strain shall be placed at the junction with existing fences and the wires in both fences properly fastened to the posts.

PB3.3 Placing of Posts

All posts, struts and standards shall be firmly planted into the natural ground, be it soil, gravel or rock to the depths detailed. Gate posts and struts shall be erected at all gates and straining posts and struts shall be erected at all ends and corners or bends in the line of the fence and at all junctions with other fences. Intermediate straining posts and struts, and standards shall be spaced at the intervals indicated on the drawings.

All posts (except struts), standards and droppers shall be placed in a vertical position except in unusual locations where, in the opinion of the Employer's Agent, it will be more satisfactory to place such member perpendicular to the slope of the ground. All posts, struts, standards and droppers shall be set in holes dug to the specified depth even in rock where blasting might be necessary to obtain the required depth. All gate posts shall be set in concrete and other members shall either be set in concrete or in well compacted backfill as indicated on the drawings. No concreting or backfilling shall be done until all members have been properly aligned.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

All posts and struts for security fencing shall be set in concrete as shown on the drawings. Steel members are not buckled or otherwise damaged after being driven in, and provided further that the correct alignment of the driven members is maintained.

PB3.4 Attaching Wire

After all posts, struts and standards have been set firmly and after all concrete has hardened for at least four days the fence wire shall be attached according to the details indicated on the drawings. All wire shall be attached to the sides of the posts and standards furthest from the object being fenced. Wire shall be carefully stretched and strung in true alignment and without sag. Wire shall be attached to each post and standard by one of the following methods:

- a) by notching the member and securing the wire by means of binding wire or,
- b) by drilling holes through the member and stapling the wire with plain iron staples passing completely through the member, or
- c) where iron members are used, by securing the wire by means of binding wire must pass through the hole in the standard.

Droppers shall be placed parallel to the standards at the intervals detailed on the drawings. Droppers shall be fixed to each fence wire with binding wire in such a manner as to prevent any slipping.

PB3.5 Attaching Wire Netting or Diamond Mesh

Wire netting and diamond mesh covering shall be securely fixed to the fence according to the details on the drawings. In addition, the wire netting on vermin proof fencing shall be fixed according to the Employer's Agent's instruction by one of the following methods:

- a) by packing stones, placed end to end, on both sides of the fence so that no gaps exist beneath the fence, or
- b) by folding back the bottom 150mm of wire netting so that it lies flat on the ground, and packing stones end to end on this flap, or
- c) by embedding the lower part of the wire netting at least 100mm into the ground and ramming the earth thoroughly to secure the netting.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PB3.6 Installing Gates

Gates shall be installed in the position indicated by the Engineer. The gates shall be erected so as to swing in a horizontal plane at right angles to gate post clear of the ground in all positions.

PB4 FINISHING: TRIMMING AND PAINTING

Where timber posts have been used, the tops of the posts shall be trimmed after the fencing has been erected, such that the top of the completed fence has a pleasing profile. The cuts shall be liberally painted with creosote. An un-galvanised metal components of fencing has been erected, any chipped or damaged paint work shall be touched according to the same paint specifications.

PB5 MEASUREMENT AND PAYMENT

PB5.1 Vermin proof, Shock proof, Residential and Security Fencing

This fencing shall be measured in metres between the centres of gate and end posts along the general slope of the ground. Payment shall include full compensation for the clearing of the line, for the supply, painting and erection of all standards, intermediate straining posts and stays, droppers, plain wire, barbed wire, binding wire and all other components on the drawings but shall specifically exclude corner, end and gate posts and their stays. Payments shall also include for the concreting of posts where specified.

PB5.2 Corner, Bends and Ends

Corners, bends and ends shall be measured by the number and shall include compensation for the supply, painting and erection of all posts and stays required at such ends, corners or bends and shall include for any concreting where so specified.

PB5.3 Gates

Gates shall be measured by the number. A double gate as required for security fencing shall be measured as one number double gate. Payment shall include full compensation for the supply, painting and erection of the gate and ancillary components, as well as for the supply, painting and erection of gate posts and struts and for the concreting of such posts and struts (where required).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PB5.4 Pay Items

1.	Vermin proof Fencing	:	m
2.	Shockproof Fencing	:	m
3.	Residential Fencing	:	m
4.	Security Fencing	:	m
5.	Corners, bends and ends (shall distinguish between the different type of fencing)	:	no
6.	Gates (shall distinguish between the different type of fencing and between the different types and dimensions of gates)	:	no

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PC FINISHING AND CLEANING UP

PC1 GENERAL

No section of the work will be regarded as satisfactorily completed until the final cleaning up has been performed.

PC2 SCOPE

All completed work shall be trimmed and all the debris of construction, such as unsuitable or rejected materials and spillage, shall be removed. The site and its environs shall be rehabilitated, where practically possible, by taking the following measures: -

- * The site of work shall be cleaned of all rubbish, excess materials, falseworks, temporary structural installations and abandoned equipment.
- * All construction scars resulting from this contract shall be treated to blend with the contour and vegetation of the surroundings.
- * All trench subsidence shall be made good and surcharged backfill materials shall be removed unless otherwise directed.

PC3 ACCEPTANCE

Three weeks before the anticipated date of completion of any section to be handed over, the Contractor shall formally request a check list of defects from the Engineer.

Within one week the Employer's Agent will detail in writing the particulars of the work to be done in finishing the Works, and the general standard of aesthetics to be observed in trimming and cleaning.

Before offering the work for acceptance on a completion certificate the Contractor shall satisfy the Employer's Agent's site representative that all the work scheduled on the checklist has been attended to.

PC4 PAYMENT

Payment shall be the tendered lump sum and shall become due on the date of signature of the Certificate of Completion.

PD EQUIPPING OF BOREHOLES

PD1 SCOPE

This sub-section includes all work related to the installation of borehole equipment including but not limited to the following:

- Hand pumps
- Windmills
- Diesel driven engines
- Positive displacement pumps
- Submersible pumps and associated electrical work.
- Solar powered pumps (submersible and positive displacement)

The service to be rendered is the provision, installation, erection and commissioning of all the borehole equipment and appurtenant works.

PD2 GENERAL

Depending on borehole test results, the borehole will be equipped upon the Employer's Agent's site instruction. The pump set shall comprise one complete borehole pump, including all pipe work to couple to main pipeline, electric or diesel driven, pulleys, driving belts, etc. The complete installation is to be housed in the standard pump house as detailed on drawings JMRW-20/W/D/025, JMRW-20/W/D/026, JMRW-20/W/D/027 and JMRW-20/W/D/028.

Drawings JMRW-20/W/D/023 and JMRW-20/W/D/024 illustrates the standard layout of equipment and pipe work to be installed in each pump house.

PD3 REMOVAL OF EXISTING EQUIPMENT FROM BOREHOLES

In cases where the boreholes listed are presently equipped (hand pump, power head, engine and shelter or windmill), all such equipment shall be carefully dismantled by the contractor and stored securely at the Contractors' camp, all to be handed over to the Employer. (Refer to clause PS10.9 of Section C3.4.1).

Where boreholes are sealed, the Contractor shall remove these entirely and demolish the seals. All such debris shall be dumped at spoil sites indicated by the Engineer.

The Contractor will only be permitted to expose the boreholes immediately prior to equipping such boreholes as instructed by the Employer's Agent and shall at all times exercise great care to prevent the ingress of debris or any foreign material into the borehole.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PD4 DESIGN, MEASUREMENTS AND RECORDS

PD4.1 Prior to the ordering of any materials to be used for the equipping of boreholes, the Employer's Agent shall issue a selection lists to the Contractor, specifying the equipment to be installed at each borehole.

The contractor shall, before ordering any equipment, verify the specific selection of equipment with the supplier.

The Contractor must proceed with the immediate ordering and/or installation of the specified equipment after reception of these lists.

PD4.2 Prior to equipping of each borehole, the Contractor shall measure and record the diameter of the borehole at natural ground level, the static water level (in metres below ground level), the depth of the casing and the total depth (in metres below ground level). These measurements shall be verified with the Employer's Agent prior to equipping of such borehole.

PD5 HAND PUMPS

Boreholes to be equipped with hand pumps shall be equipped with Reciprocating type or Positive displacement type hand pumps, or similar approved in writing. All handpumps shall be manufactured from Brass HCP (Hard Chrome Plated).

PD6 WINDMILLS AND WINDMILL EQUIPMENT

PD6.1 Windmills

All windmill heads shall be reciprocating double geared, oil lubricated, with the gearbox comprising one single piece casting, positively weather sealed. The main bearings shall be of white metal. All wind-wheels shall have a nominal diameter as specified.

The windmill shall have a concave shaped wheel with a gravity governing action reefing system. The tower is to be galvanised and with the number and quality of legs to the manufacturer's specification.

All components of windmills shall be assembled and erected to the Manufacturer's details and requirements and to the satisfaction of the Engineer. The Contractor shall at all times

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

have at his disposal one neat complete set of erection instruction manuals at the erection site.

All windmills shall be completely covered by the Manufacturer's guarantee of not less than twelve months as dated from the date of commissioning the particular plant.

PD6.1.1 General Safety Regulation of Safety Legislation no.13A(6)(a) and 13A(6)(b)(i)

1. An employee shall ensure that every ladder is constructed of sound material and is suitable for the purpose for which it is used, and-

- (a) is fitted with non-skid devices at the bottom ends and hooks or similar devices at the upper ends of the stiles which shall ensure that stability of the ladder during normal use; or
- (b) is so lashed, held or secured whilst being used as to ensure the stability of the ladder under all conditions and at all times.

2. No employer shall use a ladder, or permit it to be used, if it-

- (a)(i) has rungs fastened to the stiles only by means of nails, screws, spikes or in like manner; or
- (a)(ii) has rungs which have not been properly let into the stiles;

Provided that in the case of welded ladders or ladders of which the rungs are bolted or riveted to the stiles, the rungs need not be let into the sides; or

- (b) has damaged stiles, or damaged or missing rungs.

3. No employer may permit that-

- (a) a ladder which is required to be leaned against an object for support be used which is longer than 9m; and
- (b) except with the approval of an inspector, the reach of a ladder be extended by fastening together two or more ladders;

Provided that the provisions of this sub-regulation shall not apply to extension or free-standing ladders.

4. In the case of wooden ladders the employer shall ensure that -
 - (a) the ladders are constructed of straight grained wood, free from defects, and with the grain running in the length of the stiles and rungs; and
 - (b) the ladders are not painted or covered in any manner, unless it has been established that there are no cracks or other inherent weaknesses; Provided that ladders may be treated with oil or covered with clear varnish or wood preservative.

5. When work is done from a ladder, the employer shall -
 - (a) take special precautionary measures to prevent articles from falling off; and
 - (b) provide suitable sheets or receptacles in which hand tools shall be kept when not being used.

6. An employee shall ensure that a fixed ladder which exceeds 5m length and is attached to a vertical structure with an inclination to the horizontal level of 75° or more -
 - (a) has its rungs at least 150mm away from the structure to which the ladder is attached; and
 - (b) is provided with a cage which -
 - (i) extends from a point not exceeding 2,5m from the lower level to a height of at least 900mm above the top level served by the ladder; and
 - (ii) shall afford firm support along its whole length for the back of the person climbing the ladder, and for which purpose no part of the cage shall be more than 700mm away from the level of the rungs:

Provided that the foregoing provisions of paragraph (b) shall not apply is platforms, which are spaced not more than 8m apart and suitable for persons to rest on, are provided.

Important Note:

One windmill manufacturer was granted the following exemptions for windmill towers:

This exemption is subject to the following conditions:

1. There shall be at least 150mm clear space between each rung of the ladder and any part of the tower horizontally behind it.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2. The cage shall extend from a point not exceeding 3.5m from the lower level to a height of at least the level of the wooden platform.
3. A notice shall be displayed at the top rung of the ladder warning persons to attach their safety belts before proceeding further.
4. A notice shall be displayed on the ladder at a height of approximately 1.8m above ground level warning persons to apply the windmill brake before proceeding to climb the ladder.
5. The notices mentioned in 3.3 and 3.4 shall include symbolic signs which can be understood by all language groups.

PD6.2 Borehole Cylinders

Unless otherwise specified, all boreholes are drilled to a minimum of 150 mm diameter.

Heavy duty mushroom type borehole cylinders, of which the barrel is of seamless brass (alt. stainless steel) tubing shall be used in all cases. The nominal bore of the cylinder shall be as specified. The cylinder stroke shall be in compliance with the windmill specified. Each borehole cylinder is to be fitted complete with suitable brass strainer, screwed directly into the cylinder. Plungers are to be fitted with neoprene buckets.

PD6.3 Borehole Pump Rods

Galvanised solid mild steel pump rods, diameters as specified, with screwed joints in lengths of 3 metres complete with socket and two lock nuts shall be used.

The pump rods shall be supplied, complete with the necessary approved galvanised pump rod couplings to connect the pump rods to the plunger rod of the cylinder, to the packing box rod and to the mill rod connection. Prior to assembly of pump rods, the screwed ends shall receive one coating of an approved protective pipe threading compound in the form of a layer of paste.

Approved galvanised steel mill rod connections complete with bolts and nuts to the Manufacturer's recommendations shall be used to connect the wood mill rods to the pump rods.

PD6.4 Borehole Rising Mains

Screwed and socketed medium galvanised iron piping to SANS62 shall be used for the borehole rising columns. Internal diameters of the rising columns shall be as specified. Prior to assembly of pipe columns, the screwed ends shall receive one coating of an approved protective pipe-threading compound in the form of a layer of paste. Following

assembly, all excess paste shall be wiped off, and the pipe area 300 mm above and below the socketed joint shall be covered with a layer of bitumen-based paint. Stabilisers shall be provided at 12 m spacing on the rising mains.

PD6.5 Tee and Spill Pieces (Standpipe)

At the top of the delivery column a galvanised tee-piece shall be provided to take the discharge pipe. Except in the case of packing box installations, a spill piece (standpipe), having an equal diameter to the rising main, shall be provided to prevent water spilling over the top of the column. Standpipes shall be used only in cases where the discharge head is less than 5 metres. The standpipe shall be securely braced to the tower posts at the top end of the pipe.

PD6.6 Packing Box / Stand Pipe Gland / Force head

Heavy duty seamless brass tube type packing boxes with positive neoprene sealing buckets and screwed externally to fit the specified borehole rising main or equivalent units, shall be provided in all cases where the discharge head exceeds 5 metres. Packing boxes shall further comply with the maximum specified discharge head of 12 metres.

Packing boxes shall be installed complete with all necessary fittings required for the proper couplings of pump rods and mill rods.

PD6.7 Base Plates

The Contractor shall supply over each borehole one set of cast iron clamps and base plate of a size conforming to the diameter of the borehole rising main, complete with four 250 mm long by 12 mm dia foundation bolts and nuts. The foundation bolts are to be embedded into a Class 15/20 mix concrete footing of 600 mm minimum depth and 600 mm square surface dimensions. The bolts shall be located thus, that each half of the clamp (provided with slotted holes) can be moved back and forward sufficiently when column pipes are being lowered or raised. The base plate halves shall be clamped together using two bolts.

PD6.8 Discharge Pipe Work

Discharge pipe work comprising one horizontal length piping, GMS to SANS 62.450 mm long, two 90° female bends and one vertical length piping 750 long, shall be fitted to the horizontal outlet of the tee piece at the top of the rising column main. Internal diameters of the discharge piping shall be as follows:

<u>Rising column dia mm</u>	<u>Discharge pipe dia mm</u>
40	40
50	50
65	50

In the latter case, a 65 x 50 reducing bush shall be fitted to the rising main tee outlet. All discharge pipe work shall be medium galvanised steel and pipe lengths shall be screwed both ends.

PD6.9 Air Chambers

Air chambers shall provide adequate capacity of air cushion and be fitted with externally fitted release plugs.

PD6.10 Concrete Foundations

Foundations holes shall be excavated to the positions, depths and widths as recommended by the Manufacturers of the particular plant but shall however not have dimensions of less than 1.00 metre in depth and 1.00 m diameter at the bottom of the foundation hole.

Following completion of the excavation of the foundation holes, a layer of about 150 mm thick concrete, class 15/20 mix, shall be placed in the bottom of the holes ensuring that the concrete surface in the different holes are at the same level. Four 600 mm long 20 mm diameter mild steel bars with 100 mm of both ends bent ninety degrees, shall be placed 150 mm from the circumference of the holes, into the concrete layer of each hole. After the concrete has set, the steel anchor posts of the tower shall be carefully placed and positioned into the holes and each hole shall be filled with another layer of 300 mm of concrete. Care shall be taken that the surface of the older concrete is clean before new concrete is placed. The concrete shall completely cover all foundation plates. By using circular shuttering of approximately 250 mm diameter, concrete shall then be poured around each tower post bringing the top of the concrete to ground level where it shall be neatly rounded off. Earth shall then be rammed around the concrete.

The Contractor shall ensure that the tower is perfectly level when erected and if applicable that the borehole is in the centre of the tower posts and with a plumb line or other means that the centre of the tower cap is directly above the borehole.

PD6.11 ROTARY WINDMILLS

The **windmill head, wheel and tail unit**, as well as the tower shall be to PD6.1. The **rotary screw pumps** shall be self-priming positive displacement pumps or similar approved as per PD8.

The windmill shall be supplied with a **gearbox** of ratio 1:10 and shall translate reciprocal motion into rotary motion. It shall be furnished with a double set of gears. The discharge head shall be to the specifications given under PD8.

The **borehole pump rods** shall be to PD6.3 for the rods above the gearbox, but shall be as for positive displacement borehole pumps (PD8), below the discharge head. The former borehole pump rods shall be guided by flanged bearings attached to the lower portion of the tower structure, including a quick-release coupling for attachment of the pump to an electrical or diesel driven power source. Stabilisers shall also be installed every 12 m on the borehole rising mains.

Column piping and ancillary pipe work shall be to PD8 and PD10, respectively.

The **concrete foundations** for the tower shall be constructed to PD6.10, while the concrete work related to the installation of the discharge head shall be similar to that specified under PD8.

PD7 DIESEL DRIVEN ENGINES

PD7.1 Quality Control

All diesel engines shall be manufactured in accordance with BS 5514, ISO 3046 and DIN 6271.

PD7.2 Handling and Transport

The Contractor and/or his accredited agent/distributor is fully responsible for the compliance of the Items with the specification up to the relevant point of delivery to site.

PD7.3 Standard Compliance

The tenderer must indicate to which specification his engine and accessories comply with.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PD7.4 Technical Data

An installation and maintenance manual with a complete part list shall be provided with each engine purchased.

The service to be rendered is the supply, delivery in working condition, install and commission of 4 stroke, diesel engines. They shall be direct injection, naturally aspirated and of modular construction, with common spares within each diesel engine family range as more fully specified hereunder.

All engines ordered shall have undergone a 45 minutes Dynamometer test up to 100% full load and pre-delivery service in the factory and certified proof thereof shall be submitted for each engine on delivery.

PD7.5 Faulty Components

In the event of a product problem being experienced, a new component shall be delivered immediately. Credit shall then be given to the Employer on return of the faulty component, if found that the Item is in fact a warranty claim. A full report shall be submitted indicating the cause of failure, and shall be directed to the Employer.

PD7.6 Identification Details - Diesel Engines

- (a) All engines and attached components shall be painted with heat resistant bright yellow paint for identification purposes, ex engine block, head, flywheel, metal covers etc.
- (b) The engine serial number shall also be punched or engraved on the flywheel and engine block. The minimum size of the script shall be 5 mm.

PD7.7 Technical Specification

- (a) Sliding base and frame assembly
 - Sliding base and frame complete with M12 securing bolts, and M20 anchor bolts.
- (b) Exhaust system

The exhaust system shall comprise the following:

- 0,5 m flexible pipe with flange adapter at both ends;
- 1,5 m exhaust pipe with flange adapter at one end;
- Pepper-pot silencer, to be mounted on the exhaust pipe end complete with clamps;

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

(c) Fuel tank and stand assembly

Weatherproof 90 l steel diesel tank on stand, mounted inside the pumphouse to the steel structure.

(d) Centrifugal clutch

Engine shall be fitted with a centrifugal clutch. Detail drawings of clutch to be submitted. The clutch shall be able to transfer the maximum rated torque at 1 300 rpm. The engaged speed must be stamped on the clutch body.

(e) Gauges

A suitable vibration hour meter and oil pressure gauge shall be fitted on a permanent engine mounting (twin gauge panel with anti-vibration mountings).

(f) Suitable V-belts with totally enclosed belt guards shall be supplied with each complete unit.

(g) Diesel driven engines shall be air-cooled type.

(h) Complete Machine tool kit to be supplied with each engine for servicing purposes;

(i) Metal identification plate with the following information embossed on it: Make & Model No. Serial No. Rotation Speed (rpm) & Continuous Rating (kW).

PD8 BOREHOLE PUMPS

Pumps shall be of the type specified and be self-priming, positive displacement rotary type, vertical spindle borehole pump, suitable for pumping potable water to a concrete reservoir or elevated tanks. Solar powered positive displacement pumps are also to be considered for installation.

- i) Column piping shall be standard galvanised medium class water piping. Column stabilisers shall be fitted to at least every fourth column pipe to secure a neat fit against the borehole perimeter. During assembly of pipe columns, the pipe area 300 mm above and below each socket shall be covered with a protective coating of bitumen base paint, following securing of the socketed joint.
- ii) The inlet of the pump unit shall be fitted with a suitable strainer.
- iii) The discharge head shall incorporate the pulley housing and shall be mechanically safeguarded against incorrect direction of rotation. The discharge head shall be provided with a cast iron or fabricated steel bed plate fixed to a concrete foundation block of adequate size by means of suitable anchor bolts.

Pump and electrical/diesel driven shall be accurately aligned on an integral steel frame according to installation instructions of the pump manufacturer and shall allow adjustment in any direction on the horizontal plane for both engine and pump. Length of V-belts shall be as recommended by the pump manufacturer. A detachable steel plate guard, painted red, shall cover the entire V-belt drive. Provision to be made for adjustment of the guard to suit occasional V-belt tension adjustments.

After installation of all mechanical and electrical equipment, the supplier must check the alignment of the pumps as well as starting and commissioning of the pump installations. When satisfied, the supplier shall issue a certificate stating that the installation complied with the manufacturer's specifications.

Centrifugal clutches will be provided where pumps are driven by diesel engines and where instructed by the Engineer. Alternatively drive shafts of the engine and pump shall be connected by a flexible coupling as recommended by the manufacturers of the diesel unit.

- vi) A metal identification plate shall be attached to the discharge head with the following information embossed there-on: Make and model no. (pump and discharge head), Serial no. (pump and discharge head, driven rotational speed (rpm), delivery (l/s) and head (kPa).

PD8.1 Positive displacement borehole pump elements

- (a) Bell-mouth pump bodies are not acceptable.
- (b) Elements must be fitted with at least one (1) spider bearing.

PD8.2 Complete columns

- (a) Columns with a diameter less than 65 mm shall be manufactured from medium galvanised tubing according to SANS 62 specification.
- (b) Columns with a diameter of 65mm or more shall be manufactured from heavy wall tubing with a 4,85 mm minimum wall thickness according to SANS 62 specification.
- (c) Bell-mouth columns are not acceptable.
- (d) Columns must include sockets, shafts and bobbin bearings.
- (e) A sufficient quantity of lubricant, as prescribed by the manufacturer, shall be included. (minimum 500 ml).
- (f) All threads shall be parallel truncated.
- (g) Sockets shall be precision machined from seamless heavy wall tubes.

- (h) Standard galvanised sockets for sizes above 25 mm diameter are not acceptable.
- (i) Sockets: Outer diameter and length of sockets

Size	Outer diameter	Length
40 mm	54	76
50 mm	70	76
65 mm	89	90
80 mm	100	100
100 mm	126	100

- (j) All pipes shall be tested in accordance with the applicable SANS specification by the pipe manufacturer.
- (k) The Manufacturer's name/logo and inspection number shall be stamped on the pipes and sockets.
- (l) A socket shall be fitted on the one end of the pipe after pipe sealant has been applied. The open thread at the other end shall be protected by means of a thick wall plastic cap. The manufacturer's stamp must be visible.

PD8.3 Drive heads

- (a) Light duty drive heads for motor/engine size up to 5,5 kW absorbed power. Heavy duty drive heads for motor/engine size over 5,5 kW. Refer to manufacturer installation instructions. All drive heads shall be supplied complete with discharge base, bearing assembly, pulley, adapter column, top rod, gland packing, gland follower, flanges if required and all fasteners.

PD8.4 MATERIALS

The following items shall be manufactured from the material as indicated against the relevant item.

Strainer	Galvanised mild steel
Stator	Nitrile rubber
Rotor	Alloy steel (EN8 HCP)
Flexible shaft	Stainless steel (EN57)

Spider bearing

Lumenite or Nitrile rubber

Borehole pump drive shafts

Carbon steel (070M20) (EN 3B)

PD9 SUBMERSIBLE PUMPS

PD9.1 Submersible pumps shall be properly insulated and provided with an adequate lightning protection system. Tenderers are required to state which lightning protection system would be provided.

PD9.2 Submersible positive displacement pumps shall have a single rotating rotor in a resilient rubber stator. The rotor shall be hard chrome plated with a stainless steel pump casing.

PD9.3 Submersible centrifugal pumps shall be suitable for either 220 volt or three phase 380 volts.

PD9.4 Metal identification plates shall be fixed to the outside of the electrical control box. The following information shall be embossed on it : Pump make and model no, Serial no, Rotation speed (rpm), delivery (l/s), head (kPa).

PD10 ANCILLARY PIPEWORK

See Specification Drawings JMRW-20/W/D/023 and JMRW-20/W/D/024 for the ancillary pipework to be supplied and installed on the delivery side of each borehole pump. All Sedibeng Water standards must be taken into consideration.

PD11 EQUIPMENT

All equipment should be installed according to the prescribed specifications. Sizes of bases and plinths should be as the Sedibeng standard specifications. Civil work should be constructed as per the applicable specifications.

The holding down bolts of diesel engines shall have a longer thread than required for proper installation, and shall be supplied with two nuts each. One nut shall be used to anchor the engine to the frame, while the second shall be screwed-on and spot-welded to the upper end of the threaded bar.

PD12 ELECTRIC MOTORS

- PD12.1 Electric motors shall comply with SANS 0157, Part 1, for quality, and SANS 948, Part 1 (1978) for performance. Insulation of motors shall be class "F" to BS2757.
- PD12.2 Motors up to 3 kW shall be fan cooled single phase, 220 Volt, 2-pole, 50 Hz, TEFC induction motor suitable for D.O.L. starting.
- PD12.3 Motors between 3 kW and 5 kW shall be fan cooled, aluminium framed, foot mounted, 380 Volt, 3-phase, 50 Hz, TEFC type, squirrel cage induction motors suitable for D.O.L. starting and be suitable for Star Delta starting when the rating exceeds 5 kW.
- PD12.4 Pulleys supplied with motors shall be between 102 mm and 259 mm, be 2-grooved B-sectional taper-lock pulleys and be supplied complete with suitable fan belts. The rate tendered for the motors shall be deemed to include for the pulley and fan belts.
- PD12.5 Metal identification plates shall be attached to the motors, with the following information em-bossed there-on : Make and model number, serial no, insulation class, frame type, rotation speed (rpm), power output (kW) and current at duty point (A).
- PD12.6 Electrical motors shall comply with the minimum standards of Sedibeng Water of which a copy is included into this document (PW).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PE ELECTRICAL AND ELECTRONIC INSTALLATION

PE1 SCOPE

This specification includes the detail on the project to insure the manufacturing, delivery, transport, handling, protection, storage, installation, successful complete the Electrical and Electronic Installation

The general specifications of the works covered by this section shall be defined in the Particular Specifications, Schedule of Quantities and relevant Drawings.

The project specifications shall have preference over the Particular Specification and shall be considered as alterations to the general specifications.

PE2 DETAILS OF CONTRACT

This section includes the design, manufacture, supply, delivery, offloading, storing if necessary, erection, painting, commissioning, testing and maintenance during the Maintenance Period, and final handing-over of all necessary electrical equipment for the electrical works for the water supply in various villages under the Joe Morolong Local Municipality Rural Water Supply Scheme

The electrical contractor shall be a sub-contractor to the principle mechanical contractor.

The work to be undertaken is generally in or near existing townships and inhabited areas. Access to the site is deemed adequate.

PE3 ELECTRICAL PROJECT SPECIFICATIONS

All materials and equipment supplied under this Contract must be new and of the best quality available. All materials must comply with the requirements of the latest editions of the relevant SABS and NRS Specifications.

In addition, all materials and equipment shall bare the SABS mark of approval. Where no mark is available, RCC (Regulatory Conformance Certificates) shall be provided to the Employer's Agent, indication the materials & equipment's compliance to relevant local statutory and/or international standards. The SABS 1200 specifications form part of the electrical works.

PE3.1 General

The project specification must be read together with the standard specification, bill of quantities, and the drawings (if applicable).

The work covers the complete supply, delivery, installation, testing, commissioning, and free maintenance during the guarantee period of the installation as detailed in the specifications, bill of quantities and accompanying drawings.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The Contractor shall provide all materials, equipment, labour, and services necessary for the complete and efficient operation of the electrical installations in accordance with the intent of the specification.

The work shall be carried out strictly in accordance with:

- The Occupational Health and Safety Act and Regulations (Act no. 85 of 1993 as amended).
- The SANS code of Practice for Wiring of Premises, SANS 10142-1: 2008 as amended.
- The project -, particular - and standard electrical specifications.
- Any municipal by-laws and regulations.
- The local authority requirements.

PE3.2 Standards, Inspections and Tests

All material/equipment shall bare the SABS mark of approval. Where it is not practical and/or furnished on the material/equipment, full RCC's (Regulatory Conformance Certificates) will be provided to the engineer. The contractor will note, on the Certificate of Compliance (CoC), the RCC's and exclude them accordingly from his responsibility. The aforementioned shall apply to any other material/equipment and COC's, which must be provided under this contract, but will not be directly supplied, installed etc. by the appointed subcontractor e.g. Lighting Protection System material/equipment and COC's.

As stated previously and further on in this document, all equipment must comply with all relevant standards, specifications and requirements indicated respectively. In addition, there may be materials/equipment not specified in the project specification etc., which may have to be used in order to achieve the required outcome e.g. masts, flood lights etc. Alternatively, there may be certain equipment mentioned in the specification which will not be project specific and may be ignored unless otherwise specified.

Where materials are not specified accordingly, it will evidently be the responsibility of the contractor to furnish the employer's Agent with the manufacturer's details, designs, recommendations, instructions etc. of the specific product, for relevant approvals prior to order or installation etc. The aforementioned will be in conjunction with all other relevant clauses pertaining to information provision to the employer's Agent for approval.

The manufacturer's details, designs, recommendations, instruction etc. shall complement all statutory regulations & standards. Where the manufacturer's details, designs, recommendations, instruction etc. are in conflict with the project specifications and requirements, the employer's Agent shall inform the contractor accordingly as to which requirements to use in order to accomplish project requirements.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Where it is indicated in the Bill of Quantities, or any other part in this document, the information required for approval by the Employer's Agent, it shall be seen to form part of the specifications and requirements.

The Contractor shall inform the Employer's Agent of any equipment which is ready for despatch, in which case the Employer's Agent will arrange for an inspection at the factory of the manufacturer if it is deemed necessary. Such notification of the Employer's Agent must be 10 days prior to despatch.

Three copies of all equipment test reports, whether these tests have been carried out in the presence of the Employer's Agent or not, shall immediately after they become available, be submitted to the Engineer.

PE4 DETAILS OF ELECTRICAL WORKS

The electrical subcontractor will be responsible for the supply, delivery, installation, testing, commissioning, and handing over in proper working condition of the complete new electrical and electronic installation, as specified in detail in this document.

Items covered under the electrical specification include as applicable, but is not restricted to the following:

- a) Liaison and supply authority supply connection application, arrangements, etc.
- b) The manufacture, supply, testing, and inspection at the manufacturer's premises, installation, connection, testing and commissioning of Motor Control Centres, distribution boards and switchgear.
- c) Supply, installation, and connection of all control instrumentation such as level, flow, thermal and pressure transmitters.
- d) Supply, installation, and connection of all cable trays, wire ways, conduit, draw and outlet boxes, and sleeves
- e) Supply, installation, and connection of all cables, control circuit, wiring and conductors.
- f) Supply, installation, and connection of all circuit equipment for small power and lighting installation, i.e. socket outlets, light switches, isolators, etc.
- g) Supply, installation, and connection of all luminaires.
- h) Connection of electrical power to all mechanical equipment and systems, i.e. Pump, valves, pressure and level transmitters to complete the plant, etc.
- i) Supply, installation, connection, and testing of an earthing system.
- j) Excavations for all cable trenches, compaction, backfill, and making good of existing surfaces.
- k) Testing, commissioning, and handing over of the complete electrical installation, in accordance with the requirements of the Electrical Contracting Board of South Africa and the issue of a Certificate of Compliance (COC) for each and every installation.
- l) Removal of redundant electrical equipment where necessary.

The successful tenderer shall allow the representative of the Employer's Agent access to the manufacturer's works at all reasonable times to inspect the progress of the work and the witness all tests.

PE5 SUPPLY AUTHORITY SUPPLY CONNECTION

The contractor shall submit the supply connection application to the supply authority and liaison with them to complete the connection point.

Each installation will require its own connections point as determine by the size of the pumps. Existing supply points might have to be upgraded.

The contractor shall install a supply a new cable from the supply point to the pump station, if existing cable exist the contractor shall test the cable to insure workability.

PE6 LOW VOLTAGE DISTRIBUTION BOARDS

Distribution Boards shall be installed in the positions indicated on the drawings and shall comply with SANS 1765. Electrical Contractors are advised to order their purposed made distribution boards from a reputable manufacturer, as inferior boards will definitely not be accepted. It shall further be noted that late approval of drawings and distribution boards due to non-compliance with the specification will not relieve the Electrical Contractor from his obligations to complete the installation according to programme. No claims for delays or extension of time in this regard, will be entertained.

Some installations shall be provided with a Local DB- section in the MCC panel.

All DB-Boards shall comply with PMC particular specification, schedule of quantities and drawings.

PE7 CONDUIT AND WIRE WAYS

All conduits and accessories shall bear the SABS mark of approval.

Cables shall be installed on a galvanized welded wire ray, from the MCC to the pump and controls, 300mm AFFL along the wall of the pump station.

The following conduits shall be used:

- Galvanised BOSAL conduit for any surface mounted installation and shall be mounted by means of raised saddles, for outdoor use.
- PVC conduit will only be permitted indoors in roof and ceiling spaces and chased into slabs or chased in walls.

Conduits installed in ceiling or roof spaces shall, where practical, be run parallel and at right angles to roof members and clear spans of metal and plastic conduit shall not exceed 1 500 mm and 900 mm respectively. Conduit installations for confined spaces of less than 900 mm

clearance, or where the space after completion of the work will be inaccessible, shall be such that wiring can be carried out from outside such space as would be the case for a conduit installation cast into concrete.

No draw boxes or inspection tees or bends shall be installed in confined roof spaces and where draw boxes are unavoidable; these shall be installed flush with ceiling.

PE7.1 Chasing and Built In

It is the responsibility of the electrical contractor to ensure that conduits, wall boxes, distribution boards, etc. are correctly positioned and built or chased in as the work progresses.

Conduits shall generally be installed at such a depth that the outside surface of the conduit is at least 12mm below the finished plaster surface. Chasing in face brick will not be allowed.

Conduits shall be cast into concrete slabs wherever possible and no conduits will be installed in floor screeds unless approved by the Engineer. Where conduits are cast into beams these shall be located close to the neutral axis of the beam.

PE7.2 Conduit in Concrete

Conduit shall be installed as close as possible to the neutral axes of concrete beams or slabs. Conduit and outlet boxes shall be securely fixed to shuttering to obviate displacement during the pouring of concrete.

Conduit shall drop to the lower face of concrete and terminate at outlet boxes only at points where such boxes are to be installed. On existing concrete structures, conduit shall be run only in approved positions and depth of chasing of such structures, where unavoidable, shall be carried out after approval has been obtained from the building contractor.

The electrical contractor will be required to liaise closely with the building contractor as regards to the incorporation of conduit runs with structural steel in reinforced concrete slabs. Where required, outlet boxes shall be of the deep type to allow structural steel to pass below conduits at outlet boxes. No elbows or bends of radius less than 120mm shall be installed in concrete slabs.

The electrical contractor shall be present during the casting process, so as to ensure that no damage or displacement occurs to conduit.

Immediately after each section of shuttering has been stripped, the electrical contractor shall by means of steel tape establish whether all conduit boxes are accessible and all conduit runs intact and clear. Any shortcoming detected at this juncture must be immediately rectified in approved manner. No beams or pillars shall be cut to install any conduits.

PE7.3 Conduit Surface mounted

Where surface work is permitted, conduit runs shall be perfectly straight and plumb or level. Galvanised conduits shall be fixed at intervals not exceeding 1 500mm and 900mm respectively. Conduit saddles shall be fixed to roof timber by means of suitable wood screws. Nails will not be permitted.

After completion of surface work, no exposed thread shall show, except where running joints occur. The latter shall only be resorted to where absolutely unavoidable, and must be fitted with a sliced coupling as a locknut.

Saddles for all conduits installed on surface shall be fixed by means of expandable tapered plastic wall plugs and corrosion proofed steel round-headed screws. Wood plugs and plugs in mortar joints between bricks are not acceptable. Where surface conduits are installed in conspicuous areas and on steelwork, spacer bar saddles shall be used.

Fixing onto steelwork shall be by means of drilling, tapping and screwing or where more practical, by means of stainless steel strapping or conduit clamps. Explosive driven devices which will facilitate easy removal of the saddles may be used provided that the type of fixing device has been approved by the Engineer.

PE7.4 Bends and Draw/Wall boxes

Normal bends or elbows will not be allowed except where specially approved. All sets shall have a radius of at least five times the outside diameter of the conduit and conduit showing signs of flattening or cracking shall be rejected.

Draw boxes shall be installed in approved positions so that not more than two bends occur between the one ends of the run and draw box or between boxes. Draw boxes shall be arranged so as to be accessible after the completion of the building and must be provided with cover plates which shall finish neatly and flush with the final surface.

Draw boxes shall, where possible, be located in inconspicuous places allowing for a common cover. Rectangular boxes shall be square with respect to walls.

Flush-mounting wall boxes for socket outlets, switches, isolators, etc. shall be of heavy gauge (minimum 1mm thickness) pressed steel galvanised type, complying with the relevant requirements of SABS 1085. Substantial lugs, drilled and tapped for fixing screws, shall be provided.

Each wall box shall be provided with Knockout conduit entry holes, on all sides and at the back.

Cover plates shall comply with the relevant requirements of SABS 1084 and shall have a thickness and finish as specified in the Detailed Specification. Fixing screws shall be rust proofed by plating to suit the cover plate finish. An assortment of fixing screws will not be acceptable.

The nominal dimensions of flush-mounting wall boxes shall be as follows:

- Single switch units - 50 x 100 x 50mm
- Switched socket outlets (single/double) - 100 x 100 x 50mm
- Draw boxes in ceiling space - 300 x 300 x 150mm
- Round Draw boxes light points

Under no circumstances shall flush-mounting boxes be used in a surface installation. The electrical contractor shall supervise the building-in of wall boxes to ensure correct positioning.

Where a number of flush-mounting wall boxes are to be installed at the same height adjacent to each other or back to back, the electrical contractor shall fit two couplings secured by means of male bushes between each pair of adjacent boxes to ensure that the boxes are uniformly spaced and located at the same level.

Lighting and plug circuit wiring shall always run in separate conduits but may, with the approval of the Employer's Agent, be run in a common wire ways. More than one circuit may be run in the conduit provided that the number of conductors drawn into the conduit does not exceed the wiring capacity of the conduit as specified in the Code of Practice.

The electrical contractor shall install hot-dip galvanised draw wire of at least 1.6mm diameter in all unwired conduits.

Mixed loading of circuits shall be in accordance with the requirements of the Code of Practice.

Likewise, each power point shall be wired through a conduit dedicated to that power point only, except where otherwise specified.

PE7.5 Expansion joints

The expansion joints shall be made in a draw box with an over one side terminated and other conduits inserted 30 mm into the draw box to allow for movement. All slab and wall expansion joints shall be crossed at 90° with the joint.

Earth continuity shall be maintained where slip joint are installed.

PE7.6 Conduit Accessories

All conduits shall have a minimum diameter of 20mm and unless otherwise specified or approved as such by the Employer's Agent, all conduit fittings shall be of the same material as that of the conduit used.

Metal conduit shall comply with SABS 162 and shall bear the SABS mark. Except where otherwise stated, all conduits shall be black enamelled. Galvanised conduit shall however be used in all damp locations, and where conduit is exposed to the weather.

All coast metal conduit accessories shall be of the malleable iron inspection type.

Metal conduit shall be screwed and socket or system of plain-end conduit and fittings complying with SABS 1007 may be used. All accessories used on plain-end conduit shall be assembled by means of the special fittings and tools produced for this purpose by the manufacturer.

Draw boxes of rigidly moulded plastic may not be employed. All draw boxes shall be the galvanised pre-punished type.

Plastic conduit shall be assembled by means of the solvent adhesive supplied by the manufacturer to all PVC accessories, his instructions being closely followed.

PE7.7 Wiring Channels

Wiring channels shall be installed in the positions as indicated on the drawings.

All wiring channels to be installed shall be of the O-line or Cabstrut type and fixed in the positions indicated on the drawings, complete with couplings bends end caps and cover lids. The wiring channel shall be pop riveted at each joint or bend by means of at least four suitably sized pop rivets.

The Contractor shall ensure that there are no sharp edges on the inside of the channel that may damage wiring.

Wiring channels shall be installed horizontally and vertically as determined by the route and the Electrical Contractor shall take all measures to ensure a neat installation.

Channel shall not be more than 45% full. Under no circumstances may power and control circuit conductors be installed in the same wiring channel.

All the accessories shall be factory-made pre-manufactured from the same type and make such as; end covers, 90° bends, T-pieces, hangers, brackets, etc., and shall be made to fit neatly and accurately to the Employer's Agent's approval. No on-site 45° cutting of corners or bends shall be accepted

The following wire channels will be standard:

- P9000 for feeder wire channel circuits.
- P8300 for Lighting and Aircons circuits, with 5Amp socket outlets
- P8000 for other circuits.

PE7.8 General Position of Switches and Sockets

Switch sockets shall be mounted with the centre line 1200mm above finished floor level, unless otherwise specified or indicated on the drawings.

Switches for lights are to be mounted with the centre line 1200mm above the floor, except where otherwise specified or indicated on the drawings.

Unless otherwise approved, the switches controlling lights and installed adjacent to doors are to be placed at the lock side of the door at a distance of 200mm from the door jamb to the centre line of the box, in each case. If the lock side of the door is not shown on the drawing, it must be ascertained before the switch is positioned.

The position of the lighting and socket points and their controlling switches are indicated on the drawings.

PE7.9 Low Voltage Cables

All multi core cables shall comply with the PCA Particular specification.

PE8 BUILDING WIRING

The wiring of any circuit shall only be carried out after the whole of that particular circuit's conduit installation has been installed and fixed in position. No wires shall be drawn through before the conduit has been thoroughly cleaned of all debris and moisture.

It should also be possible for wires to be drawn or threaded through the completed conduit installation without any undue strain. The terminal ends of the wires shall be of sufficient length to facilitate the connecting of apparatus, fittings, appliances, etc.

Lighting circuits shall be wired with 1.5mm² and plug circuits with 2.5mm² conductors, except where otherwise specified.

Not more than four conductor ends plus two earth wires shall appear at any ceiling outlet box except where specifically approved.

All circuit wiring is to be carried out on the loop-in system and no joints in the conduit or boxes will be allowed. Where joints are unavoidable, due to alterations or extensions, these shall only be located at draw boxes and shall only be of the insulated crimping ferrule type. Not more than four 2,5mm² or three 4mm² wires together with earth wires where applicable will be allowed in 20mm conduit, except where otherwise specified.

All conductors shall be in colours selected to facilitate identification of the circuit and switch wiring, black being reserved for neutral conductors, and green only for insulated earth conductors. Three phase circuits shall be colour coded to identify phases, blue, red and white.

PE8.1 Termination of Wiring

The end strands of all wires, whether single or looped, which are to be connected to the connection terminals of switches, plugs, holders, ceiling roses or fittings are to be securely connected to the terminals. All terminal screws shall be properly tightened and care shall be exercised not to cause undue damage to the conductor strands. The cutting away of wire strands will NOT be allowed.

Crimping lugs must be used on cable ends for connections to busbars or circuit breakers, except where box terminals are employed.

PE8.2 Inspection of Wiring

To ensure that wiring may be easily withdrawn from any circuit run, the Employer's Agent may, at his own discretion, direct that wires must be withdrawn; the electrical contractor shall withdraw the wires concerned.

If the wires are withdrawn easily and without showing damage, the costs of the withdrawal and replacement will be borne by the employer; if, however, it is found that it is not possible to withdraw wires without damage, the cost of the withdrawal test, and the cost of rectifying the work shall be borne by the electrical contractor.

PE8.3 Innovative wiring systems and Deviations from the Specification

This specification covers wiring systems of the conventional type in which continuous metal or rigid plastic conduit of circular cross section is used.

No deviation or alteration from the requirements of the specification, schedules or drawings shall be made without first obtaining the written approval of the Engineer.

Should the specification permit or specify the use of innovative wiring systems such as surface mounted wire trucking with removable covers, prewired multicore conduit, (twin and earth or Norse cable) or any other authorised innovative wiring system, such an installation shall comply with SABS 1500 SF - 1983, as amended.

PE8.4 Balancing of Loads

The connection and termination of equipment shall be according to the schematic diagram, but the electrical contractor will be required to balance the load as equally as possible across multiphase supplies.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PE10 POWER INSTALLATION

PE10.1 Switched Socket Outlets

i) Normal power outlets

The switched socket outlets shall be of the standard round, 3-pin, shuttered type, rated at 16A/250V and shall comply with SABS 169: 1980 and shall bear the SABS mark.

The plastic insulation around each pin-socket shall be annular and be raised to protrude through the cover plate which shall be punched with three separate holes for the pin-socket.

Alternatively a single opening may be punched in the cover plate on condition that at least 5mm clearance is provided between the cover plate and the edge of the live and neutral pin sockets. The terminal screws of the live and neutral sockets shall be recessed so that inadvertent contact with the earth conductor will be impossible when the wired socket is pushed back into the wall box during installation.

The socket unit shall be controlled by a 16A/250V single-pole switch operated by a white piano-type lever matching the lighting switches specified. Double switch socket outlets shall each have its own individual switch.

ii) Three phase outlets

The three phase outlet socket shall be of the industrial type 5pin wall mounted, different type and size will be as specified, with lid on the female socket, socket to be mounted 1400mm above finishing floor level.

iii) UPS power outlets

UPS power outlet shall be the same standard as the switch dedicated socket outlets, but with a flat pin earth for a dedicated circuit with separated earth and with red colour moulding. Contractor shall allow to supply and connection of the correctly specified type of 3-pin plug (red) to the Employers equipment.

PE10.2 Extract fans

Small, single-phase extract fans installed in window panes shall be connected to 5A, 3-pin, socket outlets which shall be installed in the ceiling above the fan or in the wall adjacent to the fan.

Where specified or indicated on the layout drawing, the switched socket outlet(s) feeding the fan(s) shall be connected to the lighting circuit so that the fans are switched on and off by means of the lighting switch for the room concerned.

PE11 LIGHTNING PROTECTION

The complete lightning installation shall comply with SABS Code of Practice 03 and 03A.

All electrical, telephone, data, signal, communication, antenna and other conductors entering a lightning protected building or structure shall be protected against potential surges and a safe current discharge shall be provided for each conductor in the event of a direct or induced lightning strike.

PE11.1 Three Story buildings and Less

The height and roof type and structure of the building determines the type of lightning installation requirements i.e. steel roof, tiled roof, concrete roof or thatched roofs.

The schedule of quantities made provision for lightning down runners and connections to steel roof, cutters and steel ring beam, it tiled roof it would have conductor running along the roof nocks, with forked on the roofnock corners, and down runners.

i) Materials

The installation may be carried out in copper or suitable corrosion resistant aluminium alloy. The use of copper shall be avoided at ground level to avoid the possibility of theft.

Aluminium shall not be installed in direct contact with soil or any concrete or plaster surface. Connections between aluminium and copper shall only be by means of cadmium plated or tinned connectors. Jointing of conductors shall be with suitable crimped ferrules.

Connections between copper and galvanised steel shall only be by means of tinned connectors above ground. Steel components shall be hot dipped galvanised to SABS 763. Steel reinforcing of concrete may be used as down conductors only when specific approval has been obtained from the Civil Engineer.

ii) Fixings

Fixing support holders or brackets material shall be of the same material as the conductors. Conductors shall be fixed at intervals not exceeding 1.5m. The fixing shall be as such to allow for the thermal expansion and contraction of the conductors. Fixing materials shall be durable to resist deterioration because of environmental conditions.

iii) Testing Points

Testing points shall consists of a two stud moulder test block with bridge connector plate, for testing, the block terminations shall take a conductor up to a 70mm² BCEW.

The test point shall be mounted at the connection point between every down conductor and earth electrode cable, mounted 400mm above finished ground level.

A test certificate shall be submitted with the following test results:

- Earth resistance of every earth electrode, to be below <50Ω

- Continuity of down conductor system by measuring from one down conductor to the other down conductors with all down conductors disconnected.
- Certificate of Compliances as specified by SANS.

PE12 MOTOR CONTROL CENTRE

The MCC shall comply with PMC Particular specification, schedule of quantities and drawing.

The MCC for the new Pump station shall comprise of a surface mounted panel with doors, powered coated “Electric orange”, complete with all equipment specified.

Supply and installation of motor control centres as specified, with the following:

- A suitably rated isolating isolator (pad lockable in off position)
- A set of "STOP/START/RESET" push buttons for local manual control.
- Emergency stop mounted on the outside of panel or close to the motor with movable parts.
- Adjustable thermal overload trip relays in each phase.
- Protection against under/over voltage and single phasing, independent of the settings of the overload trip relay.
- Flow switch with timer delay and control relay, on the delivery side of the pumps
- An ammeter in one of the phases for all motors rated above 1kW. Associated current transformers for non-direct reading ammeters.
- A running hour meter
- A voltmeter with selector switch, to measure between phases
- A selector switch to facilitate the selection of either manual control or automatic control where applicable
- A set of 5 LED type indicator lights as follows
 - Yellow - 'Supply on'
 - Green - 'Motor Running'
 - Amber - 'Motor Tripped'
 - Blue – 'Motor start delay'
 - Red - "Emergency stop engaged"
- Surge arrestors for each phase and neutral
- A power factor correction capacitor unit for motors of 5 kW and more
- A thermistor relay for motors of 15kW or more
- A Start delay timer for motors of 1.5kW and higher

i) Type One: Control by means of 24hr. timer

- A mains operated 24hr anti-cycle timing device to operate starts/stop as per schedule

ii) Type Two : Control by means of pressure

- A mains operated 24hr anti-cycle timing device to limit starts per hour;

Different types of starters are provided for and have to be priced accordingly:

a) A direct on line air break contactor type starter (230/400V motors to 9kW)

Each of these units shall comprise amongst other the following components:

- A Mains 1 or 3 phase Contactor correctly rated;
- A Mains operated timing device to limit the starts per hour; and
- All necessary relays.

b) Star/Delta Starters (400V motors above 9kWatt)

These starters shall be of the automatic star/delta type and each starter shall be contained in its own separate compartment on the relevant motor control board.

Each of these units shall comprise amongst others provided for direct-on-line starters the following components as:

- A Mains 3 phase Contactor correctly rated;
- A Star Contactor correctly rated;
- A Delta Contactor correctly rated;
- A Star to Delta timer of the clockwork or electromagnetic type;
- A Mains operated timing device to limit the starts per hour;
- A Three phase Power Factor Correction Capacitor unit for motors of 5kW or more; and
- All necessary relays.

c) Variable Speed Drives (where specified)

These variable speed drives shall each be contained in its own separate panel, manufactured and equipped to the satisfaction of the variable speed drive manufacturer to suit their own requirements with regard to ventilation of the variable speed drive. Small drives below 1kW can be combined into one panel but sufficient ventilation by means of extractor fans must always be allowed for

The variable speed drive panel shall be equipped with ventilation fans and air filters. The ventilation fan shall be interlocked with the relevant motor and shall only be in operation when the motor is running. Failure of the ventilation fan shall stop the motor and a visible indication of the cause of the failure shall be provided on the panel.

The frequency converter shall make use of flux vector control without encoder or tacho generator feedback and shall incorporate direct torque control technology so that the overall effectiveness of the drive shall only be limited by the performance of the motor.

Semi-conductor switching shall be determined by the values of flux and torque and shall not have a predetermined pattern as in conventional pulse width modulation flux vector drives.

Each of these drives shall comprise amongst others the following components:

- A main isolator/circuit breaker that shall be interlocked with the door of the panel to prevent opening of the door with the switch closed and to prevent closing of the switch with the door open;
- Three ultra-rapid fuses rigidly connected to the load side of the above-mentioned mains isolator and the rating of which shall comply with the manufacturer's specifications for the drive;
- A direct torque control frequency converter;
- A door mounted control panel complete with cable connections (also for small drives);
- A set of START and STOP push buttons for manual control of small drives;
- One dial type potentiometer for manual speed control;
- A manual/off/auto selector switch for manual control of small drives;
- Thermistor relay for motors of 15kW or more;
- A external EMC line filter;
- All equipment necessary for remote emergency stop device;
- All bus system interface equipment necessary for remote speed control via a monitoring and control SCADA system as well as PLC control;
- All equipment necessary for remote motor status and speed monitoring; and
- LED type red "Emergency stop engaged" indicator light.

A 3CR12 steel gland plate must be provided at least 250mm above floor level for cable connections.

The control panel shall be the user interface for monitoring, adjusting parameters and controlling the drive operation. It shall be possible to:

- Enter start-up data into the drive;
- Control the drive with start, stop and reference signals;
- Display actual values of motor performance; and
- Display information on at least the five most recent faults.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The drive shall satisfy the following technical requirements:

- The static speed control error shall not exceed $\pm 0,5\%$ of motor nominal speed;
- Fundamental power factor shall be at least 0,97 at nominal load;
- Efficiency shall be at least 98% at nominal power level;
- The drive shall operate satisfactorily under all ambient temperature conditions between -5°C and $+ 40^{\circ}\text{C}$ at an altitude of 1260m above sea level and humidity up to saturation point;
- The drive shall provide output protection for motor overload, over current, short circuit at start, earth fault, missing motor phase and over frequency;
- The drive shall satisfy the following minimum harmonic voltage limits: Total harmonic distortion of 6%, odd harmonic distortion of 4% and even harmonic distortion of 2%. The Contractor shall measure these harmonic distortion parameters after commissioning of the system and if the equipment fails to comply with this requirement, the Contractor will have to rectify the same to the satisfaction of the Engineer;
- The drive shall be equipped with an AC choke for harmonic current reduction and shall be placed on the AC side of the rectifier bridge in order to protect the rectifier semiconductors against power line transients;
- Torque step rise time shall typically be less than 5ms; and
- Stringent precautions must be taken in the design of the protection equipment to assure adequate lightning and surge protection.

d) Electronic Soft Starters (where specified)

The soft starter shall be installed in the relevant motor starter panel but sufficient ventilation by means of extractor fans must always be allowed for and shall be interlocked with the relevant motor and shall only be in operation when the motor is running. A bypass contactor for motor running conditions is a requirement and shall either form part of the soft starter or shall be a separate unit.

The soft starter shall have soft start and stop programmable capabilities with torque and current control. The normal motor protection facilities such as over/under-current, start limit, long start time, electronic overload, phase loss and phase sequence and load loss shall be available.

At least a 2 line 16 character LCD display unit with control function keys shall form part of the soft starter and shall preferably be separate motor starter front panel mountable. The LCD unit shall display all statistical data and trip conditions and shall allow functional key changes to programmable parameters.

The full motor protection capabilities shall be maintained when motor is operating in bypass contactor mode.

The soft Starter shall satisfy the following technical and diagnostics requirements:

- Overload;
- Ground fault;
- Line fault;
- Power loss;
- Voltage imbalance / Under / Over;
- Phase rotation;
- Over temperature;
- Excessive starts per hour; and
- RS 485, MODBUS, PROFIBUS communication shall be possible.

The soft Starter shall satisfy the following metering requirements:

- Three-phase currents;
- Three-phase voltages;
- Power in kW;
- Power usage in kW/hr.;
- Motor thermal;
- Power factor of the running motor;
- Capacity usage; and
- Elapsed time of motor operation.

e) Mains surge arrestors

The surge arrestors shall be Type 2 and voltage compatible to the relevant installation and shall be able to withstand a lightning impulse current wave form 8/20 μ s at a maximum discharge current of 40kA.

f) Earthing

The contractor shall supply and install all bonding of steel works and MCC earth comprising of a 1.5m earth rod connected by a 16mm² BCEW to the MCC earth strut. An earth resistance test certificate shall be provided to ensure the earth is below 10ohms.

The MCC shall be in accordance with the drawings, specifications and Sedibeng standards.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PE13 MOTOR control PHILOSOPHY

PE13.1 General

The new installation shall intergrade with the existing installation providing more supply to existing water systems, at different villages. The control of the new system shall be via 24hr rotation timer to pre-set time schedules, or per pressure control valve is required.

PE13.2 Control Philosophy

- **Type One: Control by means of 24hr. timer**

An 24hr anti-cycle timing device, shall control the operational time of the pump, to the prescribed schedule and held of the bore hole.

- **Type Two : Control by means of pressure**

Pressure switches shall be installed at each pump. These pressure switches will be installed in conjunction with the necessary relay units and adjustable timers to prevent unnecessary stop/start operations.

The operating will rely on the closing off of a reliable level control valve which will prevent any return flow back into the supply main. The closing action of this valve would result in a positive increase in a pump discharge pressure, which will initiate the stopping cycle of the borehole pump's electrical motor.

PH TANKS AND TANKSTANDS

PH1 APPLICABLE STANDARDS

The latest issues of the following standards form part of this specification:

- SANS 136: ISO metric precision hexagon-head bolts and screws and hexagon nuts (coarse thread medium fit series);
- SANS 0162: The structural use of steel;
- BS 4360: Weldable structural steel;
- SANS 62: Steel pipes and pipe fittings up to 150mm nominal bore suitable for screwing
- SANS 135: ISO metric black bolts, screws and nuts;
- SANS 455: Covered electrodes for the manual arc welding of mild steel and medium high tensile steel;
- SANS 763: Hot-dipped (galvanised) zinc coatings (other than on continuously zinc-coated sheet and wire);
- SANS 1123: Steel pipe flanges;
- SANS 0104: Hand and guard rails (Safety aspects);
- Safety Legislation No. 13A(6)(a) and 13A(6)(b)(i).

PH2 SCOPE

This specification covers the requirements for tanks (with or without covers) intended for the storage of liquids and constructed of bolted square pressed steel plate sections and of depth not exceeding 4880mm.

PH3 REQUIREMENTS

PH3.1 Materials

- PH3.1.1 Covers: Sheet piling used for covers shall be of steel having a nominal thickness of at least 2,5mm or of ISCOR Z600 closed profile pre-galvanised steel sheet of thickness of at least 0,8mm (subject to normal milling tolerances).
- PH3.1.2 Electrodes: The electrodes shall be of a quality at least equal to that of electrodes complying with SANS 455, and the deposited metal shall have a tensile strength and an elongation of at least equal to the appropriate minimum specified for the parent plate.
- PH3.1.3 Plates, stags, cleats and pads: Plates, stags, cleats and pads shall be of mild steel, complying with the relevant requirements of BS4360.
- PH3.1.4 Jointing Compound: The jointing compound shall be non-toxic, shall not leach out, shall be insoluble in the liquid to be stored (and in the case of tanks for potable water, shall not impart any off-flavour or off odour to the water), and shall provide an effective seal between the plate flanges under conditions of temperature specified. (The contractor should obtain from the Supplier a statement of the optimum period that should be allowed for the jointing compound to mature before the tank is put into commission).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PH3.2 Size

The nominal size of a tank, based on dimensions each of which is a multiple of 1220mm, 1200mm or 1000mm, as relevant and subject to a maximum depth of 4880mm.

PH3.3 Components

PH3.3.1 Plates

(a) Size

The nominal overall size of plates (after flanging) shall be 1220mm x 1220mm, 1200mm x 1200mm, or 1000mm x 1000mm, appropriate to the size of the tank specified.

(b) Thickness

In the case of tanks of stored liquids of nominal density not exceeding 1000kg/m², the nominal thickness of the plates shall conform to the appropriate value(s) given in Table 1.

Table 1: Plate Thickness

Depth of Tank (mm)	Plates	Plate Thickness (mm) min
1000 – 1220	Bottom; sides; ends	3
2000 – 2440	Bottom; sides; ends	3
3000 – 3660	Bottom; first tiers of sides and ends	4,5
	Second and top tiers of sides and ends	3,0
4000 - 4880	Bottom, first tier of sides and ends	6,0
	Second tier of sides and ends	4,5
	Third end top tiers of sides and ends	3,0

Strengthening

The plates shall be strengthened by suitable embossment (i.e. a pattern pressed into the plates) or by the welding of suitable ribs to the plates.

Flanges

The plates shall have flanges of width of at least 44mm and of the following form and arrangement:

- A combined double flange at angles of 45 degrees and 90 degrees to the plane of the plate, pressed on each side of the plate.
- A single flange at an angle of 90 degrees to the plane of the plate, pressed on two, three or four sides (depending on the position of the plate in the tank) and with flanged corners welded.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The flanges shall have bold holes of diameter such as to provide a bolt clearance of 1,5mm evenly spaced at a pitch of 75 plus minus 1,5mm.

PH3.3.2 Connections

Connections shall be one of the following types:

- Flanged bolted type connections complying with the relevant requirements of SANS 1123 for flanges for nominal pressures of 600 kPa;
- Screwed type connections complying with the relevant requirements of SANS62.

PH3.3.3 Covers

When so specified, tanks shall be supplied complete with covers. Each cover shall be so fitted as to prevent the ingress of water and any foreign matter into the tank.

Each cover shall have a clear opening of diameter or smallest dimension, as relevant of at least 450mm, and shall be so constructed that it can be fitted with a lock.

Unless otherwise specified, each tank that is provided with a cover shall be equipped with a vent fitted with a cowl. The vent shall be so screened as to prevent the entry of rodents, other small animals and mosquitoes.

PH3.3.4 Access ladders and safety platforms

Access ladders and safety platforms shall be provided as follows and the design and construction of the rails shall be such as to comply with the relevant requirements for safety in SANS 0104.

External ladders and platforms; Each tank shall be supplied with an external access ladder and safety platform. It shall comply with the relevant clauses of the Occupational Health and Safety Act and possess a safety cage from 2,5m above ground level and landing stages at 9m intervals.

Internal Access Ladders: Each tank of depth exceeding 1220mm shall be provided with an internal access ladder. In the case of a tank that is not provided with a cover, the ladder shall be located as specified and in the case of a tank that is supplied with a cover, the holder shall be located below the manhole.

PH3.4 Construction

PH3.4.1 Design Strength: The design strength of the tank and of all members (stags, cleats, bolts, cover-frame members, etc.) shall comply with the relevant requirements of SANS 0162 and shall include allowances as relevant for the following:

- Exposure of the tank to corrosive conditions
- Eccentric loading
- Fatigue stresses caused by turbulence of the stored liquid.

PH3.4.2 Flanging: Tanks shall be constructed of externally flanged plates, unless otherwise agreed upon.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PH3.4.3 Attachment of connections: Connections shall be supplied in the positions specified and shall be welded to the tank. Flanged bolted connections shall be as follows:

- Where the size of the connection and the specified location are such that the connection can be welded to a plate that is free from embossment, single-stooled flanges shall be provided for connections that are to be made in one side of the plate only and double-stooled flanges for connections that are to be made on both sides of the plate, as specified.

PH3.4.4 Staying: When necessary, the sides and ends of the tank shall be supported by stays. Each end of each stay shall be bolted to a cleat. Cleats shall be bolted or welded to the plates.

The connections of stays shall be arranged in one or more of the following ways, as necessary:

- Sides to bottom
- Ends to bottom
- Sides to sides
- Sides to ends

PH3.4.5 Welding: All welds shall be acceptable fusion welds. The weld metal, the heat-affected zone and the surrounding parent shall be free of cracks. Weld faces shall be free of porosity, cavities and trapped slag, shall show now pronounced humps or craters and shall merge smoothly into the adjacent surfaces of the parent plate without overlap or excessive undercut. The throat thickness of fillet welds shall be at least 4,5mm. In the case of corner welds, the leg length shall be equal to the plate thickness.

PH3.5 Workmanship

The workmanship of all components shall be such that they are free from defects that are detrimental to the ease of assembly or the performance of the tank in service, or both.

PH3.6 Finish

Unless a different type of protective coating is specified, all components shall be protected from corrosion by hot-dip galvanising that complies with the relevant requirements of SANS 763.

PH4 FOUNDATIONS AND STANDS

PH4.1 Design, Drawings and Quantities

The Contractors must submit the design and workshop drawings for the steel tank and stand to the Employer's Agent for approval prior to commencement of the work.

The foundations for the tank and stand will be designed by the Employer's Agent, while the design for the stand shall be designed by the supplier and checked by the Engineer.

The cost for the design of the steel tank and stand must be included in the tender sum and rates.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PH4.2 Lighting Protection

The stand shall be earthed using a suitable approved copper connector between the bottom of the tank leg and an on-earth spike.

PH5 DISINFECTION OF THE TANK

On completion of construction, but before commencement of testing, the reservoir shall be disinfected as follows:

- a) The reservoir shall be flushed with clean water until all sediment and other foreign matters have been removed.
- b) Potable water treated with sodium hypochlorite or calcium hypochlorite or chlorine gas shall be introduced into the reservoir. On completion of filling with chlorinated water, the chlorine concentration in water sampled at any point shall not be less than 3 mg/l free available chlorine.

After 24 hours retention of chlorinated water in the reservoir, samples drawn at any point shall contain not less than 0,5 mg/l free residual chlorine. Where necessary, additional chlorine shall be injected to maintain chlorine residuals.

PH6 TESTING OF TANK

The complete tank shall be watertight and the work will not be certified until the tank has been proven by testing to be watertight.

Upon completion of the erection and when so agreed by the Employer's Agent, the tank shall be filled by gradual admission of water until level reaches the overflow level. The tank shall be allowed to remain filled for 24 hours upon which a visible inspection will be done on the tank. If at any time during the test, visible leaks appear, the test will be discontinued and remedial work done. Upon completion of the remedial work, the 24 hours test will restart. The tank will be deemed watertight if no leaks are present at the end of test and so noted by the Engineer.

PH7 MEASUREMENT AND PAYMENT

PH7.1 Galvanised Stand

The Contractor shall tender a sum under schedule 6 in the schedule of rates to allow for the complete stand and all charges and profit.

PH7.2 Galvanised Pressed Steel Tank

The Contractor shall tender a sum under Schedule 6 in the Schedule of Rates for the tank to allow for all charges and profit.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PXB ELECTRICAL MATERIAL AND EQUIPMENT

PXB 1 GENERAL REQUIREMENTS FOR THE SUPPLY AND INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT

PXB 1.1 Standards

All material and equipment supplied and/or installed under this Contract shall be new and of good quality and shall comply with the requirements laid down in the latest editions of the relevant SABS, BS or IEC Specifications and their amendments (if any) and the requirements of this specification. In the event of items bearing the SABS mark being available in respect of the materials and equipment required, only items bearing this mark will be acceptable.

The workmanship and finish of work shall be of a high standard throughout and to the satisfaction of the Engineer.

Similar equipment supplied under this contract must be identical in all respects and it shall be possible to interchange any of the same equipment under this contract.

All auxiliary equipment must also be identical, including items such as contactors, fuses, motors, fans, method of wiring, numbering of wires, relays, indications lamps, instruments and other parts.

PXB 1.2 Compliance with Laws and Regulations

The work shall be carried out strictly in accordance with and all material and equipment supplied shall comply with the following laws and regulations where applicable:

- (a) The latest edition of the "Code of Practice for the Wiring of Premises", SANS 10142, as amended;
- (b) the machinery and Occupational Safety Act (Act No 6 of 1983) as amended;
- (c) the "Electrical Supply By-laws and Regulations" of the Supply Authority;
- (d) the local Fire-Office Regulations;

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (e) the Post Office Regulations:
- (f) "The Code of Practice for the Installations and Maintenance of Electrical Equipment used in Explosive Atmospheres" (SABS 086).

The Contractor shall be responsible for serving all notices and paying all fees due in terms of the above laws and regulations.

PXB 1.3 Radio and TV Interferences

All equipment installed under this Contract shall comply with the Government Notice No. R.2246 and any other applicable rules and regulations in respect of radio and TV interferences. Any equipment found producing interference subsequent to commissioning, shall be suppressed or replaced to the satisfaction of the Employer's Agent without any additional cost.

PXB 1.4 Site Conditions

See paragraph PS 2.1

The electricity supply system will be a 400/230V, 50 Hz, three phase, four wire system with solidly earthed neutral and all material and equipment supplied and installed under this contract shall be rated, designed and manufactured for satisfactory operation on this system.

It must be noted that severe voltage surges and/or spikes may be experienced on the electricity supply system due to lightning or switching operations and where necessary the Contractor shall provide the necessary protective devices against such surges and spikes for the equipment supplied and installed by him with special reference to electronic devices. The following arresters shall be provided:

Lightning Arresters

Transducers/Transmitters:

Where transmitters require a separate power supply in-line suppression shall be provided. Signal cables shall be protected as specified in the following paragraph.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Signal Cables for Transducers/Transmitters:

All signal lines entering or leaving the transmitter station cabinet shall be protected from induced or direct surges.

The coaxial lines to the ultrasonic transducers need only be protected by small gas arresters. These inputs require protection from high voltage level surges only as they normally carry pulse signals of peak voltage greater than 200V. In this case, low capacitance gas arresters are recommended, having a 5 kA capability (8/20 μ s waveshape), a DC breakdown voltage of 450V or higher, and an impulse breakdown voltage of less than 1 000V at 1 kV/ μ s rate of voltage rise. The arrester shall be equivalent to the SIEMENS type or equivalent approved by Engineer.

12V or 24V Pulse, and 20 mA Loop Circuits:

12V or 24V pulse and 20 mA loop lines shall have a graded type of protection against both common mode (both lines with respect to earth) and differential mode (between lines) surges.

All lines associated with a specific transmitter unit shall have their protective modules housed in a single box with a common earth connection from this box to the earth busbar.

A device equivalent to the Semicron type 840001 shall be supplied and installed or equivalent approved by Engineer.

LV Switchgear:

Lightning arresters shall be provided for each phase in all boards, connected to each phase of the incoming cables.

Lightning arresters shall be solidly earthed directly onto the main earth bar. All connections to and from lightning arresters shall be as short and straight as possible.

Surge arresters shall be the Dehnventil type or equivalent approved by the Engineer.

Contractor

Witness 1

Witness 2

Employer

Witness 1

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PXB 1.5 Fixing and Support Materials

All fixing and support materials for outdoor use in connection with the installation of electrical material and equipment such as cable sleeve pipes, conduit, saddles, clamps, brackets, bolts, nuts, washers and screws shall be grade 304 stainless steel.

PXB 2 ELECTRIC CABLES, CABLE TERMINATING GLANDS AND EARTHWIRES

Low voltage cables shall be for service in a 400/230 V 3 phase 50 Hz system and shall be PVC insulated, PVC sheathed, steel wire armoured, PVC covered, 600/1000 volt grade, complying with the requirements of SABS 1507. The cores shall be stranded copper.

Cables and earth conductors for a specific application shall be selected strictly in accordance with the requirements laid down in SANS 10142 in respect of current rating and voltage drop. Where practicable the earth continuity conductors shall form an integral part of the cable.

Each cable connection shall be terminated at each end by means of a suitably sized adjustable chromium plated, brass terminating gland complete with armour clamp and neoprene shroud. Cable terminating glands for outdoor use shall be provided with waterproofing inner seals as well as waterproofing seals on nipples. Cable armouring shall be earthed at each end but may not be used as earth continuity conductor.

Each current and earth conductor shall be terminated at each end by means of a suitably sized bolted lug crimped onto the conductor. The lugs shall be bolted onto the relevant bus bars, earth bars or earthing terminals.

Cables and earth conductors shall be installed along the routes indicated on the drawings.

Control wiring/cables shall be of a minimum thickness of 1,5 mm square. The cores shall consist of at least three strands of copper conductors unless otherwise specified. The core of each pair of conductors of multicore cables shall be twisted. Screened cables shall be provided for all signal cables e.g. cables for flow meters.

No joint will be allowed in any run of cable or earth conductor.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The Contractor shall be responsible for the excavation, bedding back-filling, consolidating and making good of all cable trenches along the routes indicated on the drawings, with the exception of those sections of the cable routes where it is specifically indicated on the accompanying drawings that open cable ducts will be provided by others. Ducts inside new buildings will be provided by others.

The cable trenches for the electrical cables under the electrical contract will be provided by that responsible contractor.

NOTE: Tenderers shall acquaint themselves fully with the nature and formation of the ground in which the cables are to be laid, before submitting a tender. No subsequent claim for extras due to lack of knowledge in this respect will be entertained by the Client.

Cable trenches for LV power, street and area lighting cables shall be deep enough to facilitate the laying of these cables at a depth of 750 mm below final ground level. The floors of all cable trenches shall be smooth and free from boulders and sharp rock projections.

Each cable shall be laid in a bedding of river sand of sifted soil 75 mm over and 75 mm below the cable - clayish soil will not be accepted as bedding.

No cable trench shall be back-filled before the cable(s) in the trench has been inspected and approved by the Engineer.

Backfilling of cable trenches shall be done in stages not exceeding 150 mm with thorough consolidations at each stage to prevent subsequent subsidence.

Marking Tape

Yellow PVC marking tape, 150 mm wide, with the wording "Buried Electrical Cable - Caution" in both English and Afrikaans, printed in red or Black, shall be laid approximately 300 mm below ground level above the cables.

Cable Markers

- (a) Cable markers shall consist of 150 mm x 100 mm x 500 mm high concrete blocks with 50mm high letters cast in the concrete and marked "HV or LV Cable". The concrete block must not protrude more than 150 mm above the finished pavement level.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (b) Cable markers are to be installed at each end, each cable through joint position at each change of cable direction and at 100 metre intervals along the high voltage cable route.

Cables to be installed on walls and structures shall be properly supported and firmly fixed at suitable regular intervals to prevent it from sagging under its own weight or snaking.

All exposed cable runs shall be installed neatly horizontally and vertically and all exposed vertical cable runs between ground level and 2 m above ground level shall be installed in cable sleeve pipes or conduits. These pipes or conduits shall extend to at least 300 mm below ground level. Intervals between fixing points for sleeves and conduits shall not exceed 1 m.

Only plugging materials of an approved type may be used for fixing to brick walls and concrete - wood will not be acceptable. Plugging in joints of brick walls will not be acceptable.

PXB 3 CABLE LADDERS

Cable ladders and cable trays shall be of the heavy-duty type, equal and similar to O-Line.

Cable ladders shall be hot dipped galvanized or as specified on the drawings the, height of the sides shall be 76 mm with the width to suit the number and size of cables to be installed.

The cable ladders shall be secured on suitable lengths of Unistrut channel, which shall be suspended from the roof slab by means of suitable lengths 8 mm dia threaded hot, dipped galvanized steel rods.

The threaded rods shall be secured to the roof slab with suitable sized hot dipped galvanized steel rawl bolts and shall be secured to the channel sections by means of two hot dipped galvanized nuts and washers.

Cable ladders and trays against walls shall be secured to channel sections by means of two hot dipped galvanized nuts and washers, which in turn are fixed against the wall by means of suitable sized hot dipped galvanized steel rawl bolts

Where cable ladders must be installed over clear floor areas it shall be supported on galvanised stands which are provided with a foot plate of ample size which can be bolted

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

to the floor by means of suitable sized hot dipped galvanized steel rawl bolts. The cable ladders shall be secured to the stands by means of two hot dipped galvanized nuts and washers.

Cable straps suitable for the specific cable shall be employed to secure the cable to the tray.

PXB 4 ELECTRICAL DISTRIBUTION AND MOTOR CONTROL BOARDS

PXB 4.1 Type and Construction

All electrical distribution boards and motor control boards shall be of the outdoor, weatherproof, surface mounting type with IP 65 insect proofed enclosure and consisting of a hinged door(s), a removable front panel and chassis all constructed of a least 2 mm thick 3CR12 steel plate, powder-coated in electrical orange paint. Sufficient provision shall be made for heat dissipation and ventilation of the board.

These boards shall comply with the requirements of SABS 1180 : Part I where applicable.

Doors shall be rigid and shall be secured in position by means of robust grade 304 stainless steel hinges. No single door shall be wider than 600 mm.

The doors shall each be provided with at least two "square key" panel locks - one at the top and one at the bottom of the lock side of the door.

The chassis shall be rigid and facilities shall be provided on the chassis for mounting all the relevant equipment. No equipment shall be mounted on the rear panels of boards.

The panel shall be rigid and readily removable without necessitating the disturbance of any of the equipment on the board. Panels shall be mounted in such a way that all equipment are flush behind the panel with only operating handles, instrument faces and indicator lights and push buttons projecting through neat machine punched slots and holes in the panel. All panels shall be provided with chromium plated brass handles to facilitate removal and shall be secured in position by means of knurled captive thumb screws.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Each board shall be provided with a suitably rated main isolator mechanically interlocked with the removable front panel in such a way that it will be impossible to remove the front panel without switching off the main isolator.

It shall be possible to adjust adjustable control equipment e.g. time switches without having to remove the front panel.

All screws, studs, bolts, nuts and washers used for these boards shall be rustproofed. The use of self-tapping screws will not be permissible.

- A suitable galvanised gland plate of 3 mm thickness shall be provided for termination of cables.
- Front connected boards shall make due allowance for access to the terminations without any physical difficulties.

PXB 4.2 Busbars for Switchboards and Motor Control Boards

The board shall be provided with one set of four solid, copper busbars in the top section and extending over the entire length of the board. Provision shall be made at the end of each busbar for future extensions.

Busbars shall comply with the requirements of SABS 784, BSS 1433 and the relevant clauses of BSS 159.

Busbars shall be mounted on substantial insulators at suitable intervals to prevent undue damage resulting under short circuit conditions. Substantial porcelain, epoxy or other approved busbars insulators shall be used. The busbars shall be arranged horizontally with the longer sides of the cross-sections in the vertical plane and one above the other, in the horizontal plane.

Busbars shall be clearly and indelibly marked Red, Yellow and Blue for the three phases and Black for Neutral.

Connections to busbars shall be effected by means of Cable lugs and suitably sized cadmium-plated, high tensile steel bolts and nuts with cadmium-plated cup washers or lock washers.

A solid copper earthbar shall be provided along the bottom back side of the entire length of the board.

The earthbar shall be drilled and provided with the required number of 6 mm dia. and 10 mm dia. cadmium-plated, high tensile steel bolts and nuts, complete with

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

cadmium-plated washers and cup washers or lock washers, for making the earth connections. The earthing positions shall be evenly spaced along the entire length of each busbar.

Neutral bars associated with a set of moulded case circuit breakers shall be provided.

PXB 4.3 Internal Wiring for Switchboards and Motor Control Boards

The internal wiring of the boards shall consist of coloured PVC insulated conductors of adequate copper cross-section but minimum of 1,5 mm square, which shall be neatly installed horizontally and vertically and grouped and laced where possible by means of cable ties. PVC trunking with slotted sides shall be used for wiring. (String will not be acceptable). Numbered ferrules of an approved type, shall be provided on each end of each wire, to facilitate the tracing of circuits in accordance with the manufacturers wiring diagram. Wiring shall be fitted with lugs before terminating onto equipment on terminals. Wiring for external circuits shall be terminated on suitably sized DIN rail mounted "Klippon RSF I" or equal terminal blocks at the bottom.

PXB 4.4 Labelling of Switchboards and Motor Control Boards

A screwed on engraved label of the black on white "trafolite" type shall be provided below each item of equipment on the front panel of each board as well as on the chassis in close proximity to the relevant equipment to identify such equipment in both official languages in 6 mm high lettering.

Each board shall further be provided with a screwed on reverse engraved yellow perspex nameplate with black 20 mm high lettering to identify the board in both official languages on the outside of the door at the top thereof.

All safety warning notices shall be in both the official languages and the lettering shall be red on a white background.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PXB 4.5 Equipment for Distribution Boards and Motor Control Boards

Each distribution board or motor control board shall be provided with all the necessary equipment to ensure proper functioning of the plant controlled by it. A main isolator as specified above and a busbar connected voltmeter with 7 position selector switch to measure busbar voltage on all three phases and switch the voltmeter of in the remaining position.

The equipment shall comply with the specifications below where applicable.

PXB 4.5.1 *A direct-on-line air break contactor type starter shall be provided for each motor. This starter shall be complete with the following:*

- (a) A suitably rated isolating isolator (pad lockable in off position).
- (b) Adjustable thermal overload trip relays in each phase. The overload relay shall have suitable inverse time current characteristics to match the motor thermal damage curve. Hand reset contacts shall be provided.
- (c) Protection against under voltage and single phasing - the operation of which shall be independent of the settings of the overload trip relay.
- (d) HRC back-up protection fuses.
- (e) An ammeter in one of the phases for all motors rated above 1 kW as well as a running hour meter. Associated current transformers for non direct reading ammeters.
- (f) A selector switch to facilitate the selection of either local manual control or remote automatic control where applicable.
- (g) A set of normally open and a set of normally closed potential free auxiliary contacts on the starter contactor wired for remote indication of "Running", "Available" and "Tripped" conditions.
- (h) A set of "STOP" and "START" push buttons for local manual control.
- (i) A set of "GREEN", "AMBER" AND "RED" indicator lights for local indication of motor "Available", "Tripped" and "Running" conditions respectively.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PXB 4.5.2 *Distribution- and Control Board Components*

(a) Isolators

All isolators shall be of the "Load-breaking" and "fault making" type and shall comply with the requirements of BS 5419-1977 and SABS 152 where applicable. The fault level of the isolators shall be equivalent to or higher than the fault level at the associated busbar or incoming cable.

(b) Fuse switch units

All fuse switch units shall be of the "load-breaking" and "fault making" type complying with BS 3185 where applicable and fitted with HRC cartridge fused links to BSS 88.

- Fuse switch units shall be of the double air-break, quick make type and shall have a spring mechanism smoothly driven by springs on both sides of the mechanisms.
- The fixed contacts shall be shrouded.
- The hand operated lever shall be mechanically interlocked with the door and shall be padlockable in the off position.

(c) Moulded case circuit breaker

All moulded case circuit breakers shall comply with the requirements of SABS specification No. 156-1977 and shall be equal and similar to Heinemann manufacture with a rupturing capacity of at least 5 kA or for the fault level for the distribution board.

These circuit breakers shall be fitted with copper terminal collector bars where more than one cable tail has to be terminated on the same terminal.

(d) Airbreak contactors

All contactors shall be of the totally enclosed three pole, double air break per pole, automatic magnetic type complying with the requirements of SABS 1092 and/or IEC 158-1 for Class AC 3 contactors of Intermittent Duty Class 0,3. the contactors shall be rated for at least 130% of the associated load current.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

All contactors shall be provided with arc extinguisher and readily replaceable silver or silver-alloy contacts rated for at 2-million "on" and "off" switching operations at rated current.

Each contactor shall be capable of carrying and making and breaking at a recovery voltage of not less than 90% of the system voltage.

Each contactor shall be provided with a closing coil suitable for continuous operation and at least 15 closing operations per hour.

At least two normally open and two normally close auxiliary contacts shall be fitted.

The contactor may not hum or chatter in service and the contacts may not bounce on closing.

All contactors shall preferably be equal and similar to Telemecanique manufacture.

(e) Current transformers

All current transformers shall be of the air insulated type complying in all respects with the requirements laid down in BS 3938 : 1973 and/or IEC 185.

The Contractor shall carefully select the ratio, burden and accuracy class to suit its specific application in accordance with the recommendations and requirements of BS 3938 and/or IEC 185.

The following classes of current transformers shall be used:

Description	Class
1. General Protection (over-current/thermal overload)	10P15
2. Differential Protection	X
3. kVA, kW, kWh meters and ammeters	0,5

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

(f) Indicating instruments

All indicating instruments shall comply with the requirements laid down in BS 89: Part I: 1970 for instruments of a 2,5 Accuracy Class. All indicating instruments shall have 96 mm square dials.

The maximum demand ammeters shall be of the 6-amp combined maximum demand registering and instantaneous indicating type having MISC movement and thermal demand indication with an integrating time lag of 15 minutes. The ammeter scales shall be direct reading with a full-scale deflection corresponding to 120% of the rated primary current of the relevant current transformer. Each ammeter shall be clearly and indelibly marked to indicate the colour of the phase to which it is connected.

The ammeters for motor starters shall be instantaneous indicating meters with MISC movement and direct reading scales. The meters shall be able to withstand over-currents resulting under starting conditions and the full load current of the relevant motor shall be clearly marked in red on the face of the meter.

Voltmeters shall be of the direct reading moving iron suppressed zero type.

The running hour meters shall have cyclometer dials indicating up to 5 digits and two decimals.

(g) Selector switch

A rotary type instrument selector switch shall be mounted in such a way that only the selector knob and indicator plate are on the panel, and the switch itself is behind the panel.

The selector knob shall consist of substantial material, and shall have an arrow engraved on it, indicating the switch position.

The switch shall have a positively driven switching mechanism.

The indicator plate shall have the positions for the three phases and "OFF" engraved on it in 5 mm high lettering.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

(h) Indicator lights

All indicator lights shall be equal and similar to Cuttler Hammer Igranic Cat. No. T401 list No. 051/91053 with neon lamps and glass lenses of the specified colours.

Multiple LED type indicators will also be considered if brightness can be proved in daylight.

- (i) Auxiliary relays shall be adequately rated for their respective duties and shall be silent in operation. All switching relays shall be fitted with robust silver or silver-alloy self-cleaning contacts which shall not bounce or chatter on closing and which shall be designed and manufactured to limit arcing, welding and pitting to an absolute minimum.
- (j) Earth leakage relays for low voltage distribution boards shall comply with the requirements of SABS 767 and shall have a sensitivity of 30 mA.

PXB 4.5.3 *Information to be submitted with tenders in respect of distribution boards and motor control boards*

The following information shall be submitted with each tender in respect of all boards offered:

- (a) Full technical details and descriptive literature regarding all equipment and instruments offered; and
- (b) Three paper prints of an outline drawing of each board indicating the main overall dimensions and general layout of the boards.

PXB 4.5.4 *Information to be submitted by the successful tenderer in respect of all boards*

The successful tenderer shall submit three paper prints of each of the following drawings, in respect of each of the boards to the employer's Agent for approval prior to manufacture:

- (i) Outline and general arrangement drawings, showing main overall dimensions and construction details:
- (ii) A wiring diagram; and

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (iii) A schematic line diagram.

Plastic transparent prints of the following drawings shall be supplied by the successful tenderer in respect of each of the final layouts of the boards:

- (a) Outline and general arrangement drawings of each board;
- (b) A wiring diagram of each board;
- (c) A schematic line diagram of each board;
- (d) A paper print of the schematic line diagram for that specific distribution board, shall be framed and installed behind perspex on the inside of the door of each of the switch boards; and
- (e) A paper print of the schematic line diagrams for each LV starter panel shall be installed behind perspex on the inside of the door of each starter panel.

PXB 4.5.5 Testing for distribution/motor control boards at the manufacturer's works

Each distribution/motor control board shall be subjected to the following tests in the manufacturer's works after manufacture:

- (a) A thorough inspection shall be carried out to ensure compliance with the specification and approved drawings and wiring diagrams and to ascertain that all connections are properly made.
- (b) A high voltage test on all primary connections to check the insulation between phases mutually and between each phase and earth.
- (c) The polarities and ratios of all potential and current transformers shall be checked.
- (d) Primary and secondary injection tests shall be carried out on all switching, protection, metering interlocking and indication circuits.

The manufacturer shall submit three copies of test certificates giving details of conditions and results of tests carried out to the Engineer.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PXB 4.5.6 *Testing and commissioning of distribution/motor control boards after installation on site*

After installation on site but prior to commissioning the following inspections and tests shall be performed on each distribution/motor control board:

- (a) Check all components to ensure that they are free from dust and protective packing material;
- (b) Check the operation of all components liable to damage in transit such as meters and protection relays;
- (c) The insulation of all primary circuits between phases mutually and between each phase and earth shall be measured;
- (d) All fuse links shall be checked for electrical continuity; and
- (e) All control supplies shall be checked.

All adjustable protection devices shall then be set and the boards commissioned all in consultation with and to the instruction of the Engineer.

PXB 5 EXTERNAL CONTROL AND SENSING UNITS ASSOCIATED WITH ELECTRICAL DISTRIBUTION BOARDS AND CONTROL BOARDS

PXB 5.1 Material and Equipment

PXB 5.1.1 *Emergency Stop Push Button Stations (Only where motor starters are provided under this contract)*

Each of these units shall consist of a totally enclosed outdoor weatherproof type heavy duty "push and turn to lock" stop push button station with a cable gland entry at the bottom to accommodate a 3 core, 1,5 mm.sq. LV PVC SWA cable. The unit shall have an IP 55 insect proofed enclosure.

This push button station shall be mounted on an approved rigid 1 meter high grade 304 stainless steel pedestal designed to be bolted to a concrete slab or against the structure at a height of 1,0 m above ground level where practicable.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

PXB 5.1.2 *Level Switches*

All level switches shall be equal and similar to the Flygt ENH 10 and shall be supplied complete with integral cable connections of sufficient length to eliminate joints in water or moist surroundings.

PXB 5.1.3 *Level Sensors*

Level sensors shall be of the ultrasonic type with a minimum environmental rating of IP 65. They shall be capable of operating without degradation of performance in direct sunlight and highly corrosive conditions (organic acids from sewerage work).

PXB 5.1.4 *Flow and Pressure Switches*

(a) Flow Switches

Flow switches shall be of the paddle type equal and similar the McDonnell flow switch with adjustable paddles to suit the relevant pipe diameters.

(b) Pressure Switches

Details of tendered equipment must be submitted with the tender.

PXB 5.2 Installation and Commissioning

PXB 5.2.1 *Emergency Stop Push Button Stations (Only where motor starters are provided under this contract)*

An emergency stop-push button station as specified shall be installed at the coupling between each motor and its associated driven equipment and shall be connected to the relevant starter panel via 1,5 mm.sq. x 3 core PVC SWA PVC cable to stop the motor.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Where a mounting pedestal is used the pedestal shall be securely bolted to the concrete slab by means of foundation bolts grouted into the concrete and care shall be taken to ensure that it is installed plumb.

PXB 5.2.2 *Float Switches*

Each float switch shall be suspended from a grade 304 stainless steel hook bolt in such a position that it will be readily accessible for adjustment and cleaning purpose, that it will be able to float freely without the possibility of obstruction of any sort and that it will not be influenced by turbulence in the liquid.

At least 2 m slack shall be provided in the cable connection to each float to facilitate future lowering thereof. This slack shall be neatly coiled and bound at the point of suspension.

PXB 5.2.3 *Level Sensors*

The transmitter section of each of these units shall be installed in the associated distribution or control board.

The positions in which these sensors are to be installed shall be determined in consultation with the employer's Agent on site and shall be such as to ensure accessibility for maintenance and adjustment and to avoid the effects of turbulence in the liquid.

PXB 5.2.4 *Flow and Pressure Switches*

Shall be installed as and where required and shall be connected to the relevant starter panels by means of the necessary multicore PVC SWA PVC cables for the operational functions required.

PXB 5.2.5 *Electric Actuators for Continuous Valve and Sluice Gate Control*

Electric actuators for valve and sluice gate control shall be equal or similar to the Rotork Syncropak complete with "Millipot" stabilised current position transmitter providing a 4-20 mA signal for remote position indication and "Folomatic Control Unit" suitable for remote control by means of a 4-20 mA signal.

NB: Gears of synthetic materials will not be acceptable in these units.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PXB 5.2.6 *Electric Actuators for Open/Closed and Three-way Plug Valve Control*

Such actuators shall be equal or similar to Rotork Syncropak units which shall provide for remote control by internally sourced 24V DC signals and for remote monitoring by means of voltage free contacts.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C3.5: MANAGEMENT

CONTENTS LIST

Section	Description
Section C3.5.1	Management of the Works
Section C3.5.2	Occupational Health and Safety Specification

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C3.5.1: MANAGEMENT OF THE WORKS

C3.5.1.1 Concurrent Construction Contracts

Refer to Section C3.4.1 (PS10.1.)

C3.5.1.2 Construction Programme

Refer to Section C3.4.1 (PS5.)

C3.5.1.3 Drawings, Operation and Maintenance Manuals

Refer to Section C3.4.1 (PS11.)

C3.5.1.4 Site Administration

Acceptance control, record keeping and payment certificates shall be done in accordance with the Employer's Agent's standard system except if the Employer's Agent approves that the Contractor's standard system may be used.

C3.5.1.5 Daily Site Diary

The daily site diary shall be kept up to date by the Contractor's Site Agent and will be signed on a daily basis by the Employer's Agent's Representative.

C3.5.1.6 Information in Respect of Plant

Information relating to plant on Site shall be recorded in the daily site diary. In addition, the Contractor shall deliver to the Employer's Agent, on a monthly basis, a detailed summary of construction plant kept on the Site, full particulars given for each day of the month. Distinction shall be made between plant in working order

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

and plant out-of-order. Such inventory shall be submitted by the first day of the month following the month to be reported.

C3.5.1.7 Information in Respect of Employees

Information relating to labour and management on Site shall be recorded in the daily site diary. In addition, the Contractor shall deliver to the Employer's Agent, on a monthly basis, a detailed summary of supervisory staff, labour employed (own and local labour) by category, and sub-contractors (both local and imported) for each day of the month. Such return shall be submitted by the first day of the month following the month to be reported.

C3.5.1.8 Rainfall Records

Rainfall records for the period of construction shall be taken on Site and recorded in the daily site diary. The Contractor shall provide and install all the necessary equipment for accurately measuring the rainfall. The Contractor shall also provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost. The Employer's Agent or his Representative shall take and record the daily rainfall readings. The Contractor shall be permitted to attend these readings, in the company of the Employer's Agent's Representative. Access to the measuring gauge(s) shall at all times be under the Employer's Agent's control.

C3.5.1.9 Site Instructions

Site instructions by the Employer's Agent, addressed to the Contractor at his office on the Site, will be numbered consecutively and will be deemed to have been received by the Contractor's Representative unless a break in the sequence of numbers is brought to the notice of the Employer's Agent in writing immediately.

C3.5.1.10 Site Meetings

The Contractor and his authorised representative shall attend all meetings held on the Site with the Employer and the professional team at dates and times to be determined by the Employer's Agent. Such meetings will be held to evaluate the progress of the Contract, and to discuss matters pertaining to the Contract which any

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

of the parties represented may wish to raise. It is not the intention to discuss day-to-day technical matters at such meetings.

C3.5.1.11 Payment Certificates

Monthly Progress Payment Certificates shall be submitted to the Employer's Agent's Representative on Site not later than the 20th of each month (or on the last working day prior to this date) in order to allow for checking and reconciliation of all quantities, rates, extensions and additions in the certificate. Each progress payment certificate shall include work executed or reasonably expected to be executed up to the 30th day of the specific month. The Employer's Agent's Representative shall have a period of five (5) calendar days to review the draft certificate in collaboration with the Contractor.

Upon agreement by the Employer's Agent's Representative by not later than the 20th of each month, the certificate shall be submitted by the Contractor in a neat typed form in accordance with the prescribed format, and with the correct spelling, to the Employer's Agent by not later than the 25th of each month (or on the first working day thereafter), together with four additional copies, for certification.

Where dayworks have been instructed by the Employer's Agent, the Contractor shall submit the returns to the Employer's Agent for signature and approval within twenty-four (24) hours of the end of the working day on which the work was executed. Daywork returns shall be submitted on forms following the standard format as per Section C3.5.1 for this purpose. Failure to comply with the terms of this clause will result in non-payment for such dayworks.

The tax invoice submitted with the certificate shall be dated the 1st of the month following the period certified. All costs for the preparation and submission of progress certificates shall be borne by the Contractor.

C3.5.1.12 Workmanship and Quality Control

Refer to Section C3.4.1 (PS9.)

C3.5.1.13 Features requiring Special Attention

Refer to Section C3.4.1 (PS10.)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C3.5.2: OCCUPATIONAL HEALTH AND SAFETY SPECIFICATIONS

CONTENTS LIST

Section	Description
1	Interpretations
2	General
3	Indemnity of Employer and his Agents
4	Scope
5	Health and Safety File
6	Notification of Construction Work – Regulation 3 of the Construction Regulation – February 2014
7	Contractor's SHE Representative
8	Supervision of Construction Work – Regulation 6
9	Risk Assessment – Regulation 7
10	Local Services
11	Safe Working Loads
12	Machine Guarding
13	Construction Vehicles and Mobile Plant – Regulation 21
14	Sign and Notices
15	Excavation Work – Regulation 11
16	Barricading and Demarcation
17	Ladders
18	Concrete Mixers – Regulation 18
19	Scaffolding – Regulation 14
20	House Keeping and Construction Sites – Regulation 25
21	Stacking and Storage on Construction Sites – Regulation 26
22	Fall Protection – Regulation 8
23	Structures – Regulation 9

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- 24 Formwork & Support Work – Regulation 10
- 25 First Aid
- 26 Fire Precautions on Construction Sites – Regulation 27
- 27 Construction Welfare Facilities – Regulation 28
- 28 Toxic Materials
- 29 Hazardous Chemicals and Materials
- 30 Commissioning Safety Precautions
- 31 Electrical Installations and Machinery on Construction Sites – Regulation 22
- 32 Registers required on Site
- 33 Safe Work Procedures required in Health and Safety File
- 34 Written Training Course Material to be filed in Health and Safety File
- 35 Training Courses to be presented
- 36 Equipment on Site
- 37 Personal Protective Clothing

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C3.5.2: OCCUPATIONAL HEALTH AND SAFETY SPECIFICATIONS

1 INTERPRETATIONS

Occupational Health and Safety Act, Act 85 of 1993 shall apply to this Contract. The Construction Regulations promulgated on 7 February 2014 and incorporated into the said Act by Government Notice R. 10113, published in Government Gazette 37305 apply to any person involved in construction work. These regulations are hereinafter referred to as “the Construction Regulations” and the said Act as “the Act”.

Construction work is defined as:

“Any work in connection with: -

- a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- b) the installation, erection, dismantling of 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, the making of an excavation, piling, or any similar type of work”.

2 GENERAL

The Contractor shall ensure that all employees and visitors are informed, instructed and trained regarding safety conditions on site.

- 2.1 Proof of induction training to all workers shall be filed in the Health and Safety file on site. All employees shall sign the relevant induction training forms.

The Contractor shall ensure that all professionals entering the site are informed, instructed and trained regarding safety conditions on site. Proof of Professional site safety induction shall be signed by professionals and filed in the Health and Safety file on site.

The Contractor shall ensure that all visitors are informed, instructed and trained regarding safety conditions on site. Visitors have to sign the visitors register before

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

entering the site. Hardhats shall be issued to visitors. No visitor shall enter the site without the appropriate safety shoes.

2.2 Should the Contractor at any stage in execution of the Works -

- a) fail to implement or maintain his health and safety plan;
- e) execute construction work which is not in accordance with his health and safety plan; or act in any way which may pose a threat to the health and safety of persons, the Employer will stop the Contractor **AT HIS/HER OWN COSTS** from executing construction work.

2.3 The Contractor shall provide proof of this registration and good standing with the Compensation Fund or with a licensed compensation insurer when submitting a tender. Tenders without this will be regarded as non-responsive.

2.4 The Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and the Construction Regulations.

2.5 The Contractor shall consistently demonstrate his competence and adequacy of resources to perform the duties imposed on the Contractor in terms of this Specification, the Act and the Construction Regulations.

3 INDEMNITY OF EMPLOYER AND HIS AGENTS

- a) The annexures to this Contract Document contain a “Mandatory Form of Authority and Agreement in terms of Section 37(2) of the Occupational Health and Safety Act, No. 85 of 1993” which agreement shall be entered into and duly signed by both the Employer and Contractor prior to commencement with work.
A copy of the signed agreement shall be included in the Contractor’s health and safety plan.
- b) Any acceptance, approval, check, certificate, consent, examination, inspection, instruction, notice, observation, proposal, request, test or similar act by either the Employer, any of his agents or the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, the Act and the Construction Regulations, including responsibility for errors, omissions, discrepancies and non-compliances.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- c) A Section 37(2) agreement shall be entered into and duly signed by both the Principal Contractor and Sub Contractor prior to commencement with work by Sub Contractor.

A copy of the signed agreement shall be included in the Principal's Contractor's health and safety plan.

- d) Any acceptance, approval, check, certificate, consent, examination, inspection, instruction, notice, observation, proposal, request, test or similar act by either the Employer, any of his agents or the Engineer (including absence of disapproval) shall not relieve the Sub Contractor from any responsibility he has under the Contract, the Act and the Construction Regulations, including responsibility for errors, omissions, discrepancies and non-compliances.

4 SCOPE

- 4.1 The specification as set out in this Portion is known as the Health and Safety Specification for the Construction work to be carried out by the Principal Contractor as per regulations of the Construction Regulations February 2014.

Information herein addressed might affect the Health and Safety of employee's or persons carrying out the construction work as per this tender document.

The Contractor shall ensure that it is fully conversant with the requirements of this Specification.

This Specification is not intended to supersede the Act nor the Construction Regulations. Those sections of the Act and the Construction Regulations, which apply to the scope of work to be performed by the Contractor in terms of this Contract, continue to be a legal requirement of the Contractor.

The principal Contractor will be appointed in writing to be in overall control of the Construction site.

- 4.2 A Health and Safety Plan must be submitted by the Principal Contractor to the Client or the Client's Agent containing all the relevant documentation as required by this specification and terms of the provisions of this Specification, the Act and the Construction Regulations.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

A Health and Safety Plan must also be submitted by the Sub Contractor to the Principal Contractor containing all the relevant documentation as required by this specification and terms of the provisions of this Specification, the Act and the Construction Regulations

The H&S plan shall be submitted before commencement of any work on site

The H&S plan shall contain the following items where applicable:

1. Description of contract
2. Construction site address / Building site address
3. Construction period
4. Name and details of client –telephone, fax, address
5. Name and details of consultants –telephone, fax, address
6. Name and details of principal contractor–telephone, fax, address
7. Name and details of sub-contractors–telephone, fax, address
8. Company's policy towards health & safety
9. Company's policy towards drug and alcohol abuse
10. Company's policy towards disciplinary procedures
11. Company's policy towards environment.
12. Workmen compensation – number and expire date
13. Management and Supervision rules
14. Structure, Supervision of construction work and responsibilities
15. Health and Safety Officers/Representatives
16. Health and Safety Committees\
17. First Aid
18. Medical tests
19. Incident/ Accident reporting procedures
20. Emergency/evacuation procedures
21. Subcontractor agreements and requirements and super positioning
22. Material Safety Data Sheets
23. Transport of workers
24. Proposed PPE
25. Scope of works – describe type
26. Sequence and phases of the work to be performed describe stages involved in project
27. List of all equipment to be used on the specific site – tools, construction vehicles, mobile plant.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

28. Company's approach toward hygienic facilities on the construction site (toilets, eating areas, drinking water, showers, refuge removal)
29. Company's approach towards other facilities as required by law (the transport act, the smoking act, PPE)
30. Local labour agreements, requirements, policies
31. Fire extinguishers and fire equipment
32. Oxygen, acetylene and LP gas cylinders
33. Welding, cutting , grinding and heating
34. Signs and symbols to be displayed
35. Lock – out procedures
36. Public safety, hoarding and fencing
37. Risk assessment methods
38. Company's monitoring plan
39. Company's review plan.
40. Identification of risks and hazards
41. Appointments of personnel to be made (Safety reps, Supervisors, First Aiders, Fire equipment inspectors
42. Registers to be completed by appointed employees (Checklists)
43. List of training material to be used for educational purposes of construction workers (Induction, Fire fighting, First Aid, etc.)
44. List of safe work procedures to be explained to workers.
45. Company's Policy on
 - House Keeping
 - Stacking and storage on sites
 - Construction welfare facilities
 - Explosive power tools
 - Ladders
 - Welding flame cutting and soldering
 - Electrical installations and machinery
 - Boatswain chairs
 - Suspended platforms
 - Material hoists/ Builders hoist
 - Batch plants
 - Water Environments

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

46. List of plans to be used:
- Fall protection plan
 - Tunnelling plan
 - Pile driving plan
 - Steel assembling and placing plan
 - Emergency/evacuation plan
 - Demolition plan
 - Scaffold erection procedures plan
 - Erection of structural steel plan
 - Electrical installations plan.
 - Excavation plan
 - Form work and support work plan
 - Material Hoist rules
 - Lifting machines and tackle rules
 - Rules on Construction vehicle and mobile plant procedures
 - Rules on mobile and tower cranes
 - Fire precautions on the construction site
 - Rules on Hazardous chemicals on the site, storage and use
 - Rules on storage and use of Flammable liquids and substances on site
 - Rules on compressed gas cylinders
 - Rules on handtools
 - Rules on portable electrical equipment

List of Risk Assessments

- ☐ Clearing and Grubbing of the area/site
- ☐ Site establishment including:
 - Office/s
 - Secure/safe storage for materials, plant and equipment
 - Ablutions
 - Sheltered eating area
 - Maintenance workshop
 - Vehicle access to the site
 - Dealing with existing structures
 - Location of existing services

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- Installation and maintenance of temporary construction electrical supply, lighting and equipment
 - Adjacent land uses/surrounding property exposures
 - Boundary and access control/public liability exposures (NB: the Employer is also responsible for the OH&S of non-employees affected by his work activities.)
 - Health risks arising from neighbouring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning etc.
 - Exposure to noise
 - Exposure to vibration
-
- ☐ Protection against dehydration and heat exhaustion
 - ☐ Protection from wet and cold conditions
 - ☐ Dealing with HIV/Aids and other diseases
 - ☐ Use of portable electrical equipment including
 - Angle grinder
 - Electrical drilling machine
 - Skill saw
 - ☐ Excavations including
 - Ground/soil conditions
 - Trenching
 - Shoring
 - Drainage of trench
 - ☐ Welding including
 - Arc welding
 - Gas welding
 - Flame cutting
 - Use of LP gas torches and appliances

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- ☐ Loading and offloading of trucks
- ☐ Aggregate/sand and other materials delivery
- ☐ Manual and mechanical handling
- ☐ Lifting and lowering operations
- ☐ Driving and operation of construction vehicles and mobile plant including
 - Trenching machine
 - Excavator
 - Bomag roller
 - Plate compactor
 - Front end loader
 - Mobile cranes and the ancillary lifting tackle
 - Parking of vehicles and mobile plant
 - Towing of vehicles and mobile plant
- ☐ Use and storage of flammable liquids and other hazardous substances
- ☐ Layering and bedding
- ☐ Installation of pipes in trenches
- ☐ Pressure testing of pipelines
- ☐ Backfilling of trenches
- ☐ Protection against flooding
- ☐ Gabion work
- ☐ Use of explosives
- ☐ Protection from overhead power lines
- ☐ As discovered by the principal contractor's hazard identification exercise
- ☐ As discovered from any inspections and audits conducted by the client or by the principal contractor or any other contractor on site

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- ☐ As discovered from any accident/incident investigation

The Health and Safety Plan provided for by the Principal Contractor may be adjusted by the Client to suit the requirements. The approved Health and Safety Plan will be implemented on the construction site.

The Health and Safety Plan of the Principal Contractor shall include all relevant Health and Safety Plans of Contractors (Sub-Contractors). The Contractor shall, throughout execution of the Contract, ensure that all sub-contractors have similar Health and Safety Plans in place which must be available on site.

The execution of the H&S plan shall be documented in the form of a H&S file which shall contain items as described elsewhere in this specification. A lever arch file shall be used with a clear index and dividers. Numbering of items shall be done clearly with numbers as specified elsewhere.

The file shall be available at all times and kept on site and made available for inspection by an Inspector, Client, Client Agent or Principal Contractor.

- 4.3 Provision for costs in respect to Health and Safety in the tender shall be tendered for in the Schedule of Quantities. The Tendered price is fixed. A provisional sum will be included in the schedule of quantities to make provision for an approved H&S Service Provider to assist the contractor in performing the H&S activities required by law.

- 4.4 The following paragraphs summarize the Health and Safety Activities to be performed by Contractors.

(Terms and definitions in the following paragraphs are explained elsewhere in this specification)

- 4.4.1 **The following activities shall be strictly performed by the Principal Contractor and Sub Contractors on acceptance of the tender and before commencement of any work on the construction site.**

(Terms and definitions in the following paragraphs are explained elsewhere in this specification)

The contractor will only be allowed to start working once the submitted Health and Safety plan are approved by the client or the client's agent.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

A prior Risk Assessment shall be done on site before the commencement of any work by a competent Risk Assessor.

The Risk Assessment shall:

- Address hazards on site and hazards related to the type of work performed, Possible consequences of these hazards,
- Refer to legislative requirements concerning these hazards on the construction site
- Calculate the value of the risk associated with the hazard by an approved method taking into consideration the probability of occurrence, the degree of injury, lost time, production costs, influence on the environment and frequency of occurrence.

The outcome of the Risk Assessment will determine:

- Protective equipment to be issued,
- Type of training required,
- Type and number of Safe Work Procedures to be introduced to workers in the form of Toolbox Talks

Protective clothing as determined by the Risk Assessment shall be issued and the employees shall sign the issue register to indicate the type and number of equipment received by each employee

No work shall commence on the construction site prior to induction training of all employees intended to work on site.

Training shall be done by a competent Health and Safety Induction Trainer. Proof of training in the form of a register signed by the trained employees shall be kept in the H&S file. The contents of the training shall also be displayed in the H&S file.

Appointments of people/workers related to Health and Safety as required by law and the Risk Assessment shall be done prior to the commencement of any work. Letters of appointment shall be kept in the H&S file for inspection by the Client, Agent or any Inspector.

All appointed workers shall have a proof of competency attached to the letter of appointment. The Construction Supervisor 6(1) shall have a detailed CV attached to his/her appointment letter.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Medical Fitness Certificates shall be obtained for the workers/operators as determined by the Risk Assessment.

- 4.4.2 **During the construction period** the Contractor shall ensure that all employees and visitors are informed, instructed and trained regarding safety conditions on site. All employees will carry proof of this induction on their persons while employed on site in the form of identification cards. The type of additional training required on this project will be describe elsewhere.

Notification of Construction work shall be done to the Department of Labour within 7 days from commencement of the construction work.

Follow-up Risk Assessments shall be done during the construction period as and when the scope of work changes indicating new introduced hazards.

Additional appointments shall follow as required by the Risk Assessment.

- 4.4.3 Should the Contractor at any stage in execution of the Works
- a) fail to implement or maintain his health and safety plan;
 - b) execute construction work which is not in accordance with his health and safety plan; or
 - c) act in any way which may pose a threat to the health and safety of persons,
the Employer will stop the Contractor AT HIS/HER OWN COSTS from executing construction work.

- 4.5 The Employer will take reasonable steps to ensure that the Contractor's Health and Safety plan is implemented and maintained. The steps taken will include periodic audits at intervals once every month.

- 4.6 Upon completion of the Works, the Contractor shall hand over a consolidated Health and Safety file to the Client.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

5 HEALTH AND SAFETY FILE

The following documentation shall be in the Health and Safety File of the Principal Contractor and Sub Contractors:

- A1 Copy of the Occupational Health and Safety Act No 85 of 1993 including the Construction Regulations – February 2014
- A2 Proof of registration with Compensation Commissioner (Principal Contractor)
- A3 Copy of Notification of Construction work to the Department of Labour
- A4 Agreement in terms of section 37(2) of the Occupational Health and Safety Act, No. 85 of 1993. To be signed by client and Principal contractor in presence of witnesses
- A5 Health and Safety Specifications provided by the client
- A6 Copy of all Drawings – Schematics, Detail Drawings, As-Build Drawings etc.
- A7 Health and safety plan describing all activities as mentioned elsewhere.
- A8 Company Safety Policy – To be signed by the Chief Executive Officer of the Company.
- A9 Organogramme indicating site specific organizational structure with reference to requirements of the construction regulations.
- A10 Letters of Appointment

The following appointments are required for the project. Deviations will only be allowed with the approval of the Agent. Appointment of an employee for more than one responsibility will be allowed and shall be approved by the Agent.

Basic Appointments

- Appointment of Principal Contractor by Client
- Appointment of Contractors (Sub Contractors) by Principal Contractor (where applicable)
- Appointment of Construction Work Supervisor (full time employee on site)
- Appointment of Assistant Construction Work Supervisor (full time employee on site if required)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Appointments of Specialists (Refer to a Specialist Company)

- Appointment of Risk Assessment Officer
- Appointment of a SHE Coordinator
- Appointment of a Health and Safety Induction Trainer

Appointments of full time employees on site

- Appointment of a SHE Representative (Competent employee to control/monitor all H&S activities)
- Appointment of an Accident and Incident Investigator
- Appointment of the Safety Committee Members (Employees actively involved in H&S)
- Appointment of an Excavation Inspector.
- Appointment of Construction Vehicle and Mobile Plant Inspector
- Appointment of Construction Vehicle and Mobile Plant Operators
- Appointment of Concrete Mixer Operator (If required)
- Appointment of Hand Tool Inspector
- Appointment of a Portable Electrical Equipment Inspector.
- Appointment of a Ladder Inspector (If ladders are used)
- Appointment of a Hygiene and Facility Inspector (Ablutions and eating places)
- Appointment of Fire Equipment Inspector
- Appointment of Fire Team Members (employees trained in firefighting awareness)
- Appointment of First Aid Equipment Inspector
- Appointment of First Aid Team Members (employees trained in first aid awareness)

A11 List of Contractors (Sub-Contractors)

A12 Evacuation plan

A13 The contents of all Training Material used on sited – eg.

Accredited and non-accredited training

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Toolbox talks

And all training records signed by workers

A14 Risk Assessments - All Risk Assessments done before and during the Construction period

A15 Registers as required

A16 Safe Work Procedures and material safety data sheets

A17 Fall protection plan

A18 Incident recording forms

A19 Medical records

A20 Minutes of safety meetings

Emergency telephone numbers to be displayed on the back of the file

6 NOTIFICATION OF CONSTRUCTION WORK - REG 3 OF THE CONSTRUCTION REGULATION - FEBRUARY 2014

The Employer will appoint the Contractor in writing for execution of the Works. The Contractor shall accept its appointment under the terms and Conditions of Contract. The Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labour of the intended construction work in terms of Regulation 3 of the Construction Regulations. The Contractor shall submit the notification in writing prior to commencement with work. The annexures to this Contract Document contain a "Mandatory notification of construction work in terms of regulation 3 of the construction regulations (2014) of the Occupational Health and Safety Act no 85 of 1993" which shall be filled in by the contractor and forwarded to the Department of Labour. A copy of this notification shall be included in the Contractors Health and Safety file.

The Principal Contractor must notify the Provincial Director of:

- Construction work on a form similar to Annexure A in the Construction Regulation 2014 of the Occupational Health and Safety Act and Regulations.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- A copy of the notification form must be available on site for inspection by an Inspector.

No notification is required from the Sub Contractors.

7 Contractor's SHE REPRESENTATIVE

Before commencing work, the Principal Contractor shall designate a competent Safety, Health and Environmental representative (SHE Rep) who shall be acceptable to the Agent, to represent and act for the Contractor and Sub Contractors.

It should be noted that the Principal Contractor is held responsible for the activities of the Sub Contractors.

Failure of Health and Safety measures by the Sub Contractor will revert directly back to the Principal Contractor.

The Contractor shall inform the Agent in writing of the name and address of the Contractor's SHE Rep and of any subsequent changes in the name and address of the SHE Rep, together with the scope and limitations of the SHE Rep's authority to act for the Contractor. The Contractor's SHE Rep shall make available to the Employer an all-hours telephone number at which the SHE Rep can be contacted at any time in the event of an emergency involving any of the Contractor's employees, or other persons at the Works.

8 SUPERVISION OF CONSTRUCTION WORK – REGULATION 6

The appointed Project Manager (Reg.16(2)) of the Principal Contractor shall appoint a full-time employee (Reg 6(1)) in writing as the construction supervisor. An assistant Construction Supervisor (Reg 6(2)) may also be appointed where required.

The same procedure applies to the Sub Contractors.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

9 RISK ASSESSMENT – REGULATION 7

The Principal Contractor as well as all other Contractors shall appoint a competent person in writing to carry out a risk assessment before any construction work is started.

The Risk Assessment shall form part of the Health and Safety Plan.

The Risk Assessment shall include:

- Identification of risks and hazards.
- Possible consequences
- A documented plan of safe procedures to mitigate, reduce or control the risks and hazards. (SAFE WORK PROCEDURES AND PROTECTIVE CLOTHING)
- A monitoring plan
- A review plan

Copies of the risk assessment shall be available on each site for inspection.

All employees shall be informed, instructed and trained by an appointed competent person regarding all hazards and work-related procedures.

No employee shall enter the premises without induction training.

All employees on site shall be in the possession of a certificate of Health and Safety induction training.

The contents of the induction training shall be in writing and kept in the safety file.

10 LOCAL SERVICES

Contractor must establish all local services in area of excavations.

Plan of local services shall be documented in the Health and Safety file.

Local services include :

Telkom, Gas, Water, Electricity Supplies and other similar services.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

11 SAFE WORKING LOADS

The Contractor shall ensure that -

- a) the safe working loads of hoists, load-bearing beams and cranes are prominently displayed at all times.
- b) the safe working loads are not exceeded under any circumstances.
- c) all lifting gear is marked with a unique identity number and recorded in a register.

12 MACHINE GUARDING

All power tools and machinery driven by belts, gears, ropes, chains, couplings and similar drives shall be adequately guarded. The Contractor shall prohibit the use of any equipment with a damaged, missing or inadequate guard.

13 CONSTRUCTION VEHICLES AND MOBILE PLANT – REGULATION 21

The Contractor shall ensure that drivers of motor vehicles are in possession of a driver's licence, valid for the class of vehicle which they are required to drive, and shall produce the licence on request.

The Contractor shall not permit any driver to be in control of a vehicle at the Works while under the influence of alcohol, drugs or other substance.

All vehicles of the Contractor shall display a name board bearing the Contractor's name. Hired vehicles shall bear an identifying sticker.

A register shall be kept of workers operating construction vehicles and mobile plant.

The register shall contain proof of training of operators to operate construction vehicles and mobile plant, certification of competency and authorization of operators to operate machinery, vehicles or plant.

Names of operators and their relevant training with date and time stamps together with name of course instructor shall be kept in the Health and Safety File on site.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Physical and Psychological fitness shall be proved by way of a medical certificate of fitness of the said operators before allowing operators to operate machinery, vehicles or plant.

The Health and Safety File shall include the written training material offered to operators for the different construction vehicles and mobile plant.

Each and every driver shall be trained on risks involved and safety procedures.

All Construction vehicles and mobile plant must be of acceptable design and construction and used according to their design.

All construction vehicles and mobile plant must be maintained in good working order.

A register of all vehicles and plant shall be kept on site together with names of operators responsible for each.

The register shall report all maintenance activities performed on these vehicles and plant as well as signatures certifying the condition of the vehicles as in a good working order.

All requirements on the vehicles and mobile plant with regard to safety and health shall be inspected and certified.

These requirements include:

- a) Portable fire extinguishers mounted in specified positions on construction vehicles\
- b) 9kg dry powder Fire Extinguisher
- c) Safety belts and harnesses
- d) Inspection for leaking fuel or gasses which can cause a fire hazard
- e) Safe and suitable means of access
- f) Adequate signalling or other control arrangements to guard against the dangers relating to movement of vehicles and plant.

Attention must be paid to

- i) Turn indicators
- ii) Stop lights x2 – where poor visibility conditions warrant
- iii) Reverse siren or acoustic device
- iv) Tail lights

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- v) Head lights x2 - where poor visibility conditions warrant
- vi) Rotating amber flashing light with lens heights of at least 200mm and an output of at least 100Watt on roof or other visible position
- vii) Warning boards mounted at least 1.5m above ground level to be clearly visible
- viii) Inspections of appropriate structures fitted to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn.
- ix) Appropriate seats must be firmly secured and adequate in number on vehicles used to transport employees

During use of Construction vehicles or mobile plant the following rules shall be adhere to:

1. Construction vehicles or mobile plant must be prevented from falling into excavations, water or any other area lower than the working surface. These protections must consist of adequate edge protection eg. guard rails and/or crash barriers
2. No person shall be allowed to or require to ride on any Construction Vehicle or Mobile Plant in a position otherwise than a safe place provided for on the construction vehicle or mobile plant as designed for that purpose.
3. The construction site must be organized in such a way that as far as is reasonable practical, pedestrians and vehicles can move safely and without risks to health and safety.
4. Traffic routes shall be of sufficient size, sufficient in number and in suitable positions to be used safely by construction vehicles, mobile plant and pedestrians.
5. Each and every traffic route shall be indicated by suitable signs for reasons of safety and health.
6. No tools and/or material shall be transported in the same compartment as the operators/drivers/employees unless the said are secured against movement during transportation.
7. All Construction Vehicles and Mobile Plant left unattended at night adjacent to a freeway in normal use or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of vehicles or plant

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

8. Bulldozers, scrapers, loaders and other similar mobile plant are, when being repaired or when not in use, fully lowered or blocked with controls in a neutral position, motors stopped and brakes set.
9. Reflective indicators must be provided to workers in the form of reflective yellow jackets or vests as specified and worn by workers working on/or adjacent to public roads

14 SIGNS AND NOTICES

The use of colour codes, symbolic signs and notices are means of communication whereby information is visually conveyed to people and also provides early warning of dangers.

Safety signs provide for immediate recognition of danger, information, actions allowed or not allowed and procedures that have to be done.

There are 5 types of safety signs:

1. Black triangle on yellow background => WARNING
2. Red (round) on white background => PROHIBITORY
3. White on blue background => MANDATORY
4. White on green background => INFORMATION
5. Red (square) on white background => FIRE

The following signs shall be provided for on the site:

Traffic control signs	-	ROAD CLOSE
		DETOUR
		DIRECTION ARROWS
Warning signs	-	DANGER - MEN AT WORK
Prohibitory signs	-	NO ENTRY
Fire	-	POSITION OF EQUIPMENT ARROWS
First Aid	-	INFORMATION SIGNS

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

All signs shall be new or in good condition and approved by the Engineer.

All temporary signs shall be mounted on portable supports to facilitate moving.

Defective or missing items shall be replaced immediately.

All signs shall be inspected at least twice a day.

Prohibited area – TR208

Men at work – TW 336

15 EXCAVATION WORK – REGULATION 11

Excavation:

Definition: A space made by digging.

1. An excavation could be a hole or trench of any size and shape.
2. A Risk Assessment must be done prior to making an excavation.
3. The following must be taken in consideration when doing the Risk Assessment:
 - ⇒ Depth of the excavation
 - ⇒ Length of the excavation
 - ⇒ Existing services
 - ⇒ Barricading and demarcation

Depth of the excavation

1. Should an excavation be more than chest deep (1.5m), it must be adequately shored or braced.
2. Slopes or trenches shall be as flat as possible, 1 x vertical to 2 x horizontal must be considered maximum for dry conditions. In wet conditions either a much lower slope shall be used, or if space is a constraint, shoring and de-watering shall be applied.

A competent person shall be appointed to supervise excavation work.

Stability evaluation of ground must be done and a certificate shall be issued.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

A plan for prevention of persons being trap due to collapse shall be provided by Contractor

The design of shoring shall be documented by Contractor in the Health and Safety file as provided by the competent designer of shoring.

The maximum loading of sides of an excavation must be documented in a usable format

If adjacent structures and buildings are present and can be affected a design and construction of supporting details shall be represented.

Provision shall be made for access routes to the excavation. Routes must not be more than 6 meters away from worker.

Contractor must establish all local services in area of excavations.

Plan of local services shall be documented in the Health and Safety file.

Local services include :

Telkom, Gas, Water, Electricity Supplies and other similar services.

Inspection shall be done on all bracing and shoring on a:

- daily basis
- prior to each shift
- after every blasting operation
- after an unexpected fall of ground
- after substantial damage to supports
- after rain

An inspection register shall be completed by the Excavation Inspector during each and every inspection.

Barricading and Demarcation:

Excavations shall be fenced at least 1 meter high and as close to the excavation as possible, when accessible by public or other employees, or adjacent to public roads or thoroughfares.

Protection around excavations must be in the form of a physical barrier, to prevent persons from falling into the excavation.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Excavations must be provided with clearly visible boundary indicators and illuminated at night or where/when visibility is poor.

Precautionary measures in terms of confined spaces must be met and employees must be declared fit and not claustrophobic.

Explosives regulations must be adhered to if explosives are required to carry out the excavation. Competent persons with blasting certificates must be in charge.

Warning signs must be posted next to an excavation in which persons are working or carrying out inspection or tests.

16 BARRICADING AND DEMARCATION

The construction site shall be barricaded completely to prevent pedestrians and vehicles to enter the construction area.

Protection around the site must be in the form of a physical barrier and appropriate signage, to prevent public from entering the area.

It is advised to use 1.2m high Dayglo Mesh (barrier netting) to prevent pedestrians on pavements to enter the construction area.

17 LADDERS

You are only to use ladders that are undamaged and are of sound construction.

Ladders must be placed on a register and inspected on a monthly basis by an appointed person. Ladders are to be secured during use. If it is necessary to use a ladder before it can be secured, a second person must hold it steady at all times. Place the ladder's feet on a level base. (wooden blocks or bricks are not to be used).

Ladders are not to be used as scaffolds or work platforms.

When used as access to trenches and work areas, the ladder must extend one meter above the step off point and be placed at an angle where the base of the ladder is one quarter of the ladder height away from the base of the structure and must be fitted with non-skid devices.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Ladders must not be used nearer than 3 metres to any exposed electrical power source and never in substations or on electrical installation work.

Ladders are not to be used in a horizontal position.

Maintain 3-point contact by keeping two hands and one foot or two feet and one hand on the ladder at all times.

Do not carry objects in your hands while on a ladder.

Ladders must be fitted with non-skid devices at the bottom ends and hooks or similar devices at the upper ends.

Ladders with damaged stiles, or damaged or missing runs should never be used.

Ladders must never be fastened together to increase the reach.

Wooden ladders must never be painted.

18 CONCRETE MIXERS – REGULATION 18

The Contractor shall ensure that all concrete mixers are operated and supervised by a competent person who has been appointed in writing.

The Contractor shall ensure that all devices to start and stop the concrete mixers are provided and that these devices are

1. placed in an easily accessible position; and
2. constructed in such a manner to prevent accidental starting

All dangerous moving parts of a mixer must be placed beyond the reach of persons by means of covers.

No person shall be permitted to remove or modify any guard or safety component unless authorized to do so by the appointed person

A Contractor shall ensure that all persons authorized to operate the concrete mixers are fully:

1. aware of all dangers involved in the operation thereof
2. conversant with the precautionary measures to be taken in the interest of health and safety

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

No person supervising or operating a concrete mixer shall authorize any other person to operate the plant, unless such a person is competent to operate such machinery.

19 SCAFFOLDING – REGULATION 14

All scaffolding must be in compliance to SABS 085.

A competent person shall be appointed in writing to supervise the erection of all scaffolding operations. The Scaffolding erector shall have the required accredited qualifications for scaffold erecting.

A competent scaffold inspector shall be appointed in writing to inspect the erected scaffolds and shall not be the same person as the erector.

An Inspection Register on scaffolding shall be kept in the Health and Safety File.

A copy of SABS 085 as amended shall be available on site and kept in the Health and Safety File.

20 HOUSE KEEPING AND CONSTRUCTION SITES – REGULATION 25

The Contractor shall at all time carry out the Works in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. The Contractor shall take all precautions, which are necessary and adequate to eliminate any conditions, which contribute to the risk of injury to persons or damage to property. The Contractor shall continuously inspect all work, materials and equipment to discover and determine any such conditions and shall be solely responsible for the discovery, determination and elimination of such conditions.

During the period of this Contract, the Contractor shall be responsible for the safe storage of all materials and equipment required for execution of the Contract, and for disposal of all non-usable waste material in an orderly manner.

All materials, whether stored on the construction site or within the Contractor's designated area, shall be stored neatly and safely to prevent possible injury to any personnel. The material shall be stored to facilitate safe access to, and removal of the material from the storage area.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Any flammable material, such as paint, diesel fuel and oil, shall be stored in lockable non-combustible structures, which shall be clearly marked to indicate the hazardous nature of the materials stored within. The flammable materials stores shall be located in safe areas away from hazardous surroundings and adequate and suitable fire-fighting equipment shall be provided within easy reach of the materials stores.

Loose material need for use shall not accumulate so as to obstruct means of access to and egress from the workplace.

Scrap and waste shall not be allowed on site and must be removed daily.

The construction sites adjacent to build up area or public way shall be effectively fenced and controlled with access points.

21 STACKING AND STORAGE ON CONSTRUCTION SITES – REGULATION 26

A Competent person shall be appointed in writing with the duty of supervising all stacking and storage of material on site.

Adequate storage areas shall be provided which includes demarcated areas.

All storage areas shall be kept neat and under control.

Registers and checklist on housekeeping shall be kept on site

22 FALL PROTECTION – REGULATION 8

A contractor shall cause-

- a) the designation of a competent person, responsible for the preparation of a fall protection plan;
- b) the fall protection plan contemplated in paragraph (a) to be implemented, amended where and when necessary and maintained as required;
- c) steps to be taken in order to ensure the continued adherence to the fall protection plan.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The fall protection plan contemplated in sub regulation (1), shall include-

- a) a risk assessment of all work carried out from an elevated position which shall include the procedures and methods used to address all the risks identified per location;
- b) the processes for evaluation of the employees' physical and Psychological fitness necessary to work at elevated heights.

- **Safety Harness:**

The wearing of an approved type of safety harness fitted with a shock absorber and correctly secured to any approved anchorage, is compulsory for personnel working at heights.

Safety harnesses must be worn where a leaning bar cannot be installed, where handrails are not available, in instances where there is a risk of injury due to falling, and generally whenever work is undertaken at a height of more than "a person's height".

Where roof work is undertaken, harnesses must be attached to a lifeline or other substantial support.

The single support waist type safety belts should not be used; therefore a full parachute type harness of an approved type is required.

It is the contractor's responsibility to train his employees on the correct use of harnesses.

Safety belts may only be used as a fall restraint and not as a fall protection device.

- **Identify Risks:**

Lanyards must be used to attach tools and equipment used in elevated positions.

Scaffolding where possible must be provided.

On windy/rain days, special precautions are to be taken especially when working with loose roof sheets.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Walking on asbestos roofs is prohibited unless supporting ladders or crawl boards are placed thereupon.

Consult your supervisor in that area if in any doubt.

23 STRUCTURES – REGULATION 9

1. A contractor shall ensure that-
 - (i) all reasonable practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work:
and
 - (ii) no structure or part of a structure is loaded in a manner which would render it unsafe.
2. The designer of a structure shall-
 - a) before the contractor is put out to tender, make available to the client all relevant information about the design of the relevant structure that may affect the pricing of the construction work;
 - (i) inform the contractor in writing of any known or anticipated dangers or hazards relating to the construction work, and make available all relevant information required for the safe execution of the work upon being designed or when the design is subsequently altered;
 - (ii) subject to the provisions of paragraph (a) and (b) ensure that the following information is included in a report and made available to the contractor-
 - (iii) a geo-science technical report where appropriate;
 - (iv) the loading of the structure is designed to withstand; and
 - (v) the methods and sequence of construction process;
 - b) not including anything in the design of the structure necessitating the use of dangerous procedures or materials hazardous to the health and safety of persons, which could be avoided by modifying the design or by substituting materials;

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- c) take into account the hazards relating to any subsequent maintenance of the relevant structure and should make provision in the design for that work to be performed to minimize the risk;
 - (i) carry out sufficient inspections at appropriate times of the construction work involving the design of the relevant structure in order to ensure compliance with the design and a record of those inspections is to be kept on site;
 - (ii) stop any contractor from executing any construction work which is not in accordance with the relevant design;
- d) conduct a final inspection of the completed structure prior to its commissioning to render it safe for commissioning and issue a completion certificate to the contractor; and
- e) ensure that during commissioning, cognizance is taken of ergonomic design principles in order to minimize ergonomic related hazards in all phases of the life cycle of a structure.
- f) A contractor shall ensure that all drawings pertaining to the design of the relevant structure are kept on site and are available on request by an inspector, contractors, client, client's agent or employee.
- g) Any owner of a structure shall ensure that inspections of that structure upon completion are carried out periodically by competent persons in order to render the structure safe for continued use: Provided that the inspections are carried out at least once every six months for the first two years and thereafter yearly and records of such inspections are kept and made available to an inspector upon request.
- h) Any owner of a structure shall ensure that the structure upon completion is maintained in such a manner that the structure remains safe for continued use and such maintenance records shall be kept and made available to an inspector upon request.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

24 FORMWORK & SUPPORT WORK – REGULATION 10

A competent person shall be appointed in writing to supervise all formwork and support work.

The name and address of such a person shall be included in the Health and Safety Plan of the Principal Contractor.

The contractor must ensure that all formwork and support work structures are adequately designed, erected, supported, braced and maintained so that they will be able to support all anticipated loads.

All drawings pertaining to formwork and support work must be kept on site and available for inspection by an inspector, contractor, client, client's agent or employee.

All formwork and support work must be inspected and checked for suitability by a competent person under the following conditions:

1. Before use
2. During placement of concrete or any other imposed load
3. After placement of concrete or any other imposed load
4. On a daily basis after placement of concrete until the structure is removed.
5. Ensure that concrete gains sufficient strength before the support work is removed.
 - Record must be kept of these inspections.
 - Weakened formwork or support work must be immediately reinforced.
 - Deck panels must be secured against displacement.
 - Persons must be prevented from slipping on support work.
 - Persons must not be affected by the use of solvents or any other similar substances.
 - Safe access must be provided for all support work.
 - Employees involved must be adequately trained and instructed to perform the work in a safe manner.
 - Foundations of formwork must be adequate to sustain the applied load.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

25 FIRST AID

25.1 Safety Notice Board

The Contractor shall provide a Safety Notice Board where safety notices, site regulations concerning safe working practices and information on the location of the nearest first aid station, can be conspicuously displayed to all staff. The size of the notice board shall be at least 600 mm x 800 mm.

25.2 First Aid Equipment

The Contractor shall provide for its employees a stretcher for emergencies and an approved first aid box. The first aid box shall be checked weekly by a responsible person, who shall be appointed by the Contractor, and a record shall be kept of the contents. Any deficient medical supplies shall be promptly replenished by the Contractor.

25.3 Hazard Notices

The Contractor shall display hazard notices in all areas where hazardous conditions prevail or may occur.

25.4 Reporting of Incidents and/or Injuries

All incidents in respect of damage to Works, property or machinery, or injury to persons, shall be reported by the Contractor's SHE Rep by the quickest means possible.

A mandatory incident report form, containing full details of the incident, shall be completed and submitted to the Site Agent and the Department of Labour within twenty four (24) hours of the occurrence of the incident.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

26 FIRE PRECAUTIONS ON CONSTRUCTION SITES – REGULATION 27

A register shall be kept on all Acetylene and Oxygen cylinders used on the site.

Condition of components, sub-components and safety components (e.g. Flame back arrestors) shall be listed in the register and signed by the construction supervisor at regular intervals as required with time and date stamp.

Acetylene, Oxygen and LP Gas cylinders shall be stored in suitable places to minimize the risk of fire.

Suitable storage to be provided for flammable liquids, e.g. petrol, diesel, paint, thinners.

Smoking shall be prohibited in the workplace and notices posted accordingly.

Suitable and sufficient firefighting equipment shall be placed in strategic positions in the work place. (On vehicles and other positions as deemed necessary).

A register shall be kept on type and number of equipment for each site in the Health and Safety File.

A competent person shall inspect all firefighting equipment.

A sufficient number of employees shall be trained in the use of firefighting equipment.

A register shall be kept in the Health and Safety File on site with names of employees and type of firefighting training completed with date.

Suitable signs shall be erected in work places indicating escape routes.

Escape routes shall be kept clear. Evacuation plans shall be in Health and Safety File as part of Induction Training.

Combustible materials shall not accumulate on site.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

27 CONSTRUCTION WELFARE FACILITIES – REGULATION 28

On each site where existing facilities are not present, at least one sanitary facility shall be erected for every 10 workers, one shower for every 15 workers, a changing facility for each sex and sheltered eating areas.

Mobile toilets with bucket system shall be installed at the site.

Cleaning of buckets shall be arranged with the City Council.

Where applicable chemical toilets shall be provided.

Eating facilities shall be made available in the form of a shaded net, table and chairs.

For sites in remote areas, transport shall be made available for workers to and from sites.

28 TOXIC MATERIALS

The Contractor shall exercise all necessary care in the handling of toxic compounds and shall be able to identify the major chemical components in the event of medical treatment being required.

29 HAZARDOUS CHEMICALS AND MATERIALS

- a) The Contractor shall provide suitable and adequate protective equipment when working in an area where hazardous chemicals and materials are being used.
- b) The Contractor shall ensure that its employees have familiarised themselves with the hazardous material data sheets applicable to the specific site as well as the location of fire fighting equipment, safety showers / baths and other washing facilities, prior to commencement of work.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

30 COMMISSIONING SAFETY PRECAUTIONS

The Contractor shall ensure that wherever repairs, adjustments or any other work are undertaken on any plant or machinery, the power supply is switched off, disconnected or the plant / machinery disengaged until the work or repairs have been completed.

31 ELECTRICAL INSTALLATIONS AND MACHINERY ON CONSTRUCTION SITES – REGULATION 22

Before construction commences or any other related works and during the progress thereof adequate steps must be taken to establish the presence of and guard against any danger to the workers in respect to electrical cables or apparatus.

In areas where it cannot be established where electrical devices are, the employees must use tools of which the handles are insulated or rubber insulated gloves.

Any temporary electrical installation set up by the principal contractor or contractor must be inspected at least once a week by a competent person. The inspections shall be recorded in a register and kept in the Health and Safety File.

When working on or next to live electrical Machinery the Principal Contractor or Contractor must provide insulated stands, trestles and mats.

When Distribution Boards are removed the incoming power supplies shall be cut by the client's authorized Electrician. The incomer electricity supply feeder shall be earthed by a suitable earth wire or spike to prevent cable of becoming live during the installation of new Distribution Boards.

No person shall continue with wiring of premises unless the supply to the premises has been rendered dead and the above effective measures has been taken to ensure that such cables remains dead. When rewiring of premises is done the feeder breakers at the other end of the supply cables shall be locked out and the cable earthed to prevent any injury to workers by Electrical Shock.

A register shall be kept on site in the Health and Safety File indicating all signatures of competent persons switching electricity supply on or off with time and date stamps.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

No person shall use or permit to use a portable electric load operating at a voltage exceeding 50V to earth unless it is connected to a source of electrical energy incorporating an earth leakage protection device.

A register shall be kept on site in which all daily checks of portable electric tools are performed and signed by the responsible person. Checks shall include condition of plug top, power cord, on-off switch and insulation condition of electric tool. All tools shall be numbered and entered accordingly into the register. Condition of tools as listed in the register shall be inspected and signed by the construction supervisor at regular intervals as required by the nature of the equipment.

32 REGISTERS REQUIRED ON SITE

PPE - Personal Protective Clothing and Equipment issued

MACHINERY

- Daily Checklist - Compaction Machinery – Bowmag
- Daily Checklist - Compaction Machinery – Plate Compactor
- Daily Construction Vehicle Pre-ignition Checklist – Tractors
- Daily Checklist - Compaction Machinery – Tipper
- Daily Checklist - Compaction Machinery – Excavator
- Daily Construction Vehicle Pre-ignition Checklist – TLB
- Daily Checklist - Compaction Machinery – Material Handler
- Daily Checklist - Compaction Machinery – Water Lorry
- Daily Checklist - Compaction Machinery – Bowmag
- Daily Checklist - Compaction Machinery – Mini Excavator
- Daily Checklist - Compaction Machinery – Bobcat
- Daily Checklist - Compaction Machinery – Concrete Mixer
- Operators on Construction Vehicles and Mobile Plant
- Training and Fitness Register

EQUIPMENT

- Ladder Inspection Register
- Scaffold Inspection Register

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- Safety Harness Inspection Register
- Gas Cutting and Welding Inspection Register

TOOLS

- Monthly Checklist on Hand Tools
- Monthly Checklist on Portable Electrical Equipment

HOUSE KEEPING

- Stacking Inspection Register
- Excavations Inspection Register
- Monthly Environmental Checklist and Deviation
- Monthly Hygiene Facility Inspection Register – Mobile Ablutions and Eating areas

INCIDENTS

- Incident Register (Injury/ occupational disease record book Recording and investigation of incidents)
- Motor Vehicle Accident Report

FIRE

- Fire Extinguishing Equipment Register
- Register of Trained Employees in Fire Fighting
- Fire Awareness Attendance Training Register

FIRST AID

- First Aid Box and Equipment Checklist
- Register of Trained Employees in Basic First Aid
- First Aid Awareness Attendance Training Register

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

TRAINING

- Induction Training Attendance Registers
- Risk Assessment Communication Registers

PERMITS

- Lock-out Request Forms (Water and Electricity)
- Lock-out Permits (Water and Electricity)

INSPECTIONS

- SHE Coordinator Inspection Register – Monthly checklist and deviations
- Minutes of Safety Committee Monthly meetings

33 SAFE WORK PROCEDURES REQUIRED IN HEALTH AND SAFETY FILE

- Stacking of material
- Working with angle grinders
- Excavating of trenches
- Loading and transport of material
- Working with cement and concrete mixers
- Driving company vehicles
- Approaching Construction Vehicles
- Maintaining Scaffolding
- Form work repair guide
- Roof work
- Correct use of Fire Extinguishers
- Engaging and working with Contractors
- Heat Stress
- Electrical Safety
- Maintenance of Ladders
- Silica
- Trenches and open excavations

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

34 WRITTEN TRAINING COURSE MATERIAL TO BE FILED IN HEALTH AND SAFETY FILE

- Induction Training (Workplace awareness – Site specific)
- Training of operators on Construction Vehicles and Mobile Plant
- First Awareness
- Fire Fighting Awareness
- Toolbox talks on Hand Tools
- Toolbox talks on Machine Guarding
- Toolbox talks on Hand Tool Accidents
- Toolbox talks on Ten Commandments of Safety
- Toolbox talks on Fire prevention
- Toolbox talks on lifting materials by hand
- Toolbox talks on safe loading
- HIV Training Unit 1 - The Nature of HIV/Aids
- HIV Training Unit 2 - Transmission of the HI virus
- HIV Training Unit 3 - HIV/AIDS preventative measures
- HIV Training Unit 4 – Voluntary HIV/AIDS counselling and testing
- HIV Training Unit 5 – Living with HIV/AIDS
- HIV Training Unit 6 – Treatment options for people with HIV/AIDS
- HIV Training Unit 7 – The rights and responsibilities for workers in the workplace with regard to HIV/AIDS
- Toolbox talks on Environmental influences

35 TRAINING COURSES TO BE PRESENTED

PHASE 1

- Toolbox talks on the functions of the SHE Representative
- Induction Training (Workplace awareness) - Ten Commandments of Safety
- Training of the Community on Construction Workplace Hazards
- HIV Training Unit 1 - The Nature of HIV/Aids
- Toolbox talks on Environmental Awareness

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PHASE 2

- Training of Operators on Construction Vehicles and Mobile Plant
- First Aid Awareness
- Fire Fighting Awareness
- Toolbox talks on Hand Tools and Hand Tool Accidents
- Toolbox talks on Machine Guarding
- Toolbox talks on lifting materials by hand
- Toolbox talks on Safe Loading
- Toolbox talks on Safety Signs
- HIV Training Unit 2 - Transmission of the HI virus
- HIV Training Unit 3 - HIV/AIDS preventative measures
- HIV Training Unit 4 - Voluntary HIV/AIDS counselling and testing
- HIV Training Unit 5 - Living with HIV/AIDS
- HIV Training Unit 6 - Treatment options for people with HIV/AIDS
- HIV Training Unit 7 - The rights and responsibilities for workers in the workplace with regard to HIV/AIDS
- Toolbox talks on Environmental Awareness

36 EQUIPMENT ON SITE

First Aid Kit (basic)

Fire Extinguishers

37 PERSONAL PROTECTIVE CLOTHING

The Contractor shall provide the necessary personal protective clothing for its employees in hazardous areas, appropriate to the nature of the hazard.

37.1 Hard Hats

All employees of the Contractor shall wear hard hats in areas where appropriate hazard notices are displayed. The Engineer shall have the right to ban certain colours if they are similar to the Employer's identifying colours. Hard hats shall not be painted or otherwise defaced.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

37.2 Eye Protection

Suitable eye protection shall be worn in areas where appropriate hazard notices are displayed, or when grinding, chipping, breaking, drilling, arc-welding, cutting with oxy-acetylene equipment or similar activities are taking place.

37.3 Hearing Protection

Suitable hearing protection shall be worn in areas where appropriate hazard notices are displayed.

37.4 Foot Wear

All employees of the Contractor shall wear undamaged, laced-up safety boots or safety shoes, suitable for the intended purpose, in prescribed areas where appropriate hazard notices are displayed.

37.5 Gloves

All employees of the Contractor shall wear suitable protective gloves in areas where appropriate hazard notices are displayed, or when handling hot or hazardous materials or chemicals.

37.6 Clothing

All employees of the Contractor shall wear suitable protective clothing when working in proximity of machinery, power tools, hazardous materials or chemicals.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Proposed Personal Protective Equipment required on this project:

	TYPE	WHEN TO WEAR
1.	Hard Hats	Always
2.	400mm Shoulder Length PVC Gloves	Working with cement
3.	Plastic Trousers	Working with cement
4.	Safety Goggles	Grinding, Cutting Cement
5.	Gumboots	Working in water
6.	Welding helmet	Welding
7.	Gas welding safety goggles	Gas Welding
8.	Safety shoes	Offloading and positioning of materials
9.	Dust Masks	Grinding
10.	Ear Muff	Grinding
11.	Leather apron	Welding/ gas welding

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, NO. 85 OF 1993

The Employer and the Contractor hereby agree, in terms of the Provisions of Sections 37(2), 9 and 8(2) of the Occupational Health and Safety, Act No. 85 of 1993, hereinafter referred to as 'the Act', that the Contractor as an employer in its own right and in its capacity as Contractor for the execution of the works, shall have certain obligations and that the following arrangements shall apply between them to ensure compliance by the Contractor with the provisions of the Act, namely:-

- i) The Contractor undertakes to acquaint the appropriate officials and the employees of the Contractor with all relevant provisions of the Act, and the regulations promulgated in terms of the Act, and
- ii) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and regulations will be fully complied with, and
- iii) The Contractor hereby 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 and the Employer's Consulting Engineers from being obliged to comply with any of the aforesaid duties, obligations and prohibitions.
- iv) The Contractor shall be obliged to report forthwith to the Employer any investigation, complaint, or criminal charge which may arise as a consequence of the provisions of the Act and regulations pursuant to work performed on behalf of the Employer, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

SIGNED at on this day of

..... 20.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

For and on behalf of the **Contractor**:

Print Name: _____

AS WITNESSES:

1. _____

2. _____

Print Name: _____

Print Name: _____

For and on behalf of the **Employer**:

Print Name: _____

AS WITNESSES:

1. _____

2. _____

Print Name: _____

Print Name: _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

MANDATORY NOTIFICATION OF CONSTRUCTION WORK
IN TERMS OF REGULATION 3 OF THE CONSTRUCTION REGULATIONS (2014)
OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, NO. 85 OF 1993

This document is to be forwarded by the Contractor to the Office of the Department of Labour **prior to commencement** of the Works. The Contractor shall ensure that all Sub-Contractors accountable to him forward similar documents to the mentioned Authority **prior to commencement with the Works**.

A. Particulars of Contractor

Name:

Postal Address :

Compensation Fund Registration No.

B. Particulars of Contractor's MD/ CEO/Managing Member of cc

Name:

ID No.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Postal Address:

Tel No. Cell phone No.

- C. Particulars of Contractor's designated Construction Safety Officer appointed in terms of Clause 6(1) as the Construction Supervisor, with the duty of supervising health and safety at the Works:

Name:

ID No.

Postal Address:

Tel No. Cell phone No.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

D. Particulars of Contractor's sub-ordinate supervisors at the Works, appointed in terms of Clause 6 (2):

Name	ID No.	Postal Address	Tel No.	Cell phone no.

E. Physical address of the Works (Construction Site)

.....

.....

Co-ordinates (if available) Latitude (S)

Longitude (E)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F. Nature of the construction work:

.....

.....

G. Expected commencement date:

H. Expected completion date:

I. Estimated maximum number of persons on the construction site:

J. Planned number of Sub-Contractors on the construction site accountable to Principal Contractor:

.....

Name(s) of Sub-Contractors.

.....

.....

.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

K. Particulars of Employer (client)

Name:

Postal Address:

.....

Name of Employer's designated Representative / Agent.

.....

Tel No. Cell phone No.

L. Particulars of Design Engineer

Name:

Postal Address:

Tel No. Cell phone No.

Signed at on this day of 20.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

INFORMATION TO BE SUPPLIED BY THE TENDERER

The following forms shall be completed by the Tenderer.

A Particulars of WCF

Compensation Fund Registration No.

Expiring Date

B. Particulars of Contractor's designated Construction Safety Officer appointed in terms of Clause 6(1) as the Construction Supervisor, with the duty of supervising health and safety at the Works:

Name:

ID No.

Postal Address:

Tel No. Cell phone No.

C Particulars of Contractor's Health and Safety Representatives:

Name:.....Qualifications.....

Name:.....Qualifications.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Name:.....Qualifications.....

D Particulars of First Aider

Name:

ID No.

Valid First Aid Certificate: Yes.....

No.....

E Particulars of Fire Fighter

Name:

ID No.

Valid Fire Training Certificate: Yes.....

No.....

F Training Records of Construction Vehicle Operators

Name:.....Qualifications.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Name:.....Qualifications.....

Name:.....Qualifications.....

G. Incident Statistics:

Incidents during last 12 months	Date	Degree of Injury	Production days lost	Costs involved.
1				
2				
3				
4				
5				
6				
7				

Contractor

Witness 1

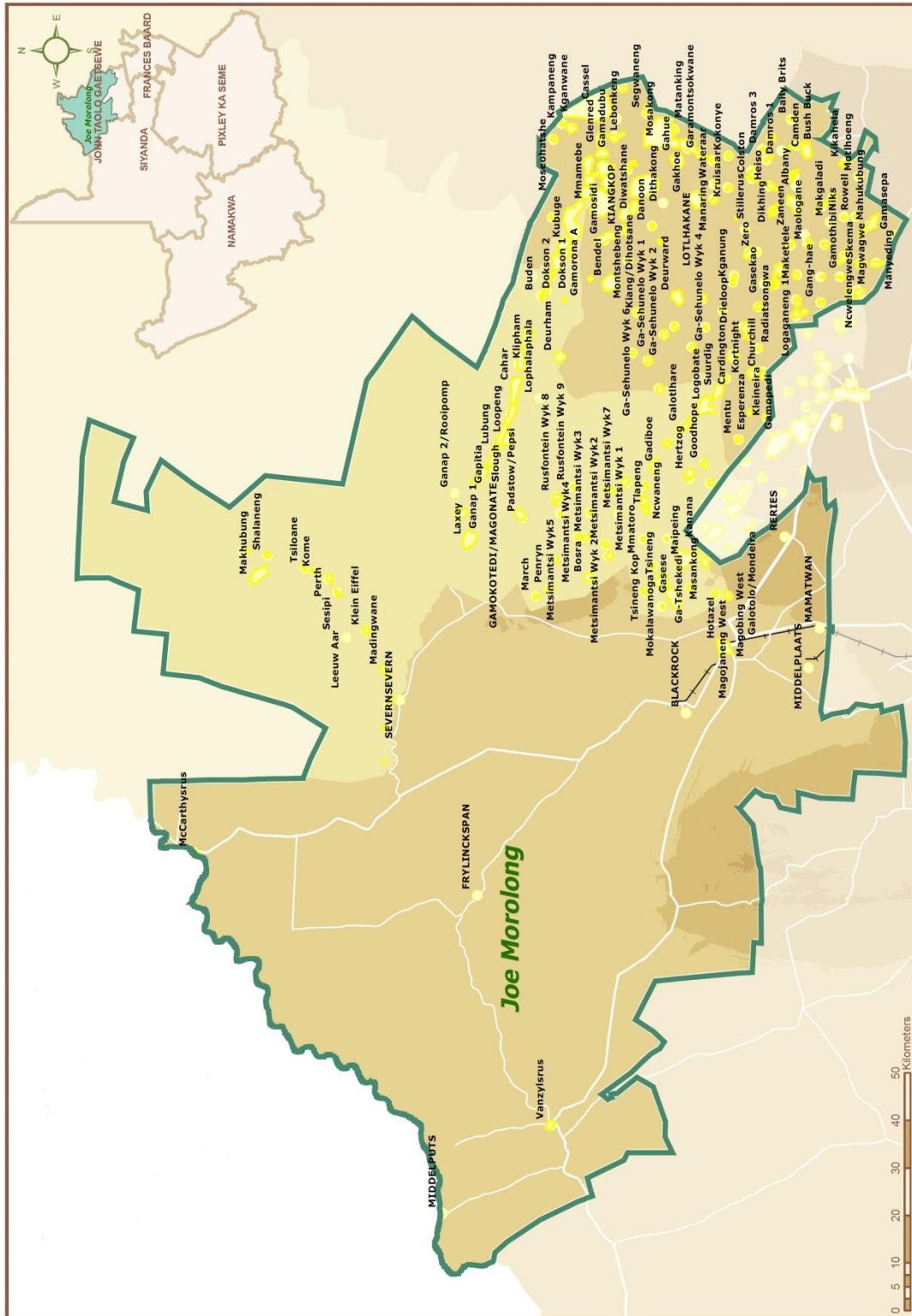
Witness 2

Employer

Witness 1

Witness 2

The Provision the construction services as required per the Description of Works will take place at different locations throughout the municipal area over the next three (3) years.



Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

JOE MOROLONG LOCAL MUNICIPALITY

BID NO : **B215-2021**

**Panel of Contractors for the Provision of Construction of Water Storage
Reticulation and Equipping of Borehole Services for Rural Water
Projects (3 Years Period) (Re-Advert)**

PORTION 2: THE CONTRACT

PART C5 MBD FORMS

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



SECTION C5.1 : DECLARATION OF PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED) (MBD5)

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

1. Are you by law required to prepare annual financial statements for auditing? *YES / NO
* Delete if not applicable

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

.....

- 2 Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days? *YES / NO
* Delete if not applicable

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

- 2.2 If yes, provide particulars.

.....

.....

.....

- 3 Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract? *YES / NO
* Delete if not applicable

- 3.1.1 If yes, furnish particulars

.....

.....

.....

- 4 Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? *YES / NO
* Delete if not applicable

- 4.1 If yes, furnish particulars

.....

.....

.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**CERTIFICATION****I, THE UNDERSIGNED (NAME)****FULL NAME**

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

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

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C5.2 : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (MBD6.2)

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

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

1. General Conditions

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

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

Where

x is the imported content in Rand

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

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

The SABS approved technical specification number SATS 1286:2011 is accessible at no cost on:

http://www.thdti.gov.za/industrial_development/ip.jsp

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



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

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

YES		NO	

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

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

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

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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

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

IN RESPECT OF BID NO: B215-2021

ISSUED BY: #EntityNameUC#

NB

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

I, the undersigned,

FULL NAMES

do hereby declare, in my capacity as:

CAPACITY

of

NAME OF BIDDER ENTITY

, the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

in terms of SATS 1286:2011; and

- (c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 2 above)	
Local content %, as calculated in terms of SATS 1286:2011	

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

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

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

SIGNATURE: _____ **DATE:** _____

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

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION C5.3 : CERTIFICATE OF INDEPENDENT BID DETERMINATION (MBD9)

- 1 This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 2 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 3 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

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

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CERTIFICATE OF BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

**B215-2021 : Panel of Contractors for the Provision of Construction of Water Storage
Reticulation and Equipping of Borehole Services for Rural Water Projects (3 Years
Period) (Re-Advert)**

in response to the invitation for the bid made by:

JOE MOROLONG LOCAL MUNICIPALITY

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

I certify, on behalf

of: _____ that:
(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a bid;
 - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
 - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No. 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No. 12 of 2004 or any other applicable legislation.

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

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

JOE MOROLONG LOCAL MUNICIPALITY

BID NO : B215-2021

**Panel of Contractors for the Provision of Construction of Water Storage
Reticulation and Equipping of Borehole Services for Rural Water
Projects (3 Years Period) (Re-Advert)**

PORTION 2: THE CONTRACT

PART C6 Supply Chain Management Policy

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

JOE MOROLONG LOCAL MUNICIPALITY

SUPPLY CHAIN MANAGEMENT POLICY 2020/2021

JOE MOROLONG LOCAL MUNICIPALITY



SUPPLY CHAIN MANAGEMENT POLICY

Policy for adoption by municipalities in terms of section 111 of the Municipal Finance Management Act, No 56 of 2003, and the Municipal Supply Chain Management Regulations.

1 | Page

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

**MUNICIPAL SUPPLY CHAIN MANAGEMENT POLICY LOCAL
GOVERNMENT: MUNICIPAL FINANCE MANAGEMENT ACT, 2003**

Date of adoption:

Council resolves in terms of section 111 of the Local Government Municipal Finance Management Act (No. 56 of 2003), to adopt the following proposal as the Supply Chain Management Policy of the Joe Morolong Local Municipality.

TABLE OF CONTENTS

- ¹. Definitions

**CHAPTER 1 IMPLEMENTATION OF SUPPLY CHAIN MANAGEMENT
POLICY**

2. Supply chain management policy
3. Amendment of supply chain management policy
4. Delegation of supply chain management powers and duties
5. Sub delegations
6. Oversight role of council
7. Supply chain management units
8. Training of supply chain management officials

**CHAPTER 2
SUPPLY CHAIN MANAGEMENT**

SYSTEM

9. Format of supply chain management system

Part 1: Demand management

10. System of demand management

Part 2: Acquisition management

11. System of acquisition management
12. Range of procurement processes

¹ | Page

2 | Page

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

13. General preconditions for consideration of written quotations or bids Lists of accredited prospective providers
14. Petty cash purchases
15. Written or verbal quotations
17. Formal written price quotations
18. Procedures for procuring goods or services through written or verbal quotations and formal written price quotations
19. Competitive bidding process
20. Process for competitive bidding
21. Bid documentation for competitive bids
22. Public invitation for competitive bids
23. Procedure for handling, opening and recording of bids
24. Negotiations with preferred bidders
25. Two-stage bidding process
26. Committee system for competitive bids
27. Bid specification committees
28. Bid evaluation committees
29. Bid adjudication committees
30. Procurement of banking services
31. Procurement of IT-related goods or services
32. Procurement of goods and services under contracts secured by other organs of state
33. Procurement of goods necessitating special safety arrangements
34. Proudly SA Campaign
35. Appointment of consultants
36. Deviation from, and ratification of minor breaches of, procurement processes
37. Unsolicited bids
38. Combating of abuse of supply chain management

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Part 3: Logistics, Disposal, Risk and Performance Management

- 39. Logistics management
- 40. Disposal management
- 41. Risk management
- 42. Performance management

Part 4: Other matters

- 43. Prohibition on awards to persons whose tax matters are not in order
- 44. Prohibition on awards to persons in the service of the state
- 45. Awards to close family members of persons in the service of the state
- 46. Ethical standards
- 47. Inducements, rewards, gifts and favours
- 48. Sponsorships
- 49. Objections and complaints
- 50. Resolution of disputes, objections, complaints and queries
- 51. Contracts providing for compensation based on turnover
- 52. Commencement

DEFINITIONS

1. In this Policy, unless the context otherwise indicates, a word or expression to which a meaning has been assigned in the Act has the same meaning as in the Act, and

—

“Municipality” means the Joe Morolong Local Municipality

“Municipal entity” has the meaning assigned to it by Section 1 of the Municipal Systems Act, 2000.

“other applicable legislation” means any other legislation applicable to municipal supply chain management, including -

[a] the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000);

- (b) the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003); and
- [c] the Construction Industry Development Board Act, 2000 (Act No.38 of 2000);

"in the service of the state" means to be -

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

"Sole Provider"-means a provider of specialized or exclusive goods/services who has a sole distribution / patent /manufacturing rights and copy rights.

"senior manager" means an executive director appointed in terms of section 56 of the Municipal Systems Act, 2000 or an acting executive director appointed by the Accounting Officer.

"The Act" means the Local Government: Municipal Finance Management Act, 2003 (Act No. 56 of 2003);

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

"THE REGULATIONS" means the Local Government: Municipal Finance Management Act, 2003, Municipal Supply Chain Management Regulations published by Government Notice 10684 of 2017;

B-BBEE – means broad based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;

B-BBEE STATUS LEVEL OF CONTRIBUTOR – means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad Based Black Economic Empowerment Act; “Black People”; **has the meaning assigned to it in section 1 of the Broad Based Black Economic Empowerment Act;**

BLACK DESIGNATED GROUPS – has the meaning assigned to it in the codes of good practice issued in terms of section 9(1) of the Broad Based Black Economic Empowerment Act;

BROAD BASED BLACK ECONOMIC EMPOWERMENT ACT – means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003)

CO-OPERATIVE – means a co-operative registered in terms of section 7 of the Cooperatives ACT, 2005 (Act No. 14 of 2005);

DESIGNATED GROUP means –

- (a) black designated groups;
- (b) black people;
- (c) women;
- (d) people with disabilities, or
- (e) small enterprises, as defined in section 1 of the National Small Enterprise Act, (Act No. 102 of 1996);

“DESIGNATED SECTOR” – means a sector, sub-sector or industry or product designated in terms of regulation 8(1) (a)

EME means and exempted of the micro enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

“FUNCTIONALITY” – means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents;

MILITARY VETERAN – has the meaning assigned to it in section 1 of the Military Veterans Act, 2011 (Act No. 18 of 2011);

NATIONAL TREASURY has the meaning assigned to it in section 1 of the Public Finance Management Act, 1999 (Act No. 1 of 1999);

PEOPLE WITH DISABILITIES - has the meaning assigned to it in section 1 of the

Employment Equity Act, 1998 (Act No. 55 of 1998);

PRICE – includes all applicable taxes less all unconditional discounts,

“PROOF OF B-BBEE STATUS LEVEL OF CONTRIBUTOR “– means –

- (a) the B-BBEE status level certificate issued by an authorised body or person;
- (b) a sworn affidavit as prescribed by the B-BBEE Codes of Good Practice, or
- (c) any other requirement prescribed in terms of the Broad-Based Black Economic Empowerment Act;

QSE – means a qualifying small business enterprise in terms of code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

RURAL AREA - means

- (a) a sparsely populated area in which people farm or depend on natural resources, including villages and small towns that are dispersed through the area; or
- (b) an area including a large settlement which depends on migratory labour and remittances and government social grants for survival, and may have a traditional land tenure system.

STIPULATED MINIMUM THRESHOLD – means the minimum threshold stipulated in terms of regulation 8 (1) (b);

TOWNSHIP – means an urban living area that any time from the late 19th century until 27 April 1994, was reserved for black people, including areas developed for historically disadvantaged individuals post 27 April 1994;

TREASURY – has the meaning assigned to it in section 1 of the Public Finance Management Act, 1999 (Act No. 1 of 1999); and

YOUTH – has the meaning assigned to it in section 1 of the National Youth Development Agency Act, 2008 (Act No. 54 of 2008)

“accredited” means goods / services that are officially recognized, are generally accepted

or having a guaranteed quality.

“competitive bid” means a bid in terms of a competitive bidding process;

“competitive bidding process” means a competitive bidding process referred to in paragraph 12 (1) (d) of this Policy;

“Accounting officer” means the Accounting Officer referred to in section 60 of the Municipal Finance Management Act, No. 56 of 2003, in relation to a municipal entity, means the official referred to in section 93, and includes a person acting as the accounting officer.

“Accredited Agent” means a provider who is authorized to deliver certain goods / services and can be trading in a specific area, however, an accredited agent is not a sole provider.

“emergency procurement” emergency cases are cases where immediate action is necessary in order to avoid dangerous or risky situation (life threatening) or misery such as floods or fires.

“exceptional / urgent cases” exceptional cases are cases where early delivery is of critical importance and the invitation of competitive bids is either impossible or impractical.

However, a lack of proper planning should not be constituted as an urgent case subject to the approval of the Accounting Officer. The nature of the urgency and the details of the justifiable procurement must be recorded and the AO to approve.

“final award”, in relation to bids or quotations submitted for a contract, means bids or quotations submitted for a contract, means the final decision on which-bid or quote to accept;

“written or verbal quotations” means quotations referred to in paragraph 12(1)(b) of this Policy **“formal written price quotation” means quotations referred to in paragraph 12 (1) (c) of this Policy;**

“Fruitless and wasteful expenditure”- is defined in section 1 of the MFMA as follows: expenditure made in vain and would have been avoided had reasonable care been exercised;

“Irregular expenditure” - as contemplated in MFMA section 32 and refers to the;

- Municipal Finance Management Act, Act56 of 2003, and its regulations
- Municipal Systems Act, Act 32 of 2000, and its regulations
- Public Office-Bearers Act, Act20 of 1998, and its regulations; and
- The municipality’s supply chain management policy, and any by-laws giving effect to that policy.

"long term contract" means a contract with a duration period exceeding one year;

"list of accredited prospective providers" means the list of accredited prospective providers which the municipality must keep in terms of paragraph 14 of this policy;

“Central Supplier Database (CSD)”- is a single database to serve as the source of all supplier information for all spheres of government. The purpose of centralising government’s supplier database is to reduce duplication of effort and cost for both supplier and government while enabling electronic procurement processes.

e-Tender Publication Portal - facilitates all government institutions to publish their tenders, corrigendum and award notices on a single platform. This portal gives FREE access to public sector tender opportunities in South Africa.

“Transversal contract” means a contract arranged for more than one dept/mun or for more than one level of government eg. National and Provincial Government.

"Treasury guidelines" means any guidelines on supply chain management issued by the Minister in terms of section 168 of the Act;

“Unauthorized expenditure” - means any expenditure incurred by a municipality otherwise than in accordance with section 15 or 11 [3] and includes-

[a]overspending of the total amount appropriated in the municipality’s approved budget;

- [b] overspending of the total amount appropriated for a vote in the approved budget;**
- [c] expenditure from a vote unrelated to the department or functional area covered by the vote;**
- [d] expenditure of money appropriated for a specific purpose, otherwise than for that specific purpose;**
- [e] spending of an allocation referred to in paragraph [b],[c] or [d] of the definition of “allocation” otherwise than in accordance with any conditions of the allocation;or**
- [f] a grant by the municipality otherwise than in accordance with the MFMA.**

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CHAPTER 1 IMPLEMENTATION OF SUPPLY CHAIN MANAGEMENT POLICY

Supply chain management policy

2. (1) All officials and other role players in the supply chain management system of the

municipality **must** implement this Policy in a way that

- (a) gives effect to -
 - (i) section 217 of the Constitution; and
 - (ii) Part 1 of Chapter 11 and other applicable provisions of the Act;
- (b) is fair, equitable, transparent, competitive and cost effective;
- (c) complies with -
 - (i) the Regulations; and
 - (ii) any minimum norms and standards that may be prescribed in terms of section 168 of the Act;
- (d) is consistent with other applicable legislation;
 - Broad Based Black Economic Empowerment Act [B-BBEEA];
 - Corruption Act, 1998 – anti-corruption measures and practices;
 - Competition Law and Regulations;
 - Promotion of Administrative Justice Act, 2000;
 - National Archives of South Africa Act, 1996;
 - National Small Business Act;
 - Construction Industry Development Board Act, 2000 [Act no 38 of 2000].
 - Preferential Procurement Policy Framework Act
- (e) does not undermine the objective for uniformity in supply chain management systems between organs of state in all spheres; and
- (f) is consistent with national economic policy concerning the promotion of investments and doing business with the public sector.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (2) The municipal entity must, in addition to complying with subparagraph (1), apply this Policy, to the extent determined by the parent municipality, in a way that and that is consistent with the supply chain management policy of the municipality.
- (3) This Policy applies when the municipality-
 - (a) procures goods or services;
 - (b) disposes goods no longer needed;
 - (c) selects contractors to provide assistance in the provision of municipal services otherwise than in circumstances where Chapter 8 of the Municipal Systems Act applies; or
 - (d) selects external mechanisms referred to in section 80 (1) (b) of the Municipal Systems Act for the provision of municipal services in circumstances contemplated in section 83 of that Act.
- (4) This Policy, except where provided otherwise, does not apply in respect of the procurement of goods and services contemplated in section 110(2) of the Act, including
 - (a) water from the Department of Water Affairs or a public entity, another municipality or a municipal entity; and
 - (b) electricity from Eskom or another public entity, another municipality or a municipal entity.

Amendment of the supply chain management policy

3. (1) The accounting officer must -
- (a) at least annually review the implementation of this Policy; and
 - (b) when the accounting officer considers it necessary, submit proposals for the amendment of this Policy to the council.
- (2) If the accounting officer submits proposed amendments to the council that differs from the model policy issued by the National Treasury, the accounting officer must -
- (a) ensure that such proposed amendments comply with the Regulations; and
 - (b) report any deviation from the model policy to the National Treasury and the relevant provincial treasury.

- (3) When amending this supply chain management policy, the need for uniformity in supply chain practices, procedures and forms between organs of state in all spheres, particularly to promote accessibility of supply chain management systems for small businesses must be taken into account.

Delegation of supply chain management powers and duties

4. (1) The council hereby delegates all powers and duties to the accounting officer which are necessary to enable the accounting officer-
- (a) to discharge the supply chain management responsibilities conferred on accounting officers in terms of -
 - (i) Chapter 8 or 10 of the Act; and
 - (ii) this Policy;
 - (b) to maximise administrative and operational efficiency in the implementation of this Policy;
 - (c) to enforce reasonable cost effective measures for the prevention of fraud, corruption, favouritism and unfair and irregular practices in the implementation of this Policy; and
 - (d) to comply with his or her responsibilities in terms of section 115 and other applicable provisions of the Act.
- (2) Sections 79 and 106 of the Act apply to the sub delegation of powers and duties delegated to an accounting officer in terms of subparagraph (1).
- (3) The accounting officer may not sub delegate any supply chain management powers or duties to a person who is not an official of the municipality or to a committee which is not exclusively composed of officials of the municipality.
- (4) This paragraph may not be read as permitting an official to whom the power to make final awards has been delegated, to make a final award in a competitive bidding process otherwise than through the committee system provided for in paragraph 26 of this Policy.

Sub delegations

5. (1) The accounting officer may in terms of section 79 or 106 of the Act sub delegate any supply chain management powers and duties, including those

delegated to the accounting officer in terms of this Policy, but any such sub delegation must be consistent with subparagraph (2) of this paragraph and paragraph 4 of this Policy.

- (2) The power to make a final award -
- (a) above R 10 million (VAT included) may not be sub delegated by the accounting officer;
- (b) above R2 million (VAT included), but not exceeding R10 million (VAT included), may be sub delegated but only to -
- (i) the chief financial officer;
- (ii) a senior manager; or
- (iii) a bid adjudication committee comprises of:
- Chief Financial Officer
 - Head Infrastructure
 - Head Social Development
 - Head Institutional Development
- (c) not exceeding R2 million (VAT included) may be sub delegated but only to -
- (i) the chief financial officer;
- (ii) a senior manager;
- (iii) a manager -directly accountable to the chief financial officer or a senior manager; or -
- (iv) a bid adjudication committee comprises of:
- Chief Financial Officer
 - Head Infrastructure
 - Head Social Development
 - Head Institutional Development
- (3) An official or bid adjudication committee to which the power to make final awards has been sub delegated in accordance with subparagraph (2) must within five days of the end of each month submit to the official referred to in subparagraph (4) a written report containing particulars of each final award made by such official or committee during that month, including-

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (a) the amount of the award;
 - (b) the name of the person to whom the award was made; and (c) the reason why the award was made to that person.
- (4) A written report referred to in subparagraph (3) must be submitted
- (a) to the accounting officer, in the case of an award by -
 - (i) the chief financial officer;
 - (ii) a senior manager; or
 - (iii) a bid adjudication committee of which the chief financial officer or a senior manager is a member; or
 - (b) to the chief financial officer or the senior manager responsible for the relevant bid; in the case of an award by-
 - (i). a manager referred to in subparagraph (2)(c)(iii); or
 - (ii) a bid adjudication committee of which the chief financial officer or a senior manager is not a member.
- (5) Subparagraphs (3) and (4) of this policy do not apply to procurements out of petty cash.
- (6) This paragraph may not be interpreted as permitting an official to whom the power to make final awards has been sub delegated, to make a final award in a competitive bidding process otherwise than through the committee system provided for in paragraph 26 of this Policy.
- (7) No supply chain management decision-making powers may be delegated to an advisor or consultant.

Oversight role of council

6 (1) The council reserves its right to maintain oversight over the implementation of this Policy.

(2) For the purposes of such oversight the accounting officer must -

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (a) (i) within 30 days of the end of each financial year, submit a report on the implementation of this Policy and the supply chain management policy to the council of the municipality.
- (ii) whenever there are serious and material problems in the implementation of this Policy, immediately submit a report to the council, who must then submit the report to the accounting officer of the municipality for submission to the council
- (3) The accounting officer must, within 10 days of the end of each quarter, submit a report on the implementation of the supply chain management policy to the mayor.
- (4) The reports must be made public in accordance with section 21A of the Municipal Systems Act.

Supply chain management unit

7. (1) A supply chain management unit is hereby established to implement this Policy.
- (2) The supply chain management unit operates under the direct supervision of the chief financial officer or an official to whom this duty has been delegated in terms of section 82 of the Act.

Training of supply chain management officials

9. The training of officials involved in implementing this Policy should be in accordance with any Treasury guidelines on supply chain management training.

CHAPTER 2 SUPPLY CHAIN MANAGEMENT SYSTEM

Format of supply chain management systems

- 9** This Policy provides systems for -
- (i) demand management;
 - (ii) acquisition management;
 - (iii) logistics management;
 - (iv) disposal management;
 - (v) risk management; and
 - (vi) performance management.
 - (vii) asset management
 - (viii) Contract Management **Part 1: Demand management**

System of demand management

10 (1) The accounting officer must establish and implement an appropriate demand management system in order to ensure that the resources required by the **municipality** support its operational commitments and its strategic goals outlined in the Integrated Development Plan

- (2) The demand management system must -
- (a) include timely planning and management processes to ensure that all goods and services required by the municipality are quantified, budgeted for and timely and effectively delivered at the right locations and at the critical delivery dates, and are of the appropriate quality and quantity at a fair cost;
 - (b) take into account any benefits of economies of scale that may be derived in the case of acquisitions of a repetitive nature; and
 - (c) provide for the compilation of the required specifications to ensure that its needs are met.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (d) To undertake appropriate industry analysis and research to ensure that innovations and technological benefits are maximized.
- (e) The municipality must compile a Procurement Plan containing all planned procurement for the financial year in respect of the procurement of goods, services and infrastructure projects which exceed R 200 000 [all applicable taxes included] per case as described in the Supply Chain Management Guide for Accounting Officers. The procurement plan must be finalized on the 1 July every year. The relevant information should preferably be furnished in the format contained in the MFMA Circular 62 (Annexure A and B).

Part 2: Acquisition management

System of acquisition management

11. (1) The accounting officer must implement the system of acquisition management set out in this Part in order to ensure -
- (a) that goods and services are procured by the municipality in accordance with authorised processes only;
 - (b) that expenditure on goods and services is incurred in terms of an approved budget in terms of section 15 of the Act;
 - (c) that the threshold values for the different procurement processes are complied with; ·
 - (d) that bid documentation, evaluation and adjudication criteria, and general conditions of a contract, are as per National and Provincial prescripts.
 - (e) that the preference point system used in accordance with the Preferential Procurement Regulations 2017.
 - (f) that any Treasury guidelines on acquisition management are properly taken into account.
 - (g) Verification of bids in excess of R10 million **Prior to advertisement:**
Verification by the CFO

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

The senior manager responsible for a vote must submit to the CFO:

- proof that budgetary provision exists for the procurement of the goods/services and / or infrastructure projects;
- any ancillary budgetary implications related to the bid;
- any multi -year budgetary implications;

Prior to the award of a bid

Contracts above the value of R 10 million [all applicable taxes included] may only be awarded to the preferred bidder after the CFO has verified in writing that budgetary provision exists for the acquisition of the goods, infrastructure projects and /or services and that it is consistent with the Integrated Development Plan.

- (h) Publication of awards in respect of advertised competitive bids [above the threshold value of R 200 000]

The following information on the successful bids must be placed on the municipal website:

- Contract numbers and description of goods, services or infrastructure projects;
- Names of the successful bidders and the B-BBEE level of contribution claimed;
- Brand names and dates for completion of contracts.

- (i) Functionality

Adhere to the revised guidelines when functionality is included as a criterion in the evaluation of bids [National Treasury note issued in September 2010].

(i) Clear indication must be given in bid documents if bids will be evaluated on functionality.

(ii) Evaluation criteria must be objective.

(iii) The weight of each criterion, applicable values and the minimum qualifying score [for each bid on its own merit] must be indicated in the bid documents.

(iv) Bidders failing to achieve the qualifying score for functionality must be disqualified.

(v) Bidders achieving the minimum qualifying score must be evaluated further in terms of points for price and B-BBEE status level contribution

(vi) Must be determined separately for each tender; and May not be so-

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- low that it may jeopardise the quality of the required goods and services; or
- high that it is unreasonably restrictive.

(vii) Points scored for functionality must be rounded off to the nearest two decimal places.

(2) When procuring goods or services contemplated in section 110(2) of the Act must make public the fact that it procures such goods and services otherwise than through its supply chain management system, including - (a) the kind of goods or services; and (b) the name of the supplier.

Range of procurement processes

12. (1) Goods and services may only be procured by way of-

- (a) petty cash purchases, up to a transaction value of R2 000 (VAT included);
- (b) written or verbal quotations for procurements of a transaction value over R2 000 up to R10 000 (VAT included);
- (c) formal written price quotations for procurements of a transaction value over R10 000 up to R200 000 (VAT included); and
- (d) a competitive bidding process for-
 - (i) procurements above a transaction value of R200 000 (VAT included); and
 - (ii) the procurement of long term contracts.

(2) The accounting officer may, in writing-

- (a) lower, but not increase, the different threshold values specified in subparagraph (1); or
- (b) direct that-
 - (i) written or verbal quotations be obtained for any specific procurement of a transaction value lower than R2 000 [all taxes included];
 - (ii) formal written price quotations be obtained for any specific procurement of a transaction value lower than R 10 000[all taxes included]; or
 - (iii) a competitive bidding process be followed for any specific procurement of a transaction value lower than R200 000 [all taxes included].

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

(3) (a) Goods or services may not deliberately be split into parts or items of a lesser value merely to avoid complying with the requirements of the policy.

(b) When determining transaction values, a requirement for goods or services consisting of different parts or items must as far as possible be treated and dealt with as a single transaction.

General preconditions for consideration of written quotations or bids

13. A written quotation or bid may not be considered unless the provider who submitted the quotation or bid -

(a) has furnished that provider's -

- (i) full name;
- (ii) identification number or company or other registration number; and
- (iii) tax reference number and VAT registration number, if any;
- (iv) registered on Central Supplier Database(CSD) with a tax compliant status;
- (v) check in respect of the recommended bidder whether municipal rates and taxes and municipal service charges are not in arrears for more than three [3] months; or if the bidder lives in the rural area, he or she should get proof of residence from the chief of the village of the area
- (vi) requirements for construction and engineering related bids should be awarded according to CIDB regulations;
- (vii) The CIDB Act requires that all projects need to be registered with the CIDB;
- (viii) Before an award is done to a contractor, the contractor's CIDB grading must be confirmed with the CIDB website;
- (ix) The CIDB grading designation is as follows:

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Grading designation	Less than or equal to
1	R 200 000
2	R 650 000
3	R 2 000 000
4	R 4 000 000
5	R 6 500 000
6	R 13 000 000
7	R 40 000 000
8	R 130 000 000
9	No Limit

- (b) has authorised the municipality to obtain a tax clearance from the South African Revenue Services that the provider's tax matters are in order; and [the tax compliant status be verified on the Central Supplier Database(CSD)] and
- (c) has indicated -
- (i) whether he or she is in the service of the state, or has been in the service of the state in the previous twelve months;
 - (ii) if the provider is not a natural person, whether any of its directors, managers, principal shareholders or- stakeholder is in the service of the state, or has- been in the service of the state in the previous twelve months; or
 - (iii) whether a spouse, child or parent of the provider or of a director, manager, shareholder or stakeholder referred to in subparagraph (ii) is in the service of the state, or has been in the service of the state in the previous twelve months.

Lists of accredited prospective providers

14. (1) The accounting officer must -
- (a) utilise the National Central Supplier Database(NCSD) to source accredited service providers of goods and services that must be used for procurements through written, verbal quotations, formal written price quotations and competitive bids; and
 - (b) invite prospective service providers of goods and services to apply for evaluation and listing as accredited prospective service providers for subcontracting purposes; and
 - (c) dis-allow the listing of any prospective provider whose name appears on the National Treasury's database as a person prohibited from doing business with the public sector.
 - (d) Suppliers may update their CSD status continuously;
 - (e) CSD is compiled per commodity and per type of service.

Petty cash purchases

15. The conditions for the procurement of goods by means of petty cash purchases referred to in paragraph 12 (1) (a) of this Policy, are as follows -
- (a) council determine the terms on which a manager may delegate responsibility for petty cash to an official reporting to the manager;
 - (b) council determine the maximum number of petty cash purchases or the maximum amounts per month for each manager;
 - (c) council determine any types of expenditure from petty cash purchases that are excluded, where this is considered necessary; and
 - (d) a monthly reconciliation report from each manager must be provided to the chief financial officer, including -
 - (i) the total amount of petty cash purchases for that month; and
 - (ii) receipts and appropriate documents for each purchase.

Written or verbal quotations

16. The conditions for the procurement of goods or services through written or verbal quotations are as follows:

23 | Page

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (a) Quotations must be obtained from at least three different providers preferably from, but not limited to, providers whose names are listed on the CSD.
- (b) quotations must be approved on a rotation basis.
- (c) to the extent feasible, providers must be requested to submit such quotations in writing
- (d) if it is not possible to obtain at least three quotations, the reasons must be recorded and reported quarterly to the accounting officer or another official designated by the accounting officer;
- (e) the accounting officer must record the names of the potential providers requested to provide such quotations with their quoted prices; and
- (f) if a quotation was submitted verbally, the order may be placed only against written confirmation by the selected provider:
- (g) The municipality will investigate and utilize various other options to advertise bids/quotations viz. community boards, the library, public buildings, police station, etc. This is to ensure that the municipality tried to obtain at least three quotations.
- (h) In cases where there are only a few suppliers for certain goods eg. vehicle repairs, fuel outlets, etc. the municipality will then use these suppliers on a rotation basis. This practice will only be utilized in exceptional cases. As soon as more suppliers become available, such goods / services will be provided via the normal SCM quotations.

Formal written price quotations -

17. (1) The conditions for the procurement of goods or services through formal written price quotations, are as follows:

- (a) quotations must be obtained in writing from at least three different providers whose names are listed on Central Supplier Database
- (b) if it is not possible to obtain at least three quotations, the reasons must be recorded and approved by the chief financial officer or an official designated by the chief financial officer, and

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (c) the accounting officer must record the names of the potential providers and their written quotations.
- (2) A designated official referred to in subparagraph (1) (c) must within three days of the end of each month report to the chief financial officer on any approvals given during that month by that official in terms of that subparagraph.

Procedures for procuring goods or services through written or verbal quotations and formal written price quotations

18. The procedure for the procurement of goods or services through written or verbal quotations or formal written price quotations, is as follows:
- (a) the accounting officer must promote ongoing competition amongst providers by inviting providers to submit quotations on a rotation basis.
 - (b) all requirements in excess of R30 000 (VAT included) that are to be procured by means of formal written price quotations must, in addition to the requirements of paragraph 17, be advertised for at least seven days on the website and an official notice board of the municipality ;
 - (c) offers received must be evaluated on a comparative basis taking into account unconditional discounts;
 - (d) the accounting officer or chief financial officer must on a monthly basis be notified in writing of all written or verbal quotations and formal written price quotations accepted by an official acting in terms of a sub delegation;
 - (e) offers below R30 000 (VAT included) must be awarded based on compliance to specifications and conditions of contract, ability and capability to deliver the goods and services and lowest price;
 - (f) acceptable offers, which are subject to the preference points system (PPPFA and PPR 2017), must be awarded to the bidder who's offer is according to specifications, has the ability to deliver and is compliant with all the other requirements and scored the highest points.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (g) Minimum requirements for proper record keeping must be complied with.

Competitive bids

19. (1) Goods or services above a transaction value of R200 000 (VAT included) and long term contracts may only be procured through a competitive bidding process, subject to paragraph 11 (2) of this Policy.
- (2) No requirement for goods or services above an estimated transaction value of R200 000 (VAT included), may deliberately be split into parts or items of lesser value merely for the sake of procuring the goods or services otherwise than through a competitive bidding process.
- (3) The 80 / 20 principle is applicable; 80 points for price and 20 points for B-BBEE status level verification certificates. The 20 points will be standard as follows;

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

4. The points scored for price must be added to the points scored for B-BBEE status level of contribution to obtain the bidder's total points scored out of 100.

A bid must not be disqualified from the bidding process if the bidder does not submit a certificate substantiating the B-BBEE status level of contribution or is a noncompliant contributor. Such a bidder will score 0 out of a maximum of 10 or 20 points for B-BBEE status.

5. The 80/20 point system is applicable from R30 000 [all taxes included] up to R50 million [all taxes included]

6. The 90/10 point system is applicable to bids invited exceeding R 50 million [all taxes included]

4. The specification committee will make proposals if functionality points need to be used and the evaluation committee will approve a variation in the point system for a specific bid.

5. For construction procurements the CIDB Act and Regulations are to be used for quotations/bids.

Process for competitive bidding

20. The procedures for the following stages of a competitive bidding process are as follows:

- (a) Compilation of bidding documentation as detailed in paragraph 21;
- (b) Public invitation of bids as detailed in paragraph 22;
- (c) Site meetings or briefing sessions as detailed in paragraph 22;
- (d) Handling of bids submitted in response to public invitation as detailed in paragraph 23;
- (e) Evaluation of bids as detailed in paragraph 28;
- (f) Award of contracts as detailed in paragraph 29;
- (g) Administration of contracts
- (i) After approval of a bid, the accounting officer and the bidder must enter into a written agreement.

(h) **Sub-contracting**

1. (i) A person awarded a contract may only enter into a subcontracting arrangement with the approval of the organ of state.

(ii) A person awarded a contract in relation to a designated sector, may not subcontract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.

(iii) A person awarded a contract may not submit more than 25% of the value of the contract to any other enterprise that does not have an equal or higher BBBEE status level of contributor than the person concerned unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.

1. SUBCONTRACTING AS CONDITION OF TENDER

(a) If feasible to subcontract for a contract above R30 million, an organ of state must apply subcontracting to advance designated groups.

(b) If an organ of state applies subcontracting as contemplated in subregulation (1) the organ of state must advertise the tender with a specific tendering condition that the successful tenderer must subcontract a minimum of 30% of the value of the contract to-

(i) an EME or QSE which is at least 51% Black Owned;

(ii) an EME or QSE which is at least 51% owned black owned by black youth;

(iii) and EME or QSE which is at least 51% Black Women Owned;

(iv) an EME or QSE which is at least 51% owned by black people with disabilities;

(v) an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas and / or townships;

(vi) a Cooperative which is at least 51% owned by black people;

(vii) an EME or QSE which is at least 51% owned by black people who are military veterans;

- (viii) The organ of state must make available the list of all suppliers registered on a database approved by national treasury to provide the required goods or services in respect of the applicable designated groups mentioned in sub-regulation (2) from which the tenderer must select a supplier.

(j) LOCAL PRODUCTION AND CONTENT

- (1) The Department of Trade and Industry may, in consultation with the National Treasury -
- (a) designate a sector, sub-sector or industry or product in accordance with national development and industrial policies for local production and content, where only locally produced services or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content, taking into account economic and other relevant factors; and
- (b) stipulate a minimum threshold for local production and content.
- (2) An organ of state must, in the case of a designated sector, advertise the invitation to tender with a specific condition that only locally produced goods or locally manufactured goods, meeting the stipulated minimum threshold for local production and content, will be considered.
- (3) The National Treasury must inform organs of state of any designation made in terms of regulation 8(1) through a circular,
- (4) (a) If there is no designated sector, an organ of state may include, as a specific condition of the tender, that only locally produced services or goods or locally manufactured goods with a stipulated minimum threshold for local production and content, will be considered.
- (b) The threshold referred to in paragraph (a) must be in accordance with the standards determined by the Department of Trade and Industry in consultation with the National Treasury.
- (5) A tender that fails to meet the minimum stipulated threshold for local production and content is an unacceptable tender.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

(6) Local Content also applicable when requesting quotations.

(k) Evaluation of bids that scored equal points

In the event that two or more bids have scored equal total, the successful bid must be the one that scored the highest points for B-BBEE.

If two or more bids have equal points, including equal preference points for B-BBEE, the successful bid must be the one scoring the highest points for functionality, if functionality is part of the evaluation process.

In the event that two or more bids are equal in all respects, the award must be decided by drawing lots.

(l) Cancellation and re-invitation of bids

(i) Addition of sub-regulation related to cancellation of tender due to material Irregularities.

(ii) Also in addition of a provision that an organ of state may cancel a tender for the second time, only with the approval of the relevant treasury.

(m) Awarding of contracts

A contract must be awarded to the bidder who scored the highest total number of points in terms of the preference point system. In exceptional circumstances a contract may, on reasonable and justifiable grounds be awarded to a bidder that did not score the highest number of points. The reasons for such a decision must be approved and recorded for audit purposes and must be defensible in a court of law.

(n) Sale and letting of assets

The Preferential Procurement Regulations, 2017, are not applicable to the sale and letting of assets.

In instances where assets are sold or leased, by means of a bidding process, the bid must be awarded to the bidder with the highest price (o) Proper record keeping

(i) Original / legal copies of written contracts agreements should be kept in a secure place for reference purposes.

Bid documentation for competitive bids

21. The criteria to which bid documentation for a competitive bidding process must comply, must- (a) take into account -

- (i) the general conditions of contract and any special conditions of contract, if specified;
- (ii) any Treasury guidelines on bid documentation; and
- (iii) the requirements of the Construction Industry Development Board, in the case of a bid relating to construction, upgrading or refurbishment of buildings or infrastructure;
- (b) include the preference points system to be used, goals as contemplated in the Preferential Procurement Regulations and evaluation and adjudication criteria, including any criteria required by other applicable legislation;
- (c) compel bidders to declare any conflict of interest they may have in the transaction for which the bid is submitted;
- (d) if the value of the transaction is expected to exceed R 10 million (VAT included), require bidders to furnish-
 - (i) if the bidder is required by law to prepare annual financial statements for auditing, their audited annual financial statements-
 - (aa) for the past three years; or
 - (bb) since their establishment if established during the past three years;
 - (ii) a certificate signed by the bidder certifying that the bidder has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days;
 - (iii) particulars of any contracts awarded to the bidder by an organ of state during the past five years, including particulars of any material noncompliance or dispute concerning the execution. of such contract;
- (iv) a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality is expected to be transferred out of the Republic; and

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (e) stipulate that disputes must be settled by means of mutual consultation, mediation (with or without legal representation), or, when unsuccessful, in a South African court of law.
- (f) The Accounting Officer reserves the right to stipulate such a dispute to be settled utilizing a court of law preferably within the municipal boundaries or as close as possible to the municipal boundaries

Public invitation for competitive bids

22. (1) The procedure for the invitation of competitive bids, is as follows:

- (a) Any invitation to prospective providers to submit bids must be by means of a public advertisement in newspapers commonly circulating locally, the website of the municipality or any other appropriate ways which include for;

- (i) **GOODS AND SERVICES:**

Advertisement of Bids and the Publication of notices in respect of Awards, Cancelled Bids, Verification and Extension of existing contracts on the eTender

Publication Portal and Government Tender Bulletin; and

- (ii) **WORKS AND INFRASTRUCTURE:**

Advertisement of Bids and the Publication of notices in respect of Awards, and cancellation of bids on the CIDB i-Tender.

- (b) the information contained in a public advertisement, must include-

- (i) the closure date for the submission of bids, which may not be less than 30 days in the case of transactions over R 10 million (VAT included), or which are of a long term nature, or 14 days in any other case, from the date on which the advertisement is placed in a newspaper, subject to subparagraph (2) of this policy;
 - (ii) a statement that bids may only be submitted on the bid documentation provided by the municipality or the bid document uploaded on the etender portal; and
 - (iii) date, time and venue of any proposed site meetings or briefing sessions;

- (2) The accounting officer may determine a closure date for the submission of bids on the grounds of urgency or emergency or any exceptional case where it is impractical or impossible to follow the official procurement process.
- (3) Bids submitted must be sealed.
- (4) Where bids are requested in electronic format, such bids must be supplemented by sealed hard copies.
- (5) If a municipality decides to apply **pre-qualifying criteria** to advance certain designated groups, that organ of state must advertise the tender with a specific tendering condition that only one or more of the following tenderers may respond
-
- (1) a tenderer having a stipulated minimum B-BBEE status level of contributor;
 - (2) an EME or QSE;
 - (3) a tenderer or subcontracting a minimum of 30% to –
 - (i) an EME or QSE which is at least 51% owned by black people,
 - (ii) an EME or QSE which is at least 51% owned black owned by black people who are youth.
 - (iii) and EME or QSE which is at least 51% owned by black people who are women;
 - (iv) an EME or QSE which is at least 51% owned by black people with disabilities;
 - (ix) an EME which is 51% owned by black people living in rural or underdeveloped areas or townships;
 - (x) a cooperative which is at least 51% owned by black people;
 - (xi) an EME or QSE which is at least owned by black people who are military veterans;
 - (xii) and EME or QSE

Procedure for handling, opening and recording of bids

23. The procedures for the handling, opening and recording of bids, are as follows:

- (a) Bids-
 - (i) must be opened only in public;
 - (ii) must be opened at the same time and as soon as possible after the period for the submission of bids has expired; and
 - (iii) received after the closing time should not be considered and returned unopened immediately.
- (b) Any bidder or member of the public has the right to request that the names of the bidders who submitted bids in time must be read out and, if practical, also each bidder's total bidding price;
- (c) No information, except the provisions in subparagraph (b), relating to the bid should be disclosed to bidders or other persons until the successful bidder is notified of the award; and
- (d) The accounting officer must-
 - (i) record in a register all bids received in time;
 - (ii) make the register available for public inspection; and
 - (iii) publish the entries in the register and the bid results on the website.

Negotiations with preferred bidders

24. (1) The accounting officer may negotiate the final terms of a contract with bidders identified through a competitive bidding process as preferred bidders, provided that such negotiation -

- (a) does not allow any preferred bidder a second or unfair opportunity;
- (b) is not to the detriment of any other bidder; and
- (c) does not lead to a higher price than the bid as submitted.
- (d) upon approval to negotiate, the AO/AA must appoint a cross functional negotiation team, with one member appointed to be team leader.
- (e) the negotiation team leader must ensure that all members of the negotiating team are clear on the negotiation strategy and desired outcomes.

(2) Minutes of such negotiations must be kept for record purposes.

Two-stage bidding process

25. (1) A two-stage bidding process is allowed for -
- (a) large complex projects;
 - (b) projects where it may be undesirable to prepare complete detailed technical specifications; or
 - (c) long term projects with a duration period exceeding three years.
- (2) In the first stage technical proposals on conceptual design or performance specifications should be invited, subject to technical as well as commercial clarifications and adjustments.
- (3) In the second stage final technical proposals and priced bids should be invited.

Committee system for competitive bids

26. (1) A committee system for competitive bids is hereby established, consisting of the following committees for each procurement or cluster of procurements as the accounting officer may determine:
- (a) a bid specification committee;
 - (b) a bid evaluation committee; and
 - (c) a bid adjudication committee;
- (2) The accounting officer appoints the members of each committee, taking into account section 117 of the Act; and
- (3) A neutral or independent observer, appointed by the accounting officer, must attend or oversee a committee when this is appropriate for ensuring fairness and promoting transparency.
- (4) The committee system must be consistent with -
- (a) paragraph 27, 28 and 29 of this Policy; and
 - (b) any other applicable legislation.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (5) The accounting officer may apply the committee system to formal written price quotations.

Bid specification committees

27. (1) A bid specification committee must compile the specifications for each procurement of goods or services by the municipality.

(2) Specifications -

- (a) must be drafted in an unbiased manner to allow all potential suppliers to offer their goods or services;
 - (b) must take account of any accepted standards such as those issued by Standards South Africa, the International Standards Organisation, or an authority accredited or recognised by the South African National Accreditation System with which the equipment or material or workmanship should comply;
 - (c) must, where possible, be described in terms of performance required rather than in terms of descriptive characteristics for design;
 - (d) may not create trade barriers in contract requirements in the forms of specifications, plans, drawings, designs, testing and test methods, packaging, marking or labelling of conformity certification;
 - (e) may not make reference to any particular trade mark, name, patent, design, type, specific origin or producer unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the word "equivalent";
 - (f) must indicate each specific goal for which points may be awarded in terms of the points system set out in the Preferential Procurement Regulations 2001; and
 - (g) must be approved by the accounting officer prior to publication of the invitation for bids in terms of paragraph 22 of this Policy.
- (3) A bid specification committee must be composed of one or more officials of the municipality preferably the manager responsible for the function involved, and may, when appropriate, include external specialist advisors.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (4) No person, advisor or corporate entity involved with the bid specification committee, or director of such a corporate entity, may bid for any resulting contracts.

Bid evaluation committees

28. (1) A bid evaluation committee must-
- (a) evaluate bids in accordance with -
 - (i) the specifications for a specific procurement; and
 - (ii) the points system set out in terms of paragraph 27(2)(f).
 - (b) evaluate each bidder's ability to execute the contract;
 - (c) check in respect of the recommended bidder whether municipal rates and taxes and municipal service charges are not in arrears, and;
 - (d) submit to the adjudication committee a report and recommendations regarding the award of the bid or any other related matter.
- (2) A bid evaluation committee must as far as possible be composed of-
- (a) officials from departments requiring the goods or services; and
 - (b) at least one supply chain management practitioner of the municipality.

Bid adjudication committees

29. (1) A bid adjudication committee must -
- (a) consider the report and recommendations of the bid evaluation committee; and
 - (b) either-
 - (i) depending on its delegations, make a final award or a recommendation to the accounting officer to make the final award; or
 - (ii) make another recommendation to the accounting officer how to proceed with the relevant procurement.
- (2) A bid adjudication committee must consist of at least four senior managers of the municipality, which must include -

37 | Page

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (i) the chief financial officer or, if the chief financial officer is not available, another manager in the budget and treasury office reporting directly to the chief financial officer and designated by the chief financial officer; and
- (ii) at least one senior supply chain management practitioner who is an official of the municipality; and
- (iii) a technical expert in the relevant field who is an official, and who requests the goods /services must be co-opted any way. Outside technical experts can also be co-opted, they must leave the meeting after advice has been given. Only standing committee members can be involved in final deliberation and recommendations or final approval.

(d) Where the Bid Adjudication Committee is of the view that the tenderer is charging prices higher than the fair market price, the Bid Adjudication Committee may request for the AO/AA to subject the tender to price negotiations with the tenderers scoring the highest points (from first highest to third highest) before award is made.

- (3) The accounting officer must appoint the chairperson of the committee. If the chairperson is absent from a meeting, the members of the committee who are present must elect one of them to preside at the meeting.
- (4) Neither a member of a bid evaluation committee, nor an advisor or person assisting the evaluation committee, may be a member of a bid adjudication committee.
- (5)
 - (a) If the bid adjudication committee decides to award a bid other than the one recommended by the bid evaluation committee, the bid adjudication committee must prior to awarding the bid -
 - (i) check in respect of the preferred bidder whether that bidder's municipal rates and taxes and municipal service charges are not in arrears, and;
 - (ii) notify the accounting officer.
 - (b) The accounting officer may-

- (i) after due consideration of the reasons for the deviation, ratify or reject the decision of the bid adjudication committee referred to in paragraph (a); and
- (ii) if the decision of the bid adjudication committee is rejected, refer the decision of the adjudication committee back to that committee for reconsideration.
- (6) The accounting officer may at any stage of a bidding process, refer any recommendation made by the evaluation committee or the adjudication committee back to that committee for reconsideration of the recommendation.
- (7) The accounting officer must comply with section 114 of the Act within 10 working days
- (8) For the purposes of continuity and not to delay meetings the Accounting Officer may also appoint any official to temporarily replace members that are absent from meetings due to illness, leave, etc. The Accounting Officer may also decide whether or not such an official will have the same powers as committee members.

Procurement of banking services

30. (1) A contract for banking services-
- (a) must be procured through competitive bids;
 - (b) must be consistent with section 7 or 85 of the Act; and
 - (c) may not be for a period of more than five years at a time.
- (2) The process for procuring a contract for banking services must commence at least nine months before the end of an existing contract.
- (3) The closure date for the submission of bids may not be less than 60 days from the date on which the advertisement is placed in a newspaper in terms of paragraph 22(1). Bids must be restricted to banks registered in terms of the Banks Act, 1990 (Act No. 94 of 1990):

Procurement of IT related goods or services

31. (1) The accounting officer may request the State Information Technology Agency (SITA) to assist with the acquisition of IT related goods or services through a competitive bidding process.

- (2) Both parties must enter into a written agreement to regulate the services rendered by, and the payments to be made to, SITA.
- (3) The accounting officer must notify SITA together with a motivation of the IT needs if
 - (a) the transaction value of IT related goods or services required in any financial year will exceed R50 million (VAT included); or
 - (b) the transaction value of a contract to be procured whether for one or more years exceeds R50 million (VAT included).
- (4) If SITA comments on the submission and the municipality disagrees with such comments, the comments and the reasons for rejecting or not following such comments must be submitted to the council, the National Treasury, the relevant provincial treasury and the Auditor General.

Procurement of goods and services under contracts secured by other organs of state

32. (1) The accounting officer may procure goods or services under a contract secured by another organ of state, but only if -
- (a) the contract has been secured by that other organ of state by means of a competitive bidding process applicable to that organ of state;
 - (b) there is no reason to believe that such contract was not validly procured;
 - (c) there are demonstrable discounts or benefits to do so; and
 - (d) that other organ of state and the provider have consented to such procurement in writing.
- (2) Subparagraphs (1)(c) and (d) do not apply if-
- (a) a municipal entity procures goods or services through a contract secured by its parent municipality; or
 - (b) a municipality procures goods or services through a contract secured by a municipal entity of which it is the parent municipality.

Procurement of goods necessitating special safety arrangements

33. (1) The acquisition and storage of goods in bulk (other than water), which necessitate special safety arrangements, including gasses and fuel, should be avoided where ever possible.
- (2) Where the storage of goods in- bulk is justified, such justification must be based on sound reasons, including the total cost of ownership, cost advantages and environmental impact and must be approved by the accounting officer.

Proudly SA Campaign

34. The municipality supports the Proudly SA Campaign to the extent that, all things being equal, preference is given to procuring local goods and services from:
- Firstly - suppliers and businesses within the municipality or district;
 - Secondly - suppliers and businesses within the relevant province; □
 - Thirdly - suppliers and businesses within the Republic.

Appointment of consultants

35. (1) The accounting officer may procure consulting services provided that any Treasury guidelines in respect of consulting services are taken into account when such procurements are made.
- (2) Consultancy services must be procured through competitive bids if (a) the value of the contract exceeds R200 000 (VAT included); or (b) the duration period of the contract exceeds one year.
- (3) In addition to any requirements prescribed by this policy for competitive bids, bidders must furnish particulars of -
- (a) all consultancy services provided to an organ of state in the last five years; and
 - (b) any similar consultancy services provided to an organ of state in the last five years.
- (4) The accounting officer must ensure that copyright in any document produced, and the patent rights or ownership in any plant, machinery, thing, system or

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

process designed or devised, by a consultant in the course of the consultancy service is vested in the municipality.

Deviation from, and ratification of minor breaches of, procurement processes

36. (1) The accounting officer may -

- (a) dispense with the official procurement processes established by this Policy and to procure any required goods or services through any convenient process, which may include direct negotiations, but only -
 - (i) in an emergency;
 - (ii) if such goods or services are produced or available from a single provider only;
 - (iii) for the acquisition of special works of art or historical objects where specifications are difficult to compile;
 - (iv) acquisition of animals for zoos and/or nature and game reserves; or
 - (v) in any other exceptional case where it is impractical or impossible to follow the official procurement processes; and
 - (b) ratify any minor breaches of the procurement processes by an official or committee acting in terms of delegated powers or duties which are purely of a technical nature.
- (2) The accounting officer must record the reasons for any deviations in terms of subparagraphs (1)(a) and (b) of this policy and report them to the next meeting of the council and include as a note to the annual financial statements.
- (3) Subparagraph (2) does not apply to the procurement of goods and services contemplated in paragraph 11 (2) of this policy.
- (4) **Management of expansion or variation of orders against the original contract**

- (i) Contracts may be expanded or varied by not more than 20% for construction related goods, services and /or infrastructure projects and 15% for all other goods and/or services of the original value of the contract. Furthermore, anything beyond the

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

above mentioned thresholds must be reported to council. Any expansion or variation in excess of these thresholds must be dealt with in terms of the provisions of Section 116 (3) of the MFMA which will be regarded as an amendment of the contract.

- (ii) The contents of this paragraph are not applicable to transversal contracts, facilitated by the relevant treasuries on behalf of municipalities and specific term contracts. The latter refers to orders placed as and when commodities are required and at the time of awarding contracts, the required quantities were unknown.

Unsolicited bids

37. (1) In accordance with section 113 of the Act there is no obligation to consider unsolicited bids received outside a normal bidding process.
- (2) The accounting officer may decide in terms of section 113(2) of the Act to consider an unsolicited bid, only if-
- (a) the product or service offered in terms of the bid is a demonstrably or proven unique innovative concept;
 - (b) the product or service will be exceptionally beneficial to, or have exceptional cost advantages;
 - (c) the person who made the bid is the sole provider of the product or service; and
 - (d) the reasons for not going through the normal bidding processes are found to be sound by the accounting officer.
- (3) If the accounting officer decides to consider an unsolicited bid that complies with subparagraph (2) of this policy, the decision must be made public in accordance with section 21A of the Municipal Systems Act, together with
- (a) its reasons as to why the bid should not be open to other competitors;
 - (b) an explanation of the potential benefits if the unsolicited bid were accepted; and
 - (c) an invitation to the public or other potential suppliers to submit their comments within 30 days of the notice.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (4) The accounting officer must submit all written comments received pursuant to subparagraph (3), including any responses from the unsolicited bidder, to the National Treasury and the relevant provincial treasury for comment.
- (5) The adjudication committee must consider the unsolicited bid and may award the bid or make a recommendation to the accounting officer, depending on its delegations.
- (6) A meeting of the adjudication committee to consider an unsolicited bid must be open to the public.
- (7) When considering the matter, the adjudication committee must take into account -
 - (a) any comments submitted by the public; and
 - (b) any written comments and recommendations of the National Treasury or the relevant provincial treasury.
- (8) If any recommendations of the National Treasury or Provincial Treasury are rejected or not followed, the accounting officer must submit to the Auditor General, the relevant provincial treasury and the National Treasury the reasons for rejecting or not following those recommendations.
- (9) Such submission must be made within seven days after the decision on the award of the unsolicited bid is taken, but no contract committing the municipality to the bid may be entered into or signed within 30 days of the submission.

Combating of abuse of supply chain management system

38. (1) The accounting officer must-
- (a) take all reasonable steps to prevent abuse of the supply chain management system;
 - (b) investigate any allegations against an official or other role player of fraud, corruption, favouritism, unfair or irregular practices or failure to comply with this Policy, and when justified -
 - (i) take appropriate steps against such official or other role player; or
 - (ii) report any alleged criminal conduct to the South African Police

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Service;

- (c) check the National Treasury's database prior to awarding any contract to ensure that no recommended bidder, or any of its directors, is listed as a person prohibited from doing business with the public sector;
 - (d) reject any bid from a bidder-
 - (i) if any municipal rates and taxes or municipal service charges owed by that bidder or any of its directors to the municipality or to any other municipality, are in arrears for more than **three months**; or
 - (ii) who during the last five years has failed to perform satisfactorily on a previous contract with the municipality or any other organ of state after written notice was given to that bidder that performance was unsatisfactory;
 - (e) reject a recommendation for the award of a contract if the recommended bidder, or any of its directors, has committed a corrupt or fraudulent act in competing for the particular contract;
 - (f) cancel a contract awarded to a person if -
 - (i) the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract; or
 - (ii) an official or other role player committed any corrupt or fraudulent act during the bidding process or the execution of the contract that benefited that person; and
 - (g) reject the bid of any bidder if that bidder or any of its directors -
 - (i) has abused the supply chain management system of the municipality or has committed any improper conduct in relation to such system;
 - (ii) has been convicted for fraud or corruption during the past five years;
 - (iii) has wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - (iv) has been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- (2) The accounting officer must inform the National Treasury and relevant provincial treasury in writing of any actions taken in terms of subparagraphs (1)(b)(ii), (e) or (f) of this policy.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (3) The accounting officer [who may delegate the task to the CFO] must, as part of complying with section 62[1][d] of the MFMA set up and maintain a register of Unauthorised, Irregular, Fruitless and Wasteful Expenditures. The aim with the register is also to serve as a tool for recording all unauthorised, irregular, fruitless and wasteful expenditures and for tracking progress in dealing with the consequences flowing from such expenditures until all the issues that gave rise to the expenditures are properly resolved in accordance with the legal framework. Please also consult National Treasury MFMA Circular 68 dated 10 May 2013 in this regard.

(4) **REMEDIES**

The regulation has been enhanced to include sub-regulations related to:

i) Giving tenderer an opportunity to make a submission; ii) Informing the relevant treasury in writing of any actions taken against the tenderer;

- iii) The responsibilities of the treasury after receiving documents from the organ of state concerned.

Part 3: Logistics, Disposal, Risk and Performance Management

Logistics management

39. The accounting officer must establish and implement an effective system of logistics management, which must include -
- (a) the monitoring of spending patterns on types or classes of goods and services incorporating, where practical, the coding of items to ensure that each item has a unique number;
 - (b) the setting of inventory levels that includes minimum and maximum levels and lead times wherever goods are placed in stock;
 - (c) the placing of manual or electronic orders for all acquisitions other than those from petty cash;
 - (d) before payment is approved, certification by the responsible officer that the goods and services are received or rendered on time and is in accordance with the order, the general conditions of contract and specifications where applicable and that the price charged is as quoted in terms of a contract; .

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (e) appropriate standards of internal control and warehouse management to ensure that goods placed in stores are secure and only used for the purpose for which they were purchased;
- (f) regular checking to ensure that all assets including official vehicles are properly managed, appropriately maintained and only used for official purposes; and
- (g) monitoring and review of the supply vendor performance to ensure compliance with specifications and contract conditions for particular goods or services.
- (h) the maintenance and administration of term contracts is co-managed with acquisition management for general goods / services.

Disposal management

- 40.(1) The criteria for the disposal or letting of assets, including unserviceable, redundant or obsolete assets, subject to sections 14 and 90 of the Act, are to be determined by council.
- (2) Assets may be disposed of by -
- (a) (i) transferring the asset to another organ of state in terms of a provision of the Act enabling the transfer of assets;
 - (ii) transferring the asset to another organ of state at market related value or, when appropriate, free of charge;
 - (iii) selling the asset; or
 - (b) The accounting officer must stipulate that -
 - (i) immovable property is sold only at market related prices except when the public interest or the plight of the poor demands otherwise;
 - (ii) movable assets are sold either by way of written price quotations, a competitive bidding process, auction or at market related prices, whichever is the most advantageous;
 - (iii) in the case of free disposal of computer equipment, the provincial department of education must first be approached to indicate within 30 days whether any of the local schools are interested in the equipment; and

- (iv) in the case of disposal of firearms, the National Conventional Arms Control Committee has approved any sale or donation of firearms to any person or institution within or outside the Republic;
- (c) provide that -
 - (i) immovable property is let at market related rates except when the public interest or the plight of the poor demands otherwise;
 - (ii) all fees, charges, rates, tariffs, scales of fees or other charges relating to the letting of immovable property are annually reviewed;
- (d) where assets are traded in for other assets, the highest possible trade-in price is negotiated.

Risk management

41. (1) The criteria for the identification, consideration and avoidance of potential risks in the supply chain management system, are to be determined by council
- (2) Risk management must include -
- (a) the identification of risks on a case-by-case basis;
 - (b) the allocation of risks to the party best suited to manage such risks;
 - (c) acceptance of the cost of the risk where the cost of transferring the risk is greater than that of retaining it;
 - (d) the management of risks in a pro-active manner and the provision of adequate cover for residual risks; and
 - (e) the assignment of relative risks to the contracting parties through clear and unambiguous contract documentation.

Performance management

42. The accounting officer must establish and implement an internal monitoring system in order to determine, on the basis of a retrospective analysis, whether the authorised supply chain management processes were followed and whether the objectives of this Policy were achieved.

Part 4: Other matters

Prohibition on awards to persons whose tax matters are not in order

43. (1) No award above R 15 000 [all taxes included], may be made in terms of this Policy to a person whose tax matters have not been declared by the South African Revenue Service to be in order.
- (2) Before making an award to a person the accounting officer must first check with SARS whether that person's tax matters are in order.
- (3) If SARS does not respond within 7 days such person's tax matters may for purposes of subparagraph (1) be presumed to be in order.

Prohibition on awards to persons in the service of the state

44. Irrespective of the procurement process followed, no award may be made to a person in terms of this Policy - (a) who is in the service of the state;
- (b) if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state;
- or
- (c) a person who is an advisor or consultant contracted with the municipality.

Awards to close family members of persons in the service of the state

45. The accounting officer must ensure that the notes to the annual financial statements disclose particulars of any award of more than R2000 to a person who is a spouse, child or parent of a person in the service of the state, or has been in the service of the state in the previous twelve months, including -
- (a) the name of that person;
- (b) the capacity in which that person is in the service of the state; and (c) the amount of the award.

Ethical standards

- 46.(1) A code of ethical standards as set out in subparagraph (2) is hereby established for officials and other role players in the supply chain management system of the municipality in order to promote -

- (a) mutual trust and respect; and
- (b) an environment where business can be conducted with integrity and in a fair and reasonable manner. **Note:**

It is recommended that the municipality or municipal entity adopt the 'National Treasury's code of conduct for supply chain management practitioners and other role players involved in supply chain management'. When adopted, such code of conduct becomes binding on all officials and other role players involved in the implementation of the supply chain management policy of the municipality or municipal entity. A copy of the National Treasury code of conduct is available on the website www.treasury.gov.za/mfma located under "legislation". This code of conduct must be adopted by council or board of directors to become binding.

- (2) An official or other role player involved in the implementation of this Policy -
- (a) must treat all providers and potential providers equitably;
 - (b) may not use his or her position for private gain or to improperly benefit another person;
 - (c) may not accept any reward, gift, favour, hospitality or other benefit directly" or indirectly, including to any close family member, partner or associate of that person, of a value more than R350;
 - (d) notwithstanding subparagraph (2) (c), must declare to the accounting officer details of any reward, gift, favour, hospitality or other benefit promised, offered or granted to that person or to any close family member, partner or associate of that person;
 - (e) must declare to the accounting officer details of any private or business interest which that person, or any close family member, partner or associate, may have in any proposed procurement or disposal process of, or in any award of a contract by, the municipality;
 - (f) must immediately withdraw from participating in any manner whatsoever in a procurement or disposal process or in the award of a contract in which that person, or any close family member, partner or associate, has any private or business interest;
 - (g) must be scrupulous in his or her use of property belonging to

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

municipality ;

- (h) must assist the accounting officer in combating fraud, corruption, favouritism and unfair and irregular practices in the supply chain management system; and
- (i) must report to the accounting officer any alleged irregular conduct in the supply chain management system which that person may become aware of, including -
 - (i) any alleged fraud, corruption, favouritism or unfair conduct;
 - (ii) any alleged contravention of paragraph 47(1) of this Policy; or
 - (iii) any alleged breach of this code of ethical standards.
- (3) Declarations in terms of subparagraphs (2)(d) and (e) -
 - (a) must be recorded in a register which the accounting officer must keep for this purpose;
 - (b) by the accounting officer must be made to the council of the municipality who must ensure that such declarations are recorded in the register.
- (4) The National Treasury's code of conduct must also be taken into account by supply chain management practitioners and other role players involved in supply chain management.
- (5) A breach of the code of ethics must be dealt with as follows -
 - (a) in the case of an employee, in terms of the disciplinary procedures of the municipality *envisaged* in section 67(1)(h) of the Municipal Systems Act;
 - (b) in the case a role player who is not an employee, through other appropriate means in recognition of the severity of the breach.
 - (c) In all cases, financial misconduct must be dealt with in terms of chapter 15 of the Act.

Inducements, rewards, gifts and favours to municipalities, officials and other role players

- 47.(1) No person who is a provider or prospective provider of goods or services, or a recipient or prospective recipient of goods disposed or to be disposed of may either directly or through a representative or intermediary promise, offer or grant -
- (a) any inducement or reward to the municipality for or in connection with the award-of a contract; or
 - (b) any reward, gift, favour or hospitality to -
 - (i) any official; or
 - (ii) any other role player involved in the implementation of this Policy.
- (2) The accounting officer must promptly report any alleged contravention of subparagraph (1) to the National Treasury for considering whether the offending person, and any representative or intermediary through which such person is alleged to have acted, should be listed in the National Treasury's database of persons prohibited from doing business with the public sector.
- (3) Subparagraph (1) does not apply to gifts less than R350 in value.

Sponsorships

48. The accounting officer must promptly disclose to the National Treasury and the relevant provincial treasury any sponsorship promised, offered or granted, whether directly or through a representative or intermediary, by any person who is -
- (a) a provider or prospective provider of goods or services; or
 - (b) a recipient or prospective recipient of goods disposed or to be disposed.

Objections and complaints

49. Persons aggrieved by decisions or actions taken in the implementation of this supply chain management system, may lodge within 14 days of the decision or action, a written objection or complaint against the decision or action.

Resolution of disputes, objections, complaints and queries

50. (1) The accounting officer must appoint an independent and impartial person, not directly involved in the supply chain management processes -

- (a) to assist in the resolution of disputes between the municipality and other persons regarding
 - (i) any decisions or actions taken in the implementation of the supply chain management system; or
 - (ii) any matter arising from a contract awarded in the course of the supply chain management system; or
 - (b) to deal with objections, complaints or queries regarding any such decisions or actions or any matters arising from such contract.
- (2) The accounting officer, or another official designated by the accounting officer, is responsible for assisting the appointed person to perform his or her functions effectively.
- (3) The person appointed must ~
- (a) strive to resolve promptly all disputes, objections, complaints or queries received; and
 - (b) submit monthly reports to the accounting officer on all disputes, objections, complaints or queries received, attended to or resolved.
- (4) A dispute, objection, complaint or query may be referred to the relevant provincial treasury if -
- (a) the dispute, objection, complaint or query is not resolved within 60 days; or
 - (b) no response is forthcoming within 60 days.
- (5) If the provincial treasury does not or cannot resolve the matter, the dispute, objection, complaint or query may be referred to the National Treasury for resolution.
- (6) This paragraph must not be read as affecting a person's rights to approach a court at any time.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Contracts providing for compensation based on turnover-

53. If a service provider acts on behalf of municipality to provide any service or act as a collector of fees, service charges or taxes and the compensation payable to the service provider is fixed as an agreed percentage of turnover for the service or the amount collected, the contract between the service provider and the municipality must stipulate -

- (a) a cap on the compensation payable to the service provider; and
- (b) that such compensation must be performance based.

CIRCULARS AND GUIDELINES

EFFECTIVE YEAR	DESCRIPTION	CIRCULAR NO
<u>2017-18:</u>		
18 July 2016	E-Tender Portal	83
Updated November 2016	Cost Containment Measures	82
18 March 2016	Central Supplier Database	81
26 Oct 2015	Model SCM Policy for infrastructure Procurement and Delivery Management	77
13 May 2014	Systems of Delegations	73
22 May 2013	SCM on Local Production and Content	69
10 May 2013	Unauthorised, Irregular, Fruitless and Wasteful Expenditure	68
20 Aug 2012	SCM Enhancing Compliance and Accountability	62
03 Sep 2010	Supply Chain Management – Amended Guidelines on Functionality for Evaluation of Bids	53

30 July 2010	Supply Chain Management – Prohibition of	52	
	Restrictive Practices		
17 March 2008	Supply Chain Management – Checking the prohibition status of recommended bidders	46	
25 May 2007	Supply Chain Management – Restriction of Suppliers	43	
20 Oct 2006	Supply Chain Management Implementation Checklist	40	
28 June 2006	Supply Chain Management Issues	34	
27 March 2006	Supply Chain Management Issues	33	
31 Jan 2006	Supply Chain Management Issues	29	
03 Oct 2005	Supply Chain Management Guide and Bid Documents	25	
20 April 2005	Supply Chain Management Training	16	
25 Aug 2005	Model Policy Supply Chain Management	22	

GUIDELINES

1.	Supply Chain Management: A Guide for Accounting Officers of Municipalities and Municipal Entities

Commencement

54. This Policy takes effect on

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2