



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO
EAST AND WEST)



TENDER COVER PAGE

MBD 1

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF JOHANNESBURG WATER

BID NUMBER: JW14506

CLOSING DATE: 30 SEPTEMBER 2026 CLOSING TIME: 10:30 AM

DESCRIPTION: COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO EAST AND WEST)

CIDB REQUIREMENTS: TENDERERS SHOULD HAVE A CONTRACTOR CIDB GRADING OF 8CE OR HIGHER

BRIEFING SESSION	COMPULSORY: YES
BRIEFING DETAILS	DATE AND TIME: 11 AUGUST 2026 AT 13:00 PM ADDRESS: TURBINE HALL, 65 NTEMI PILISO STREET, NEWTOWN, JOHANNESBURG, 2001 VENUE: AUDITORIUM TENDERS RECEIVED FROM NON-ATTENDED BIDDERS OF A COMPULSORY BRIEFING SESSION WILL NOT BE ACCEPTED
TENDER SUBMISSION DETAILS	BID DOCUMENTS MUST BE DEPOSITED IN THE TENDER BOX SITUATED AT GROUND FLOOR IN JOHANNESBURG WATER ADDRESS: TURBINE HALL, 65 NTEMI PILISO STREET, NEWTOWN, JOHANNESBURG, 2001 PLEASE ALLOW SUFFICIENT TIME TO ACCESS JOHANNESBURG WATER OFFICES IN TURBINE HALL AND DEPOSIT YOUR TENDER DOCUMENT IN THE JOHANNESBURG WATER TENDER BOX SITUATED AT RECEPTION BEFORE TENDER CLOSING TIME. TIMES: THE BUILDING WILL OPEN 7 DAYS A WEEK FROM 06:00 UNTIL 18:00

BIDDER INFORMATION				
NAME OF BIDDER				
POSTAL ADDRESS				
PHYSICAL ADDRESS				
TELEPHONE NUMBER				
CELLPHONE NUMBER				
E-MAIL ADDRESS				
VAT REGISTRATION NUMBER				
TAX COMPLIANCE STATUS	TCS PIN		MAAA No	
OTHER STATUS	COIDA Registration No		CIDB No	

EMPLOYER INFORMATION			
DEPARTMENT	CAPEX	DEPARTMENT	SCM
CONTACT PERSON	ALUWANI MATODZI	CONTACT PERSON	GCINA NDELA
TELEPHONE NUMBER	060 555 3144	TELEPHONE NUMBER	011 688 1796
E-MAIL ADDRESS	aluwani.matodzi@jwater.co.za	E-MAIL ADDRESS	gcina.ndela@jwater.co.za



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DOCUMENTS DOWNLOADED FROM THE ETENDER PORTAL IS AT NO COST BUT MUST COMPLY WITH SUBMISSION REQUIREMENTS.

WITHOUT LIMITATION, JOHANNESBURG WATER TAKES NO RESPONSIBILITY FOR ANY DELAYS IN ANY COURIER OR POSTAL SYSTEM OR ANY LOGISTICAL DELAYS WITHIN THE PREMISES OF JOHANNESBURG WATER. JOHANNESBURG WATER LIKewise TAKES NO RESPONSIBILITY FOR OFFERS DELIVERED TO A LOCATION OTHER THAN THE TENDER BOX AS PER THE TENDER SUBMISSION DETAILS STATED IN THE TENDER. PROOF OF POSTING OR OF COURIER DELIVERY WILL NOT BE TAKEN BY JOHANNESBURG WATER AS PROOF OF DELIVERY. TENDER SUBMISSION DOCUMENTS MUST BE IN THE BOX BEFORE TENDER CLOSURE.

The current Johannesburg Water Supply Chain policy is applicable which is available on the JW website www.johannesburgwater.co.za

THE TENDERER IS ENCOURAGED TO SIGN THE TENDER SUBMISSION REGISTER WHEN SUBMITTING THEIR TENDERS.

**PLEASE ENSURE YOU SUBMIT 1 x ORIGINAL TENDER HARD DOCUMENT
(IF PRACTICAL, ALSO PROVIDE AN ELECTRONIC COPY IN A MEMORY STICK/USB TO ENSURE INFORMATION IS NOT MISSED WHEN TENDERS ARE BEING EVALUATED BY THE BID EVALUATION COMMITTEE – NON-SUBMISSION OF ELECTRONIC COPY AND MEMORY STICK/USB WILL NOT LEAD TO DISQUALIFICATION).**

Any documents required that are not submitted in the tender box at the deadline will be considered late.

The tenderer accepts that Johannesburg Water will not take responsibility for the misplacement or premature opening of the tender if the outer package is not sealed and marked as stated.

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

NAME OF CONTACT PERSON:

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:



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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, 2022, 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.



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TENDER NOTICE AND INVITATION TO TENDER

1. TENDER NOTICE AND INVITATION TO TENDER

Johannesburg Water (SOC) Ltd invites the tenderer for the following:

**CONTRACT NO. JW14506: - COMPLETION OF SOWETO INFRASTRUCTURE
UPGRADE AND REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO EAST
AND WEST)**

The tender document will be available in the form of a download from the Johannesburg Water website (<https://www.johannesburgwater.co.za/scm/supply-chain/tenders/all-open-tenders/>) starting from 27 July 2026

The Employer is Johannesburg Water.

All tenders and supporting documents must be submitted in a sealed envelope and be placed in the Tender box on the ground floor of Johannesburg Water by no later than 10:30 am on 30 September 2026

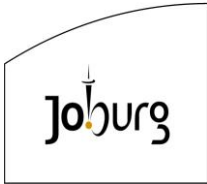
Address is as follows:

TURBINE HALL, 65 NTEMI PILISO STREET, NEWTOWN, JOHANNESBURG, 2001

Johannesburg Water (SOC) Ltd is not obliged to accept the lowest or any tender and Johannesburg Water reserves to appoint:

- a) in whole or in part.
- b) to more than one tenderer.
- c) to the highest points scoring bidder.
- d) to the lowest acceptable tender or highest acceptable tender in terms of the point scoring system.
- e) to a bidder not scoring the highest points (based on objective grounds in terms of section 2 (1) (f) of the PPPFA) (where applicable).
- f) not to consider any bid with justifiable reasons.

A valid and binding contract with the successful tender/s will be concluded once Johannesburg Water has awarded the contract. Johannesburg Water (SOC) Ltd and the successful tenderer/s will sign the contract agreement forms.



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VOLUME 1 TENDER PART 1: TENDERING PROCEDURES
SECTION T1.1 TENDER DATA



Johannesburg Water SOC Ltd

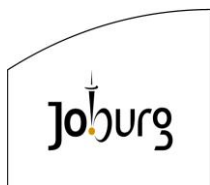


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VOLUME 1

TENDER PART 1: TENDERING PROCEDURES



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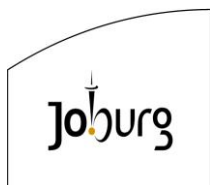
The Tenderer is to indicate in the “Submitted (Yes/No)” column in the below table that they have completed the required section of the tender document. Completion of this checklist will assist the Tenderer in ensuring that they have attended to all the required items for submission with this tender. Additionally, it is an absolute requirement that tenderers comply with National Treasury’s CSD registration as well as SARS tax compliance requirements for contract award – refer T2.2.4. The below will form part of the tender document, the tenderers are therefore encouraged to submit the returnable and or documentation with their tender offer to avoid elimination especially with regards to what is stated in the Required for Tender Evaluation column or not obtaining points for Specific Goals. Tenderers are encouraged to ensure that their Tax status remains Tax Compliant on CSD throughout the process to avoid delaying the process or being eliminated at award stage. For infrastructure related projects. Tenderer must have a CIDB Active Status at the requested CIDB requirement at evaluation stage to avoid disqualification.

All documentation listed in the Checklist below shall form part of the Contract.

Table 1

Ref	Description of Returnable/s or Documentation that will form Part of Contract and must therefore to be Completed and / or Submitted by the Tenderer	Required for Tender Evaluation	Required for Tender Award	Required After Tender Award	Submitted (Yes/No)
1	Tender Cover:				
	Name of Tender	•			
	Contact Person	•			
	Telephone Number	•			
	Central Supplier Database Registration	•			
	CIDB Registration Number	•			
	COIDA Registration Number			•	
	Tax SARS PIN No.		•		
2	Mandatory Documents at Particular Stage:				
	CIDB grading of 8CE or higher. Active Status at the required CIDB grading or higher at the time of Evaluation	•			
	Mandatory Tender Briefing Meeting	•			
	Complete and sign the Form of Offer	•			
T2.3.3	Financial Capacity: Submit not older than 30 days Bank-stamped bank statements (only the page that shows the balance) and/or bank-stamped overdraft facilities and bank-stamped bank confirmation letter. For this requirement, contractors are required to demonstrate to have a minimum of 10% of the amount indicated in the form of offer excluding VAT and contingencies. Failure to comply with this	•			

Employer:		Contractor:	
Witness:		Witness:	

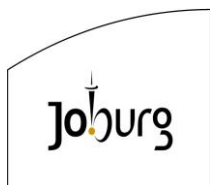


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Ref	Description of Returnable/s or Documentation that will form Part of Contract and must therefore to be Completed and / or Submitted by the Tenderer	Required for Tender Evaluation	Required for Tender Award	Required After Tender Award	Submitted (Yes/No)
	requirement will be deemed non-compliance by the contractor and will be disqualified immediately. *JW reserves the right of confirming authenticity of submissions with the financial institution, and any misrepresentation will lead to immediate disqualification.				
3	Administrative Documentation:				
T2.1.1	Record of Addenda to Tender Documents	•			
T2.1.2	Signed Certificate of Authority to Sign	•	•		
T2.1.3	Compulsory Enterprise Questionnaire	•			
	MBD 1 - Invitation to Bid - Completed and signed	•	•		
	Central Supplier Database Registration	•			
T2.1.4	MBD 4 - Declaration of interest - Completed and signed	•	•		
T2.1.4	MBD 5 - Declaration for procurement above R10 Million (all applicable taxes included) - Completed and signed.	•	•		
T2.1.4	MBD 6.1 - Preference Points Schedule – Specific Goals and Price Points - Completed and signed.	•			
T2.1.4	MBD 8 - Bidder's past supply chain management practices – Completed and signed.	•	•		
T2.1.4	MBD 9 - Certificate of Independent Bid Determination – Completed and signed.	•	•		
	Municipal Rates and Taxes for the Company - Current municipal rates for the company not older than 90 days (if leasing/renting, submitted proof such as lease agreement where premises are rented), OR Confirmation that suitable arrangements are in place for arrear municipal obligations with your local municipality. OR Current municipal rates which is not older than 90 days or valid lease agreement with affidavit from owner of property in cases stated in Proof	•	•		

Employer:		Contractor:	
Witness:		Witness:	

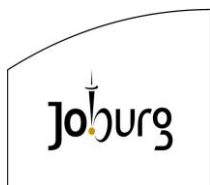


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Ref	Description of Returnable/s or Documentation that will form Part of Contract and must therefore be Completed and / or Submitted by the Tenderer	Required for Tender Evaluation	Required for Tender Award	Required After Tender Award	Submitted (Yes/No)
	of Good Standing with Regards to Municipal Accounts document in the Tender.				
	Municipal Rates and Taxes - Current municipal rates for the directors of the entity not older than 90 days (if leasing/renting, submitted proof such of lease agreement where premises are rented), OR Confirmation that suitable arrangements are in place for arrear municipal obligations with your local municipality. OR Current municipal rates which is not older than 90 days or valid lease agreement with affidavit from owner of property in cases stated in Proof of Good Standing with Regards to Municipal Accounts document in the Tender	•	•		
	3-year financial statements (audited where applicable)	•	•	•	
	Joint Venture Consortium or equivalent Agreement signed by all parties if applicable.	•	•		
	Any qualifications. If "Yes", reference to such qualification/s must be indicated on a cover letter. Please be aware that alterations on the tender document may result in your tender being eliminated as the qualification may impede on the ability to evaluate like with like.	•	•		
T2.1.5	Proposed Amendments and Qualifications	•			
4.	Functionality Documentation:				
	Documentary Evidence Required for Criteria 1 (Contactable Reference Letters, Appointment Letters and Completion / Final Approval Certificates)	•			
5.	Specific Goals:				
	Documentary Evidence Required for specific goal 1 – (Valid Construction Sector BBEE Certificate issued by SANAS accredited verification agency or DTI/CIPC BBEE Certificate for Exempted Micro Enterprises or Affidavit sworn under oath, OR CIPC registration document showing percentage of ownership and share certificate where applicable)	•			

Employer:		Contractor:	
Witness:		Witness:	

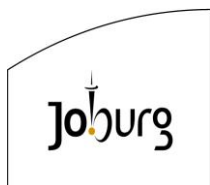


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Ref	Description of Returnable/s or Documentation that will form Part of Contract and must therefore to be Completed and / or Submitted by the Tenderer	Required for Tender Evaluation	Required for Tender Award	Required After Tender Award	Submitted (Yes/No)
	Documentary Evidence Required for specific goal 2 – (Proof of municipal account / valid lease agreement, letter from the Ward Council confirming the business address. Businesses that operate from personal properties are required to submit an affidavit)	•			
	Documentary Evidence Required for Criteria 3 – (Valid Construction Sector BBEE Certificate issued by SANAS accredited verification agency or DTI/CIPC BBEE Certificate for Exempted Micro Enterprises or Affidavit sworn under oath, OR CIPC registration document showing percentage of ownership and share certificate where applicable)	•			
6.	Scope of Work:				
	Scope of Work and Specifications	•			
7.	Pricing Schedule:				
	Bill of Quantities/ Schedule of Quantities. completed	•			
	Alterations authenticated – Refer to Acknowledgment of Tender Conditions	•			
8.	Site Information:				
	Site Information	•			
9.	Occupational Health, Safety and Environmental Specification				
T2.3.1	Acknowledgement of SHE Specification & Annexures	•			
10.	Tender Drawings:				
T2.3.2	Acknowledgement of Project Tender Drawings	•			
11.	Terms and Conditions:				
	General Conditions of Contract	•			
	Tender Data	•			
	Pricing Data	•	•		
12.	Other Documents				
	Form of Acceptance (do not complete Form of Acceptance it will be completed by JW official)				
	Public Liability Insurance			•	
	Insurance of Works			•	
	Common Law Liability Insurance			•	

Employer:		Contractor:	
Witness:		Witness:	



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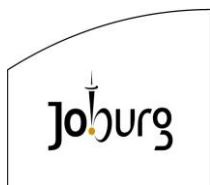


Ref	Description of Returnable/s or Documentation that will form Part of Contract and must therefore to be Completed and / or Submitted by the Tenderer	Required for Tender Evaluation	Required for Tender Award	Required After Tender Award	Submitted (Yes/No)
	Insurance of Construction Plant and Equipment			•	
	Valid Registration with Compensation for Occupation Injuries and Diseases Act			•	
	Performance Guarantee			•	
	Comprehensive Health and Safety Plan (compliance with OHSE Specification - if applicable)			•	
	Bank Details Form			•	

Tenderers will be notified of any omitted, outstanding, missing and or incomplete administrative documents and will be offered a period of 3 days to complete or submit those pages i.e., Municipal Bidding Documents (MBD), authority to sign and other administrative documents that require completion and signatures. These exclude documentation on functionality, price, and preference points for specific goals. Tenders that are received contrary to the above requirements will be disqualified after three (3) days period has lapsed. If locality is a specific goal in MBD6.1 – the requested documentation may not be used to allocate points for specific goals.

Signature: _____ Date: _____

Employer:		Contractor:	
Witness:		Witness:	



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JOHANNESBURG WATER POPIA PRIVACY STATEMENT

In terms of the Protection of Personal Information Act, 213 (Act 4 of 2013), also called the POPI Act or POPIA, Johannesburg Water SOC Limited, undertakes all reasonable measures to protect personal information and to keep it private and confidential.

1. Privacy Notice applies to:

Suppliers, vendors, contractors, service providers, etc whether appointed or prospective.

2. Definitions of personal information

According to the Act “personal information” means information relating to an identifiable living, natural person, and where it is applicable, an identifiable, existing juristic person. All addresses including residential, postal and email addresses.

3. About the Public Entity

Johannesburg Water (SOC) Limited, registration number 2000/029271/30

3.1 The information we collect

We collect information directly from you where you provide us with your personal details. Where possible, we will inform you what information you are required to provide to us and what information is optional.

3.2 How Johannesburg Water use your information

We will use your personal information only for the purposes for which it was collected and agreed with you. For example: to gather contact information, to confirm and verify your identity, for the evaluation and adjudication of bids and quotations for tenders, request for quotations, and other personal information for the procurement of goods and services by the Entity.

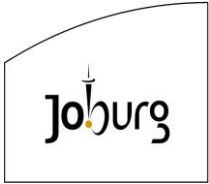
3.3 Disclosure of information

We may disclose your personal information to our Shareholder, the City of Johannesburg, and other Government agencies such as National Treasury, and the Auditor-General of South Africa. We have agreements in place to ensure that they comply with the privacy requirements as required by the Protection of Personal Information Act.

We may also disclose your information:

- Where we have a duty or a right to disclose in terms of law;
- Where we believe it is necessary to protect our rights.

Employer:		Contractor:	
Witness:		Witness:	



3.4 Information Security

We are legally obliged to provide adequate protection for the personal information we hold and to stop unauthorised access and use of personal information. We will, on an ongoing basis, continue to review our security controls and related processes to ensure that your personal information remains secure.

When we contract with third parties, we impose appropriate security, privacy and confidentiality obligations on them to ensure that personal information that we remain responsible for, is kept secure. We will ensure that anyone whom we pass your personal information agrees to treat your information with the same level of protection as we are obliged to.

3.5 Your rights: Access to Information

You have the right to request a copy of the personal information we hold about you. To do this, simply contact us at informationofficer@jwater.co.za, and specify what information you require.

3.6 Correction of your personal information

You have the right to ask us to update, correct or delete your personal information. We will require a copy of your identification document to confirm your identity before making changes to personal information we may hold about you. We would appreciate it if you would keep your personal information accurate and up to date.

3.7 How to contact us

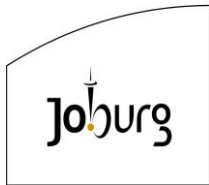
If you have any queries about this document; you need further information about our privacy practices; wish to withdraw consent; exercise preferences or access or correct your personal information, please contact us at the numbers listed on our website or send an email to informationofficer@jwater.co.za.

Name of authorised person:.....

Signature:

Date:.....

Employer:		Contractor:	
Witness:		Witness:	



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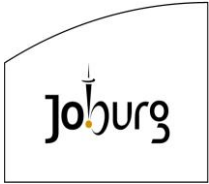


CONSENT TO PROCESS PERSONAL INFORMATION IN TERMS OF THE PROTECTION OF PERSONAL INFORMATION ACT, NO. 4 OF 2013 (POPIA)

The purpose of the Protection of Personal Information Act, no. 4 of 2013 (POPIA), is to protect personal information of individuals and businesses and to give effect to their right of privacy as provided for in the Constitution. By signing this form, you consent to lawful collection, processing, storage and, where necessary, sharing your personal information by Johannesburg Water SOC Ltd. and consent is effective immediately and will remain effective until such consent is withdrawn in terms of POPIA.

1. I a natural person "herein referred to as the Data Subject" with ID Number hereby give my consent to Johannesburg Water SOC Ltd. "herein referred to as the Responsible Party" to collect, process and distribute my personal information where Johannesburg Water SOC Ltd. is legally required to do so.
2. I understand my right to privacy and the right to have my personal information processed in accordance with the conditions for the lawful processing of personal information.
3. I understand the purposes for which my personal information is required and for which it will be used and consent to third parties accessing my personal information and to Johannesburg Water SOC Ltd. sharing my personal information strictly for reporting purposes.
4. I understand that, should I refuse to provide Johannesburg Water SOC Ltd. with the required consent and/or information, Johannesburg Water SOC Ltd. will be unable to assist me.
5. I declare that all my personal information supplied to Johannesburg Water SOC Ltd. is accurate, up to date, not misleading and that it is complete in all respects and that I will notify Johannesburg Water SOC Ltd. of any changes to my Personal Information should any of these details change.
6. I also understand that I have the right to request that my personal information be corrected or deleted, if it is inaccurate, irrelevant, excessive, out of date, incomplete, misleading, or obtained unlawfully or that the personal information or record be destroyed or deleted if the Responsible Party is no longer authorised to retain it

Employer:		Contractor:	
Witness:		Witness:	



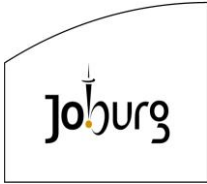
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Signed at this day of20.....

.....
Full Name/Dept of Responsible Party Signature Date

Employer:		Contractor:	
Witness:		Witness:	



DATA SUBJECT CONSENT WITHDRAWAL FORM
IN TERMS OF THE PROTECTION OF PERSONAL INFORMATION ACT, NO. 4 OF
(POPIA)

CONSENT

I a natural person “herein referred to as the “Data Subject” with
identification number hereby withdraw my consent to process my
personal information by Johannesburg Water SOC Ltd (Responsible Party). Therefore,
Johannesburg Water SOC Ltd. no longer has my consent to process my personal information
for the intended purpose
.....
.....
.....
which was previously granted using the DATA SUBJECT CONSENT FORM.

The withdrawal of consent does not affect the lawfulness of the processing activities up to
the date on this form.

Details of Data Subject

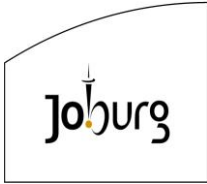
Name and surname:
Identification number:
Date of Birth:
Residential address:
.....
.....
Contact number(s):
E-mail address:
Relationship to Responsible Party:

Signed at _____ on this _____ day of _____ 20 _____

Signature of Data Subject

Information Officer/Deputy
Johannesburg Water SOC Ltd

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO EAST AND WEST)
VOLUME 1 TENDER PART 1: TENDERING PROCEDURES
SECTION T1.1 TENDER DATA



PROOF OF GOODSTANDING WITH MUNICIPALITY ACCOUNTS

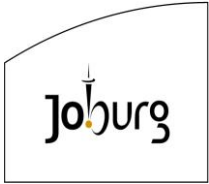
The tenderer is to affix to this page:

- Proof that the tenderer and directors of the tenderer are not in arrears for more than 90 days with municipal rates and taxes and municipal service charges. The latest municipal account is to be attached;
- Signed copy of the valid lease agreement if the tenderer or director of the tenderer is currently leasing premises and not responsible for paying municipal accounts

Note:

1. Should the municipal statement that was submitted with the tender document before tender closing date and time be in arrears for more than 90 days at time of award, the tenderer will be requested to submit the latest municipal statement which shows that the tenderer is not in arrears for more than 90 days. If the statement at that time is in arrears for more than 90 days, the tenderer must submit before the stipulated deadline, the written proof of an approved arrangement with the municipality.
2. The proof may be a copy of the agreement or an updated municipal statement which reflects the arrangement.
3. Should this tender be considered for award of the contract, based on proof of submission and should proof of such submission be found to be invalid, erroneous or inaccurate, the tenderer will no longer be considered for the award of the contract.
4. Statement must not be older than 90 days from the closing date of this tender. Attach latest municipal account statement behind this page.
5. In cases where the director of the tenderer resides with their spouse, parent, partner or sibling the owner of the property that confirm where the director of the tenderer resides must submit an affidavit stating such and explaining the relationship. This would happen in the case where the submitted municipal statement or lease agreement is not in the name of the director of the tenderer. Note 1 will be applicable. In cases where the business address of the tenderer is also the official residence of the director of the tenderer, the director of the tenderer must submit an affidavit stating such. Proof that the municipal statement is not in arrears for more than 90 days or a valid lease agreement must be submitted. Note 1 will be applicable.

Employer:		Contractor:	
Witness:		Witness:	



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PROOF OF GOODSTANDING WITH MUNICIPALITY ACCOUNTS

7. Where a municipal account submitted for purposes of compliance is in the name of a Trust, the bidder must submit the following documentation in order to establish the relationship between the director and the Trust and to confirm that municipal obligations are in order:

a) Municipal Account

- A valid municipal account issued in the name of the Trust must be submitted.
- The municipal account must not be older than three (3) months from the date of the request.
- The account must not be in arrears, or alternatively, proof must be provided that arrangements have been made with the relevant municipality for payment of overdue amounts.
- Where the director occupies or resides at the property owned by the Trust and a valid lease agreement exists between the Trust and the director, a copy must be submitted as supporting documentation

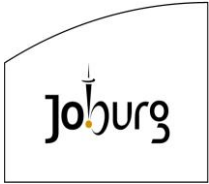
b) Proof of Trusteeship

- In order to establish the relationship between the director and the Trust, the bidder must submit a Letter of Authority issued by the Master of the High Court, confirming the appointment of the director as a trustee of the Trust.
- The name of the Trust reflected on the Letter of Authority must correspond with the name of the Trust appearing on the municipal account submitted.

c) Affidavit by the Director

- The director concerned must submit a sworn affidavit confirming that:
 - The property reflected on the municipal account is owned by the Trust;
 - The director is a duly appointed trustee of the Trust;
 - The director resides at, occupies, or has a direct interest in the property reflected on the municipal account; and

Employer:		Contractor:	
Witness:		Witness:	

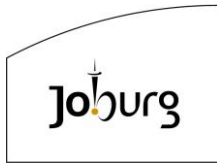


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- The municipal account submitted is the only applicable municipal account relating to the director’s municipal obligations.

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 1: TENDERING PROCEDURES
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Johannesburg Water (SOC) Ltd



CONTRACT NO: JW14506

**COMPLETION OF SOWETO INFRASTRUCTURE
UPGRADE AND REHABILITATION PROJECT IN
SUPER BLOCK 7B (ORLANDO EAST AND WEST)**

VOLUME 1

**TENDER PART 1: TENDERING
PROCEDURES**



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VOLUME 1 TENDER PART 1: TENDERING PROCEDURES
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VOLUME 1 TENDER PART 1: TENDERING PROCEDURES
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T1.1 TENDER DATA

T1.1.1 Conditions of Tender

The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity in Construction Procurement (August 2019). (See www.cidb.org.za).

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

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

T1.1.2 Tender Data

The clause numbers in the Tender Data refer to the corresponding clause numbers in the Conditions of Tender.

The additional Conditions of Tender are:

Clause Number	Tender Data
C.1.1	The Employer is, Johannesburg Water (SOC) Limited
C.1.2	The tender document issued by the Employer comprise: Volume 1 Tender Part 1: Tendering Procedures T1.1: Tender Notice and Invitation to Tender T1.2: Tender Data Tender Part 2: Returnable Documents T2.1: List of Returnable Documents, including the Enterprise Declaration Affidavit which may be bound in a separate volume. T2.2: List of Other Returnable Documents T2.3: List of Other Returnable Schedules Contract Part 1: Agreement and Contract Data C1.1: Form of Offer and Acceptance C1.2: Contract Data C1.3: Forms of Securities Contract Part 2: Pricing Data C2.1: Pricing Instructions

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 1: TENDERING PROCEDURES
SECTION T1.1: TENDER DATA

Clause Number	Tender Data
	C2.2: Bill of Quantities Volume 2A Contract Part 3: Scope of Work C3.1: Scope of Work C3.2: Particular Specifications Contract Part 4: Site Information C4: Site Information Volume 2B Generic Specifications Volume 3 Occupational Health, Safety and Environmental Specification Environmental Management Plan Volume 4 Tender Drawings
C.1.4	The Employer's representative is: Contact Person: Aluwani Matodzi Telephone: 060 555 3144 E-mail address: aluwani.matodzi@jwater.co.za The SCM representative is: Contact Person: Gcina Ndela Telephone: 011 688 1796 E-mail address: gcina.ndela@jwater.co.za

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 1: TENDERING PROCEDURES
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Clause Number	Tender Data
C.2.1	Eligibility criteria and requirements CIDB registration and grading: 1) Only tenderers who are registered with the CIDB and were capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than the contractor grading designation determined in accordance with the sum tendered for an 8CE class of construction work, are eligible to submit tenders. Tenders must have an Active status at the required CIDB gradings at time of tender evaluation for the bidder to meet the eligibility criteria and requirement. 2) Joint ventures are eligible to submit tenders provided that: i) every member of the joint venture is registered with the CIDB; and ii) the combined contractor grading designation calculated in accordance with the CIDB Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for an 8CE class of construction work. Failure to meet to Eligibility criteria and requirements will result in disqualification.
C.2.8	Replace the contents of the clause with the following: “Request clarification of the tender documents, if necessary, by notifying the Employer’s Officials indicated on the Tender Notice and Invitation to Tender in writing at least seven (7) working days before the closing time stated in the foregoing notice and clause C.2.15.1”
C.2.10.5	Add the following to the clause: “A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices in the Schedule.”

Employer:		Contractor:	
Witness:		Witness:	



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Clause Number	Tender Data
C.2.11	The evaluation on price alteration will be conducted as follows: Where the tender award strategy is to evaluate and award per item or category, the following must apply: a) If there is an alteration on the rate but no alteration on the total for the item or category, the bidder will not be disqualified. b) If there is an alteration on the total for the item/s without authentication, bidders will only be disqualified for alteration per item or category. Where the tender award strategy is to evaluate and award total bid offer, the following must apply: a) If there is an alteration on the rate, total for the line item, sub-total/ sum brought/carried forward for the section but no alteration on the total bid offer, the bidder will not be disqualified. b) If there is an alteration on the total bid offer on form of offer, then the amount in words must be considered or vice-versa. c) If there is an unauthenticated alteration on the total bid offer and the amount in words is not authenticated, the bidders will be disqualified for the entire tender. Where the tender pricing schedule or bill of quantities is requesting rates/price from bidder/s without providing a total, the following will apply: a) (i) If there is an unauthenticated alteration on the unit rate/price the bidder must be disqualified. Corrections may not be made using correction fluid, correction tape or the like, bid received contrary to this will be disqualified.
C.2.12.1	Replace Contents Alternative offers will not be permitted.
C.2.13.3	Each tender offer shall be submitted as an original. Tenderers are also requested to submit a soft copy in a USB (Tenderers who do not submit a soft copy will not be disqualified)

Employer:		Contractor:	
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Clause Number	Tender Data
C.2.13.5	The Employer's address for delivery of tender offers and identification details to be shown on the Tenderer's offer package are: Location of tender box: Ground Floor Entrance Physical address: Johannesburg Water (SOC) Ltd Turbine Hall 65 Ntemi Piliso Street Newtown Johannesburg 2001 Identification details: Tender reference number, Title of Tender and the closing date and time of the tender, as well as the Tenderer's name, their Authorised Representative's name, postal address and telephonic contact numbers.
C.2.13.6 & C.3.5	A two-envelope procedure will not be followed.
C.2.15.1	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
C.2.16	The tender offer validity period is 90 days.
C.2.16.1	Add the following to the clause: "If the tender validity expires on a Saturday, Sunday or public holiday, the Tender Offer shall remain valid and open for acceptance until the closure of business on the following working day."
C.2.19	The Tenderer must provide access during working hours to his premises for inspections on request.
C.2.23	The Tenderer is required to submit with his tender: 1) Valid SARS Compliance status Pin for Tenders issued by the South African Revenue Services. 2) Proof of CSD registration i.e. MA number 3) A Certificate of Contractor Registration issued by the CIDB. 4) where the tendered amount inclusive of VAT exceeds R 10 million: i. audited annual financial statement for 3 years, or for the period since establishment if established during the last 3 years, if required by law to prepare annual financial statements for auditing.

Employer:		Contractor:	
Witness:		Witness:	



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Clause Number	Tender Data
	ii. if the bidder is not required by law to prepare financial statements, then the bidder is required to submit their unaudited financial statements prepared by an independent accounting professional. 5) Proof that the tenderer and directors of the tenderer are not in arrears for more than 90 days with municipal rates and taxes and municipal service charges, The latest municipal account is to be attached, or a signed copy of the valid lease agreement if the tenderer or director of the tenderer is currently leasing premises and not responsible for paying municipal accounts. i. Should the municipal statement that was submitted with the tender document before tender closing date and time be in arrears for more than 90 days at time of award, the tenderer will be requested to submit the latest municipal statement which shows that the tenderer is not in arrears for more than 90 days. If the statement at that time is in arrears for more than 90 days, the tenderer must submit before the stipulated deadline, the written proof of an approved arrangement with the municipality. ii. The proof may be a copy of the agreement or an updated municipal statement which reflects the arrangement. iii. Should this tender be considered for award of the contract, based on proof of submission and should proof of such submission be found to be invalid, erroneous or inaccurate, the tenderer will no longer be considered for the award of the contract. iv. Statement must not be older than 90 days from the closing date of this tender. Attach latest municipal account statement behind this page. v. In cases where the director of the tenderer resides with their spouse, parent, partner or sibling the owner of the property that confirm where the director of the tenderer resides must submit an affidavit stating such and explaining the relationship. This would happen in the case where the submitted municipal statement or lease agreement is not in the name of the director of the tenderer. Point (i) will be applicable. vi. In cases where the business address of the tenderer is also the official residence of the director of the tenderer, the director of the tenderer must submit an affidavit stating such. Proof that the municipal statement is not in arrears for more than 90 days or a valid lease agreement must be submitted. Point (i) will be applicable. Where a tenderer satisfies CIDB contractor grading designation requirements through joint venture formation, such tenderers must submit the Certificates of Contractor Registration in respect of each partner.
C.2.24	Add the following new clause: “Canvassing and obtaining of additional information by tenderers.

Employer:		Contractor:	
Witness:		Witness:	



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Clause Number	Tender Data
	Accept that: i) No Tenderer shall make any attempt either directly or indirectly to canvass any of the Employers officials or the Employer's agent in respect of his tender, after the opening of the tenders but prior to the Employer arriving at a decision thereon. ii) No Tenderer shall make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders "
C.2.25	Add the following new clause: Prohibitions on awards to persons in service of the state Accept that the Employer is prohibited to award a tender 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) a person who is an advisor or consultant contracted with the municipality or municipal entity. "In the service of the state" means to be - i) a member of: - • any municipal council. • any provincial legislature; or • the National Assembly or the National Council of Provinces. ii) a member of the board of directors of any municipal entity. iii) an official of any municipality or municipal entity. iv) an employee of any national or provincial department. v) provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999). vi) a member of the accounting authority of any national or provincial public entity; or vii) an employee of Parliament or a provincial legislature." In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in Section T2.1 must be completed.
C.2.26	Add the following new clause: "Awards to close family members of persons in the service of the state Accept that the notes to the Employer's annual financial statements must disclose particulars of any award of more than R 2 000 to a person who is a spouse, child or parent of a person in the service of the state (defined in clause C.2.25), 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

Employer:		Contractor:	
Witness:		Witness:	



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Clause Number	Tender Data
	c) the amount of the award. To give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 – Returnable Documents must be completed in full and signed.”
C.2.27	Add the following new clause: Tax Compliance In the case of a Joint Venture/Consortium the tax Compliance status Pin must be submitted for each member of the Joint Venture/Consortium.
C.2.28	Add the following new clause: i) Tenderers will be notified of any omitted, outstanding, missing and or incomplete administrative documents and will be offered a period of 3 days to complete or submit those pages i.e., Municipal Bidding Documents (MBD), authority to sign and other administrative documents that require completion and signatures. These exclude documentation on functionality, price and preference points for specific goals. ii) Tenders that are received contrary to the above requirements will be disqualified after three (3) days period has lapsed. iii) In cases where locality is a specific goal and the bidder did not submit the required documentation, the tenderer upon submitting the municipal statement, lease agreement or letter from ward councilor confirming business address as per above, may not be eligible for points under specific goals if such documentation was not submitted with the tender document.
C.3.2	Replace the contents of the clause with the following: “If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until seven (7) calendar days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who collected tender documents.”
C.3.4.2	Tenders will be opened in public soon after closing time and recording of received documents but not later than 11:00 at the tender office located at Turbine Hall, 65 Ntemi Piliso, Newtown, 2001, Ground Floor. Tenderers’ names and total prices, where practical, will be read out
C.3.9	Replace Existing Clause Arithmetic Errors Construction related tenders

Employer:		Contractor:	
Witness:		Witness:	



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Clause Number	Tender Data
	JW undertakes to check the highest scoring bid for arithmetical errors and correcting them as follows: JW shall check for arithmetic errors using the following sequence: (i) Check the amount in words against the amount in figures on the <i>Form of Offer</i>, (ii) Check the Form of Offer against the Summary Schedule Total, (iii) Check the Section Sub-Totals per section against the Summary Total for summation errors, (iv) Check the Section Sub-Totals in the Summary Schedule against Section Sub-Totals in the Bill of Quantities. (v) Check the Section Sub-Totals against the Item Totals for summation errors. (vi) Check the Item Totals against the product of the Item Rate and the Quantity Provided. If a bill of quantities or price schedule applies JW will request the bidder to correct the arithmetic errors as follows: (i) In respect of the Form of Offer, where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern. The bidder must be requested to adjust the amount in figures to correspond with the amount in words. JW will notify the tenderer of all errors or omissions that are identified in the tender offer and either request the tenderer to confirm the offer as tendered or JW will accept the corrected total of prices. Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows: (i) 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. (ii) 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 requested to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices. Clarification session(s) shall be held with Tenderer where there is pricing discrepancies, errors are highlighted and identified corrections are explained. Tenderer is afforded an opportunity to provide clarification, accept or reject identified corrections in writing. (i) In the event that the Tenderer accepts identified corrections, JW will proceed with evaluation.

Employer:		Contractor:	
Witness:		Witness:	



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Clause Number	Tender Data																																		
	(ii) In the event that the Tenderer rejects the identified correction(s), JW must review the Tenderer’s motivation and risks associated with the proposed change. This is not an opportunity for Tenderers to change the bid offer. A bidder that does not agree to the above will be disqualified. Risk related to the Arithmetic Corrections shall be assessed. Where risks are identified, tenderers shall provide JW with any other material or information that has a bearing on the tender offer, the tenderer’s commercial position (including joint venture agreements), quotations preferencing arrangements or samples of materials considered necessary by JW 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 JW request or fails to attend any meeting in which it has been formally invited to clarify any issue, the tender offer will be regarded as non-responsive.																																		
C.3.11	Tenderer to complete, sign and return MBD6.1 with the tender submission. Tenderer to claim the points in the space provided and submit documentary evidence to support the points claimed for specific goals. <table><tr><th>Stage</th><th>Description</th></tr><tr><td>Stage 1</td><td>Mandatory Evaluation</td></tr><tr><td>Stage 2</td><td>Administrative Evaluation</td></tr><tr><td>Stage 3</td><td>Technical Evaluation</td></tr><tr><td>Followed by</td><td>Specific Goals and Pricing Evaluation</td></tr></table> Stage 1: Mandatory Evaluation <table><tr><th colspan="2">Description</th><th colspan="2">Complied</th></tr><tr><th>No</th><th>Description</th><th>Yes</th><th>No</th></tr><tr><td>1</td><td>CIDB grading 8CE or higher. Active Status at the required CIDB grading at the time of Evaluation</td><td></td><td></td></tr><tr><td>2</td><td>Attendance of Mandatory Tender Briefing Meeting</td><td></td><td></td></tr><tr><td>3</td><td>Form of Offer Completed and Signed</td><td></td><td></td></tr><tr><td>4</td><td> Financial Capacity: Submit not older than 30 days Bank-stamped bank statements (only the page that shows the balance) and/or bank-stamped overdraft facilities and bank-stamped bank confirmation letter. For this requirement, contractors are required to demonstrate to have a minimum of 10% of the amount indicated in the form of offer excluding VAT and contingencies. Failure to comply with this requirement will be deemed as non-compliance by the contractor and will be disqualified immediately. *JW reserve the right of confirming authenticity of submissions with the financial institution and any misrepresentation will lead to immediate disqualification. </td><td></td><td></td></tr></table>	Stage	Description	Stage 1	Mandatory Evaluation	Stage 2	Administrative Evaluation	Stage 3	Technical Evaluation	Followed by	Specific Goals and Pricing Evaluation	Description		Complied		No	Description	Yes	No	1	CIDB grading 8CE or higher. Active Status at the required CIDB grading at the time of Evaluation			2	Attendance of Mandatory Tender Briefing Meeting			3	Form of Offer Completed and Signed			4	Financial Capacity: Submit not older than 30 days Bank-stamped bank statements (only the page that shows the balance) and/or bank-stamped overdraft facilities and bank-stamped bank confirmation letter. For this requirement, contractors are required to demonstrate to have a minimum of 10% of the amount indicated in the form of offer excluding VAT and contingencies. Failure to comply with this requirement will be deemed as non-compliance by the contractor and will be disqualified immediately. *JW reserve the right of confirming authenticity of submissions with the financial institution and any misrepresentation will lead to immediate disqualification.		
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1	CIDB grading 8CE or higher. Active Status at the required CIDB grading at the time of Evaluation																																		
2	Attendance of Mandatory Tender Briefing Meeting																																		
3	Form of Offer Completed and Signed																																		
4	Financial Capacity: Submit not older than 30 days Bank-stamped bank statements (only the page that shows the balance) and/or bank-stamped overdraft facilities and bank-stamped bank confirmation letter. For this requirement, contractors are required to demonstrate to have a minimum of 10% of the amount indicated in the form of offer excluding VAT and contingencies. Failure to comply with this requirement will be deemed as non-compliance by the contractor and will be disqualified immediately. *JW reserve the right of confirming authenticity of submissions with the financial institution and any misrepresentation will lead to immediate disqualification.																																		

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO EAST
AND WEST)**



VOLUME 1 TENDER PART 1: TENDERING PROCEDURES
SECTION T1.1: TENDER DATA

Clause Number	Tender Data
	Tenderers who FAIL to meet the mandatory criteria or requirements of tender will result in disqualification.

Employer:		Contractor:	
Witness:		Witness:	



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COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND REHABILITATION PROJECT
IN SUPER BLOCK 7B (ORLANDO EAST AND WEST)
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SECTION T1.1: TENDER DATA



Clause No.	<u>Tender Data</u>				
	<u>Stage 2: Administrative Evaluation</u>				
	Description			Complied	
	Reference	Description	Requirement	Yes	No
	T2.1.1	Record of Addenda to Tender Documents	Complete and submit complete and signed Form		
	T2.1.2	Signed Certificate of Authority to Sign or signed board resolution	Completed and signed certificate of authority to sign or signed board resolution		
	T2.2.2	SARS Tax Compliance Status Pin and Proof of CSD registration	Complete and submit complete and signed Form plus attachment		
	MBD 1	Invitation to Bid	Complete and submit complete and signed MBD 1 Form		
	CSD	Central Supplier Database Registration	Provide proof of CSD registration		
	MBD 4	Declaration of interest	Complete and submit signed MBD 4 Form		
	MBD 5	Declaration for procurement above 10 million (all applicable taxes included)	Complete and submit signed MBD 5 Form		
	MBD 6.1	Preference Points Claim in Terms of The Preferential Procurement Regulations 2022	Complete and submit signed MBD 6.1 Form		
	MBD 8	Declaration of bidder's past supply chain management practices	Complete and submit signed MBD 8 Form		
	MBD 9	Certificate of Independent Bid Determination	Complete and submit signed MBD 9 Form		
	Annexure – Proof of Specific Goals	Valid BBBEE Certificate issued by SANAS accredited verification agency showing percentage of ownership and share certificate where applicable.	Submit applicable documentation with the tender submission		
	Annexure – Proof of Specific Goals	Proof of municipal account / valid lease agreement, letter from the Ward Council confirming the business address	Submit applicable documentation with the tender submission		

Employer:		Contractor:	
Witness:		Witness:	



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Clause No.	<u>Tender Data</u>			
Annexure	Municipal statement of account for Company (not older than three (03) months from the closing date of tender or a valid lease agreement at time of tender closure)	Submit applicable documentation with the tender submission		
Annexure	Municipal statement of account for Director/s (not older than three (03) months from the closing date of tender or a valid lease agreement at time of tender closure)	Submit applicable documentation with the tender submission		
Annexure	3-year financial statements (audited where applicable)	Submit applicable documentation with the tender submission		
Annexure	Joint Venture Consortium or equivalent Agreement signed by all parties, where applicable	Where applicable, submit applicable documentation with the tender submission		
T 2.3.2	Acknowledgement of Tender Drawings	Complete and submit signed T 2.3.2 Form		
T 2.3.1	Returnable Annexure A: Acknowledgement of SHE Specification & Annexures	Complete and submit signed T 2.3.1 Form		
T2.1.1	Record of Addenda to Tender Documents	Complete and submit signed T 2.1.1 Form		
Tenderers will be notified of any omitted, outstanding, missing and or incomplete administrative documents and will be offered a period of 3 days to complete or submit those pages i.e., Municipal Bidding Documents (MBD), authority to sign and other administrative documents that require completion and signatures. These exclude documentation on functionality, price and preference points for specific goals. Tenders that are received contrary to the above requirements will be disqualified after three (3) days period has lapsed. Any document or form submitted or completed upon request (was not included in the initial tender submission before the closing date) will not be used to claim points for specific goals. <u>Stage 3: Technical Evaluation</u> Tenderers who FAIL to meet the minimum required score or requirements of tender will be disqualified.				

Employer:		Contractor:	
Witness:		Witness:	



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Clause No.	<u>Tender Data</u>					
	The criteria maximum points in respect of each of criterion shall be as follows:					
Criteria No #	Criteria	Evidence	Sub-Criteria/Clause		Max Score	Score
1.	Tenderers' Experience with Respect to a project with Water Meter Installations (minimum of 2000 Meters) and Water Pipe Laying (reticulation or bulk pipe laying) Scope and with a construction value of R30M (Incl VAT) per project.	Record of completed projects accompanied with Contractor letter of appointment, Completion Certificate / Final Approval Certificate and supported with Contactable References in section T2.1.7. <i>If the completed project was a Subcontract, the following is required:</i> <i>Main Contractor's letter of appointment</i> <i>Main Contractor's completion/final approval certificate</i> <i>Subcontractor's letter of appointment</i> <i>Subcontractor's completion/final approval certificate</i>	NUMBER OF COMPLETED PROJECTS WITH WATER METER INSTALLATION (MINIMUM OF 2000 METERS) AND WATER PIPE LAYING (RETICULATION OR BULK PIPE LAYING) SCOPE AND WITH A CONSTRUCTION VALUE OF R30M (INCL. VAT) PER PROJECT.	0 (Zero) to 1 (One) completed project or project (s) completed have a value less than R30 million each OR involved fewer than 2000-Meter Installations and Water Pipe Laying.	100	0
				2 (Two) completed projects with a minimum of 2,000-Meter Installations and Water Pipe Laying per project and with a minimum value of R30 million (Incl. VAT) on each project OR 1 (One) completed project with a minimum		75

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Clause No.	<u>Tender Data</u>						
			5. <i>Reference letter provided by the Main Contractor</i>		of 2,000-Meter Installations and Water Pipe Laying and with a minimum value of R60 million (Incl. VAT) 3 (Three) or more completed projects with a minimum of 2,000-Meter Installations and Water Pipe Laying per project and with a minimum of R30 million (Incl. VAT) on each project, OR 2 (Two) completed projects with a minimum of 2,000-Meter Installations and Water Pipe Laying per project and a minimum value of R30 million (Incl. VAT) on each project, with cumulative value of a		100

Employer:		Contractor:	
Witness:		Witness:	



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Clause No.	<u>Tender Data</u>						
					minimum R90 million (Incl. VAT)		
	MINIMUM QUALIFYING SCORE					75	
	TOTAL					100	
	Tenderers who FAIL to meet the technical criteria or requirements (75 minimum Score) of tender will be disqualified.						

Employer:		Contractor:	
Witness:		Witness:	



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Clause number	Tender Data								
C.3.11.2 & C.3.11.3	The procedure for the evaluation of responsive tenders is Method 2 (Financial Offer and Specific Goals): 1. APPLICATION OF THE PREFERENCE POINTS SCORING SYSTEM <u>The following preference point systems are applicable to all bids:</u> - The 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included). - If unclear, any preference points scoring may be included and the lowest acceptable tender will be used to determine the preference points to be used for the evaluation. Where the lowest acceptable tender is below R50 million, the 80/20 preference point system must be used and if the lowest acceptable tender is above R50 million, the 90/10 preference point system must be used. - The Specific Goals for the tender will be stated in MBD 6.1. In MBD 6.1, the tenderer must indicate how many points they are claiming for each Specific Goal and must submit all the required supporting documentation for the points to be verified and awarded by JW. JW will evaluate the submitted supporting documentation and confirm Specific Goal points claimed by the tenderer. Specific goals to be allocated by the Bid Evaluation Committee will depend on verification documentation submitted. - Only tenderers that have completed and signed MBD 6.1 and submitted applicable verification documents will be allocated Specific Goal points for preferencing. (a) The value of this bid is estimated to exceed R50 000 000 (all applicable taxes included) and therefore the 90/10 preference point system shall be applicable. (b) Preference points for this bid shall be awarded for: Price; and Specific Goals. (c) The maximum points for this bid are allocated as follows: <table border="1"> <thead> <tr> <th>Description</th><th>Points</th></tr> </thead> <tbody> <tr> <td>Price</td><td>90</td></tr> <tr> <td>Specific goals</td><td>10</td></tr> <tr> <td>Total points for Price and Specific Goals must not exceed</td><td>100</td></tr> </tbody> </table> (d) Failure on the part of a bidder to submit proof of specific goals points claimed in MBD 6.1 will not result in disqualification but will result in points not being awarded for Specific Goals. Specific Goals	Description	Points	Price	90	Specific goals	10	Total points for Price and Specific Goals must not exceed	100
Description	Points								
Price	90								
Specific goals	10								
Total points for Price and Specific Goals must not exceed	100								

Employer:		Contractor:	
Witness:		Witness:	



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Clause number	Tender Data
	In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations 2022, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as must be supported by proof/ documentation stated in the conditions of this tender. Specific goals may include contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of race, gender or disability. Race: I. Ownership by black people II. Black Designated Group: - Ownership by black people that are unemployed - Ownership by black people who are youth - Ownership by black people living in rural or underdeveloped areas or townships - Ownership by black people with disabilities - Ownership by black people who are military veterans - Cooperative owned by black people Gender: I. Persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of gender are women. Ownership by persons that are classified as female or women according to the Department of Home Affairs of South African. Disability: I. Persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of disability are disabled persons. Reconstruction and Development Programme (RDP) objectives as published in Government Gazette No. 16085 dated 23 November 1994 i.e., Local Manufacture: I. Promotion of procurement of locally manufactured goods in South Africa to promote job creation in light of the high unemployment rate in South Africa which has a greater impact previously disadvantaged individuals and black youth. Locality: I. Promotion of procurement from local business in the geographical areas that JW operate in. This is also directed at creating employment in the areas JW operate in. The BSC may allocate points as follows: • Promotion of enterprises located in the Gauteng Province

Employer:		Contractor:	
Witness:		Witness:	



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Clause number	Tender Data
	- Promotion of enterprises located in a specific region within COJ (the 7 regions. A to G) - Promotion of enterprises located in the City of Johannesburg municipality - Promotion of enterprises located rural or underdeveloped areas or townships. Qualifying Small Enterprises (QSE) I. Promotion of procurement from QSE's that are black owned. Exempted Micro Enterprises (EME): I. Promotion of procurement from EME's that are black own. SUB-CONTRACTING: Promotion of sub-contracting a Historically Disadvantaged Individuals (HDI) company. Consider sub-contract only in cases where there are no company which can meet any of the specific goals. Check if the portion of the work cannot be subcontracted in terms of specific goals. One goal may be chosen, or a combination of goals may be decided upon including a sub-goal i.e., owned by black people that are disabled etc., JOINT VENTURE, CONSORTIUM OR EQUIVALENT: For Joint Venture Agreements, Consortiums or equivalent, the agreement must show percentages of ownership and work to be completed by each party. This agreement must form part of the tender submission. To determine the Joint Venture, Consortium or equivalent score for specific goals, JW will look at the consolidated BBBEE certificate to determine the points for specific goals that will be awarded to the tenderer. If a consolidated BBBEE certificate is not submitted, the parties to the joint venture, consortium or equivalent must submit their individual BBBEE certificates issued by a SANAS accredited verification agency or the documents listed below on 4.6 and the joint venture, consortium or equivalent agreement in order for JW to determine the proportional points for specific goals. Documentation to be provided: - JV, Consortium, or equivalent agreement - Consolidated BBBEE certificate issued by an SANAS accredited verification agency. Certificate must be valid

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SECTION T1.1: TENDER DATA



Clause number	Tender Data																		
	Table 1: <table><tr><th>The specific goals allocated points in terms of this tender</th><th>Number of points allocated (90/10 system)</th></tr><tr><td>Business owned by 51% or more black people who are youth</td><td>4</td></tr><tr><td>Locality (businesses within boundaries of Gauteng)</td><td>3</td></tr><tr><td>Business owned by 51% or more-Women</td><td>3</td></tr><tr><td>Total</td><td>10</td></tr></table> The following verification documents must be submitted with the tender document: <table><tr><th>Specific Goals – any one or a combination of any</th><th>Means of verification that may be selected or a combination thereof</th></tr><tr><td>Business owned by 51% or more black people who are youth</td><td>Valid Construction Sector BBBEE Certificate issued by SANAS accredited verification agency</td></tr><tr><td>Locality (businesses within boundaries of Gauteng)</td><td>Proof of municipal account / valid lease agreement, letter from the Ward Council confirming the business address. Businesses that operate from personal properties are required to submit an affidavit</td></tr><tr><td>Business owned by 51% or more-Women</td><td>Valid Construction Sector BBBEE Certificate issued by SANAS accredited verification agency</td></tr></table> Note: The joint venture, consortium, or equivalent agreement in order for JW to determine the proportional points for specific goals. Example, If there are two parties in a Joint Venture with a 50:50 ownership of the Joint Venture and one party is located within the boundaries of Gauteng Province and one is located in Free State, if one of the goals is locality and has total points of 3, the JV will only be entitled the proportional points of 1,5.	The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system)	Business owned by 51% or more black people who are youth	4	Locality (businesses within boundaries of Gauteng)	3	Business owned by 51% or more-Women	3	Total	10	Specific Goals – any one or a combination of any	Means of verification that may be selected or a combination thereof	Business owned by 51% or more black people who are youth	Valid Construction Sector BBBEE Certificate issued by SANAS accredited verification agency	Locality (businesses within boundaries of Gauteng)	Proof of municipal account / valid lease agreement, letter from the Ward Council confirming the business address. Businesses that operate from personal properties are required to submit an affidavit	Business owned by 51% or more-Women	Valid Construction Sector BBBEE Certificate issued by SANAS accredited verification agency
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Locality (businesses within boundaries of Gauteng)	Proof of municipal account / valid lease agreement, letter from the Ward Council confirming the business address. Businesses that operate from personal properties are required to submit an affidavit																		
Business owned by 51% or more-Women	Valid Construction Sector BBBEE Certificate issued by SANAS accredited verification agency																		

Employer:		Contractor:	
Witness:		Witness:	



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Clause number	Tender Data																																																																																													
	The following are the requirements for a valid Sworn Affidavit in terms of the BBBEE Sector Codes of Good Practise:																																																																																													
	<table><tr><th>Affidavit Prescribed Formats</th><th>Category</th><th>Financial Threshold</th></tr><tr><td colspan="3">Generic Enterprises</td></tr><tr><td></td><td>BO QSE</td><td>Between R10m and R50m</td></tr><tr><td></td><td>BO EME</td><td>Less than R10m</td></tr><tr><td colspan="3">Sector Specific Enterprises</td></tr><tr><td></td><td>BO QSE</td><td>Between R10m and R50m</td></tr><tr><td></td><td>BO EME</td><td>Less than R10m</td></tr><tr><td colspan="3">Construction Sector Code</td></tr><tr><td></td><td>EME Contractor</td><td>Less than R3m</td></tr><tr><td></td><td>BO EME BEP</td><td>Less than R1.8m</td></tr><tr><td colspan="3">Financial Sector Code</td></tr><tr><td></td><td>BO QSE</td><td>Between R10m and R50m</td></tr><tr><td></td><td>BO EME</td><td>Less than R10m</td></tr><tr><td colspan="3">Information Communication Technology Sector Code (ICT)</td></tr><tr><td></td><td>BO QSE</td><td>Between R10m and R50m</td></tr><tr><td></td><td>BO EME</td><td>Less than R10m</td></tr><tr><td colspan="3">Marketing, Advertising & Communication Sector Code (MAC)</td></tr><tr><td>> Public Relations</td><td>BO QSE</td><td>Between R5m and R10m</td></tr><tr><td>> Marketing, Advertising & Communications</td><td>BO EME</td><td>Less than R5m</td></tr><tr><td colspan="3">Property Sector Code</td></tr><tr><td rowspan="2">> Service-based</td><td>BO QSE</td><td>Between R5m and R10m</td></tr><tr><td>EME</td><td>Less than R5m</td></tr><tr><td>> Agency-based</td><td>BO QSE</td><td>Between R2.5m and R35m</td></tr><tr><td rowspan="2">> Asset-based</td><td>EME</td><td>Less than R2.5m</td></tr><tr><td>BO QSE</td><td>Between R80m and R400m</td></tr><tr><td colspan="3">Tourism Sector Code</td></tr><tr><td></td><td>BO QSE</td><td>Between R5m and R45m</td></tr><tr><td></td><td>BO EME</td><td>Less than R5m</td></tr><tr><td colspan="3">Specialised Enterprises</td></tr><tr><td></td><td>BO QSE</td><td>Between R10m and R50m</td></tr><tr><td></td><td>BO EME</td><td>Less than R10m</td></tr></table>			Affidavit Prescribed Formats	Category	Financial Threshold	Generic Enterprises				BO QSE	Between R10m and R50m		BO EME	Less than R10m	Sector Specific Enterprises				BO QSE	Between R10m and R50m		BO EME	Less than R10m	Construction Sector Code				EME Contractor	Less than R3m		BO EME BEP	Less than R1.8m	Financial Sector Code				BO QSE	Between R10m and R50m		BO EME	Less than R10m	Information Communication Technology Sector Code (ICT)				BO QSE	Between R10m and R50m		BO EME	Less than R10m	Marketing, Advertising & Communication Sector Code (MAC)			> Public Relations	BO QSE	Between R5m and R10m	> Marketing, Advertising & Communications	BO EME	Less than R5m	Property Sector Code			> Service-based	BO QSE	Between R5m and R10m	EME	Less than R5m	> Agency-based	BO QSE	Between R2.5m and R35m	> Asset-based	EME	Less than R2.5m	BO QSE	Between R80m and R400m	Tourism Sector Code				BO QSE	Between R5m and R45m		BO EME	Less than R5m	Specialised Enterprises				BO QSE	Between R10m and R50m		BO EME	Less than R10m
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Note: A sworn affidavit received from a tenderer that does not meet the above requirement will not be considered for the allocation of points for specific goals.																																																																																														

Employer:		Contractor:	
Witness:		Witness:	



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Clause number	Tender Data
	Requirements for a valid BBBEE Certificate are as follows: a) Copy of a certified valid BBBEE certificate (Only Valid BBBEE accredited by SANAS), or a valid Sworn Affidavit issued by the DTIC or the CIPC or in a similar format complying with commissioner of oath Act. b) Bidders who do NOT qualify as EME's and QSE's as outlined above must submit B-BBEE verification certificates that are issued by an Agency accredited by SANAS. c) Bidders who fail to submit a certified copy of their valid B-BBEE certificate or valid sworn affidavit or valid DTI / CIPC B-BBEE certificate will score zero points for specific goals. Valid Sworn Affidavits or certified copies of B-BBEE Certificate must comply with the requirements outlined in the Justices of the Peace and Commissioners of Oaths Act, no 16 of 1963 and its Regulations promulgated in Government Notice GNR 1258 of 21 July 1972 Justices of the Peace and Commissioners of Oaths Act, No. 16 of 1963. i.e. (i) The deponent shall sign the declaration in the presence of the commissioner of oaths (COA). (ii) Below the deponent's signature the COA shall certify that the deponent has acknowledged that he knows and understands the contents of the declaration and the COA shall state the manner, place, and date of taking the declaration. (iii) The COA shall sign the declaration and print his full name and business address below his signature; and state his designation and the area for which he holds his appointment, or the office held by him if he holds his appointment ex officio. (iv) Copy of certified copies will not be accepted. Note: A tenderer failing to submit proof of specific goals claimed as per indicated above will not be disqualified but will be allocated zero points for specific goals and will be allocated points for pricing. 2. ADJUDICATION USING A POINT SYSTEM a) The bidder obtaining the highest number of total points will be awarded the contract. b) Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts;. c) Points scored must be rounded off to the nearest 2 decimal places. d) In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of points for specific goals.

Employer:		Contractor:	
Witness:		Witness:	



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SECTION T1.1: TENDER DATA

Clause number	Tender Data
	e) However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for specific goals, the successful bid must be the one scoring the highest score for functionality. f) Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots. 3. POINTS AWARDED FOR PRICE THE 90/10 PREFERENCE POINT SYSTEMS A maximum of 90 points is allocated for price on the following basis: 90/10 $Ps = 90 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$ Where Ps = Points scored for comparative price of bid under consideration Pt = Comparative price of bid under consideration Pmin = Comparative price of lowest acceptable bid
C.3.12	Add the following to the clause: “Accept that the submission of a Tender shall be construed as an acknowledgement by the Tenderer that they are satisfied with the insurance cover, the Employer will affect under the contract.”
C.3.13.1	Add to the existing clause: Tender offers will only be accepted if: a) the tenderer submits a valid SARS tax Compliance status Pin for tenders issued by the South African Revenue Services or has made arrangements to meet outstanding tax obligations; b) Proof of CSD registration i.e., MA xxxxx number; c) the tenderer submits a letter of intent from an approved insurer undertaking to provide the Demand Performance Guarantee to the format included in Part T2.2.22 of this procurement document d) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation;

Employer:		Contractor:	
Witness:		Witness:	



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**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 1: TENDERING PROCEDURES

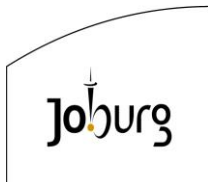
SECTION T1.1: TENDER DATA



Clause number	Tender Data
	e) the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; f) the tenderer has not: i) abused the Employer's Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect; g) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the Employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract; h) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer; i) the Employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely; and j) the tenderer: i) has sufficiently substantiated his experience in this type work; ii) has the required and experienced key personnel
C.3.17	The number of paper copies of the signed contract to be provided by the Employer is one.
	There are no additional conditions of tender.

-- END OF PART ---

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

Johannesburg Water SOC Ltd



CONTRACT NO: JW14506

**COMPLETION OF SOWETO INFRASTRUCTURE
UPGRADE AND REHABILITATION PROJECT IN
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WEST)**

VOLUME 1

TENDER PART 2: RETURNABLE DOCUMENTS

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS



The tenderer must complete the following returnable documents:

T2.1 LIST OF RETURNABLE DOCUMENTS

Returnable Schedules required for tender evaluation purposes

<u>Document</u>	<u>Page No.</u>
T2.1.1 Record of Addenda to Tender Documents	RD.4
T2.1.2 Certificate of Authority	RD.6
T2.1.3 Compulsory Enterprise Questionnaire	RD.11
T2.1.4 Preferential Procurement	RD.14
MBD 6.1 Preference Points Claim Form in Terms of the Preferential Procurement Regulations 2022	RD.15
MBD 4 DECLARATION OF INTEREST	RD.22
MBD 8 DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES	RD.25
MBD 5 DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (VAT INCLUDED)	RD.27
MBD 9 CERTIFICATE OF INDEPENDENT BID DETERMINATION	RD.30
T2.1.5 Proposed Amendments and Qualifications	RD.33
T2.1.6 Schedule of the Tenderer's Experience	RD.35
T2.1.7 Contactable Reference	RD.36

T2.2 LIST OF OTHER RETURNABLE DOCUMENTS

Other documents required only for tender evaluation purposes

<u>Document</u>	<u>Page No.</u>
T2.2.1 Contractor's Certificate of Registration With CIDB	RD.39
T2.2.2 SARS Tax Compliance Status Pin and Proof of CSD registration	RD.40

T2.3 LIST OF RETURNABLE SCHEDULES

Other documents that will be incorporated into the contract

<u>Document</u>	<u>Page No.</u>
T2.3.1 Returnable Annexure A: Acknowledgement of SHE Specification &	RD.42
T2.3.2 Returnable Annexure B: Acknowledgment of Tender Drawings	RD.43
T2.3.3 Minutes of the Mandatory Tender Briefing	RD.44

NOTE: The Tenderer is required to complete each and every schedule listed above to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the tenderer.

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

Returnable Schedules required for tender evaluation purposes:

<u>Document</u>	<u>Page No.</u>
T2.1.1 Record of Addenda to Tender Documents	RD.4
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T2.1.6 Schedule of the Tenderer's Experience	RD.35
T2.1.7 Contactable Reference	RD.36

Employer:		Contractor:	
Witness:		Witness:	



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**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.1.1 RECORD OF ADDENDA TO TENDER DOCUMENTS

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

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

Attach additional pages if more space is required.

Signed: Date:

Name: Position:

Tenderer:

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.1.2 CERTIFICATE OF AUTHORITY

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

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

(I) Certificate For Company

I,, chairperson of the Board of Directors of, hereby confirm that by resolution of the Board (copy attached) taken on, Mr/Ms, acting in the capacity of, was authorized to sign all documents in connection with the tender for Contract No. JW14506 and any contract resulting from it on behalf of the company.

Chairman:

As Witnesses: 1

2

Date:

Employer:		Contractor:	
Witness:		Witness:	



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REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO EAST
AND WEST)
VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS



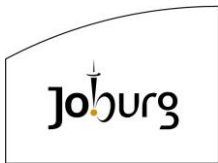
(II) Certificate For Close Corporation

We, the undersigned, being the key members in the business trading as
..... hereby authorize Mr/Ms , acting in the capacity of
....., to sign all documents in connection with the tender and any
contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

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

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO EAST
AND WEST)



VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

(III) Certificate For Partnership

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

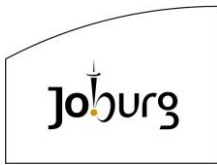
....., hereby authorize Mr/Ms,

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

NAME	ADDRESS	SIGNATURE	DATE

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

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

(IV) Certificate For Joint Venture

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms, authorised signatory of the company.....
....., acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

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

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

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

(V) Certificate For Sole Proprietor

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

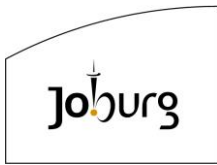
Signature of Sole Owner:

As Witnesses: 1

2

Date:

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.1.3 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

Proof of CSD registration i.e. MA xxxxxxxxx number.

SARS Tax Compliance status Pin number

Section 6: Record in the service of the state

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

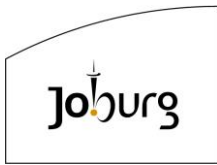
- | | |
|--|---|
| ☐ a member of any municipal council | ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| ☐ a member of any provincial legislature | ☐ a member 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 | |

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

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

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

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

*insert separate page if necessary

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

- i) authorizes the Employer to verify the tax compliance status 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; and
- v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Employer:		Contractor:	
Witness:		Witness:	



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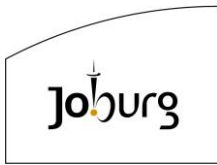
VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

Signed: _____ Date: _____

Name: _____ Position: _____

Enterprise name: _____

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

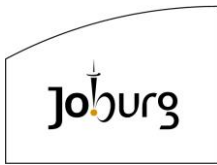
T2.1.4 PREFERENTIAL PROCUREMENT

Forms for Completion by the Tenderer included in this section are:

Form No.	Form Title	Description	Page No.
MBD 6.1	Preference Points Claim Form in Terms of the Preferential Procurement Regulations 2022	Procedures and adjudication criteria for the information of the Tenderer	RD.15
MBD 4	DECLARATION OF INTEREST	Form to be completed by the Tenderer	RD.22
MBD 8	DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES	Form to be completed by the Tenderer	RD.25
MBD 5	DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (VAT INCLUDED)	Form to be completed by the Tenderer	RD.27
MBD 9	CERTIFICATE OF INDEPENDENT BID DETERMINATION	Form to be completed by the Tenderer	RD.30

Note: All information supplied must be current and valid. Proposed or imminent changes to a Tenderer's status may be mentioned but the declarations must reflect current circumstances.

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

MBD 6.1

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

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

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

1. GENERAL CONDITIONS

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

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

1.2 To be completed by the organ of state

- a) The applicable preference point system for this tender is the 90/10 preference point system.

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

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

1.4 To be completed by the organ of state:

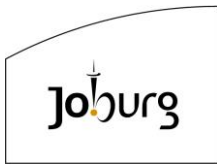
The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
Total points for Price and SPECIFIC GOALS	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

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

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

2. DEFINITIONS

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1 Points Awarded For Price

3.1.1 The 90/10 Preference Point Systems

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

$$Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right) \quad 90/10$$

$$Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$$

Where

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmin = Price of lowest acceptable tender

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

4.1 POINTS AWARDED FOR PRICE

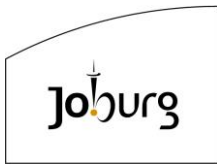
A maximum of 90 points is allocated for price on the following basis:

$$Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right) \quad 90/10$$

Where

- Ps = Points scored for price of tender under consideration

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

Pt = Price of tender under consideration
Pmax = Price of highest acceptable tender

5. POINTS AWARDED FOR SPECIFIC GOALS

5.1 In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in Table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

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

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

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

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

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

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system)	Number of points claimed (90/10 system) (To be completed by the tenderer)
Business owned by 51% or more- by Black Youth	4	
Businesses located within the boundaries of Gauteng Province	3	
Business owned by 51% or more-Women	3	
Total	10	

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

6. DECLARATION WITH REGARD TO COMPANY/FIRM

6.1 Name of company/firm.....

6.2 Company registration number:

6.3 TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

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

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

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

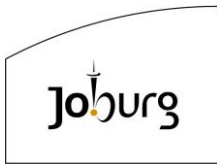
ADDRESS:

.....

.....

.....

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO EAST
AND WEST)**



VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

6.5 SUB-CONTRACTING

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

(Tick applicable box)

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

6.5.2 If yes, indicate:

i) What percentage of the contract will be subcontracted _____

ii) The name of the sub-contractor(s):

.....

.....

.....

.....

iii) The black sharehold of the sub-contractor(s):

.....

.....

.....

.....

iv) Whether the sub-contractor(s) 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, 2022:

Designated Group: An EME or QSE which is at last 51% owned by:	EME √	QSE √
Black people		
Black people who are youth		
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		

Employer:		Contractor:	
Witness:		Witness:	



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**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

6.6 DECLARATION WITH REGARD TO COMPANY/FIRM

6.6.1 Name of company/firm:

6.6.2 VAT number registration number:

6.6.3 Company registration number:

6.7 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
☐ One person business/sole propriety
☐ Close corporation
☐ Company
☐ (Pty) Limited
[TICK APPLICABLE BOX]

6.8 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

.....

.....

6.9 COMPANY CLASSIFICATION

- ☐ Manufacturer
☐ Supplier
☐ Professional service provider
☐ Other service providers, e.g. transporter, etc.
[TICK APPLICABLE BOX]

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

6.10 MUNICIPAL INFORMATION

Municipality where business is situated:

Registered Account Number:

Stand Number:

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

6.12 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 Specific Goals in MBD 6.1 qualifies the company/firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) In the event of a contract being awarded as a result of points claimed as shown in MBD 6.1, the contractor is required to furnish documentary proof as requested in the Tender Data to the satisfaction of the purchaser that the claims are correct;
- iii) If the specific goals points have 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)

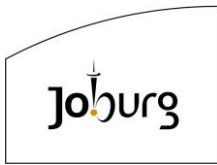
DATE:

ADDRESS

.....

.....

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

MBD 4

DECLARATION OF INTEREST

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.....

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.

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

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

3.9.1 If yes, furnish particulars
.....

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

3.10.1 If yes, furnish particulars
.....

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

3.11.1 If yes, furnish particulars
.....

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

3.12.1 If yes, furnish particulars
.....

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

3.13.1 If yes, furnish particulars
.....

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

3.14.1 If yes, furnish particulars:
.....

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

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

Full Name	Identity Number	State Employee Number

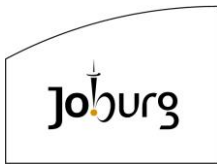
.....
Signature

.....
Date

.....
Capacity

.....
Name of Bidder

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 The bid of any bidder may be disregarded if that bidder, or any of its directors have-
- a. abused the institution's supply chain management system;
 - b. committed fraud or any other improper conduct in relation to such system; or
 - c. failed to perform on any previous contract.
- 2 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

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

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND
CORRECT.

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

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

MBD 5

DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (VAT INCLUDED)

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

1. Are you by law required to prepare annual financial statements for auditing? **YES / NO**
- 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. If the bidder is not required by law to prepare annual financial statements for auditing, they shall be required to furnish their Annual Financial Statements -
- i. for the past three years , or
 - ii. since their establishment if established during the past three years

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

- 2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards a municipality 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**

- 3.1 If yes, furnish particulars

.....
.....

Employer:		Contractor:	
Witness:		Witness:	



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COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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- 4 Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? **YES / NO**
- 4.1 If yes, furnish particulars

.....

.....

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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AND WEST)



VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND
CORRECT.

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

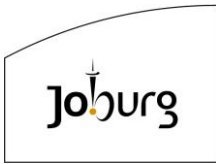
.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

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.
3. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
4. This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
5. In order to give effect to the above, the attached Certificate of Bid Determination (MBD9) 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.

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description) in response to the invitation for the bid made by:

(Name of Municipality / Municipal Entity) do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of _____ that:
(Name of Bidder)

1. I have read, and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or 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.

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.**

Employer:		Contractor:	
Witness:		Witness:	



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8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
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

Employer:		Contractor:	
Witness:		Witness:	



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**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.1.5 PROPOSED AMENDMENTS AND QUALIFICATIONS

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

The Tenderer's attention is drawn to clause C.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material qualifications.

Page	Clause or item	Proposal

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

Signed: _____ Date: _____

Name: _____ Position: _____

Tenderer: _____

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.1.7 CONTACTABLE REFERENCE

To Johannesburg Water (SOC) Ltd

I, the undersigned being duly authorised to do so, hereby furnish a reference to Johannesburg Water relative to tender Contract No. **JW14506** for **COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND REHABILITATION PROJECT IN SUPERBLOCK 7B (ORLANDO EAST AND WEST)**

Name of Tenderer:

Project Name	
Subcontract? (Yes or No)	
Project Scope Description	
Number of Water Meters Installed in the Project	
Water (Reticulation/Bulk) Pipe Laid? (Yes or No)	
Construction Value (incl. VAT)	
Completion Date	

Name of Client Company

Name of Main Client Company (Employer if different from name of client company)
.....

Name of authorized person/Referee completing this Letter.....

Signature of authorized person/Referee:Date

Telephone/Mobile of Referee:

Email address of authorized person/Referee:

NB: This document must be completed by the referee and included in the tender submission. Alternatively, the client's letterhead may be used for this purpose provided it complies with the functional criteria requirements. A separate form must be completed for each reference as required in the evaluation criteria. Information provided may be verified and if found to be false or misrepresented, punitive measures will be instituted against the respective party including blacklisting and restriction from participating in any future government tender. **If the completed project was a subcontract, Reference letter must be accompanied by Main Contractor's Appointment letter & Completion Certificate in addition to the Subcontractor/Bidder's completion certificate.**

Employer:		Contractor:	
Witness:		Witness:	



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Project Scope Description	
Number of Water Meters Installed in the Project	
Water (Reticulation/Bulk) Pipe Laid? (Yes or No)	
Construction Value (incl. VAT)	
Completion Date	

Name of Client Company

Name of Main Client Company (Employer if different from name of client company)
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Name of authorized person/Referee completing this Letter.....

Signature of authorized person/Referee:Date

Telephone/Mobile of Referee:

Email address of authorized person/Referee:

NB: This document must be completed by the referee and included in the tender submission. Alternatively, the client's letterhead may be used for this purpose provided it complies with the functional criteria requirements. A separate form must be completed for each reference as required in the evaluation criteria. Information provided may be verified and if found to be false or misrepresented, punitive measures will be instituted against the respective party including blacklisting and restriction from participating in any future government tender. **If the completed project was a subcontract, Reference letter must be accompanied by Main Contractor's Appointment letter & Completion Certificate in addition to the Subcontractor/Bidder's completion certificate.**

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.1.7 CONTACTABLE REFERENCE

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Name of Tenderer:

Project Name	
Subcontract? (Yes or No)	
Project Scope Description	
Number of Water Meters Installed in the Project	
Water (Reticulation/Bulk) Pipe Laid? (Yes or No)	
Construction Value (incl. VAT)	
Completion Date	

Name of Client Company

Name of Main Client Company (Employer if different from name of client company)
.....

Name of authorized person/Referee completing this Letter.....

Signature of authorized person/Referee:Date

Telephone/Mobile of Referee:

Email address of authorized person/Referee:

NB: This document must be completed by the referee and included in the tender submission. Alternatively, the client's letterhead may be used for this purpose provided it complies with the functional criteria requirements. A separate form must be completed for each reference as required in the evaluation criteria. Information provided may be verified and if found to be false or misrepresented, punitive measures will be instituted against the respective party including blacklisting and restriction from participating in any future government tender. **If the completed project was a subcontract, Reference letter must be accompanied by Main Contractor's Appointment letter & Completion Certificate in addition to the Subcontractor/Bidder's completion certificate.**

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

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Construction Value (incl. VAT)	
Completion Date	

Name of Client Company

Name of Main Client Company (Employer if different from name of client company)
.....

Name of authorized person/Referee completing this Letter.....

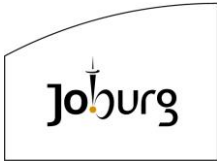
Signature of authorized person/Referee:Date

Telephone/Mobile of Referee:

Email address of authorized person/Referee:

NB: This document must be completed by the referee and included in the tender submission. Alternatively, the client's letterhead may be used for this purpose provided it complies with the functional criteria requirements. A separate form must be completed for each reference as required in the evaluation criteria. Information provided may be verified and if found to be false or misrepresented, punitive measures will be instituted against the respective party including blacklisting and restriction from participating in any future government tender. **If the completed project was a subcontract, Reference letter must be accompanied by Main Contractor's Appointment letter & Completion Certificate in addition to the Subcontractor/Bidder's completion certificate.**

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
**COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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AND WEST)**



VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.2 LIST OF RETURNABLE DOCUMENTS

Other documents required only for tender evaluation purposes:

Document

Page No.

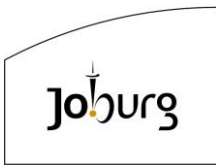
T2.2.1 Contractor's Certificate of Registration With CIDB

RD.39

T2.2.2 SARS Tax Compliance Status Pin and Proof of CSD registration

RD.40

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.2.1 CONTRACTOR'S CERTIFICATE OF REGISTRATION WITH CIDB

NB: The Tenderer shall attach hereto the Contractor's Certificate of Registration with CIDB OR provide the CIDB registration number that JW can use to verify CIDB requirements for this tender. Failure to submit the certificate or CIDB registration number with the tender document will lead to the conclusion that the Tenderer is not registered with the CIDB and therefore not eligible to tender.

Tenderers who have made application to CIDB for registration and are capable of being so registered prior to the evaluation of submissions must attach a notification from CIDB that their application is being considered.

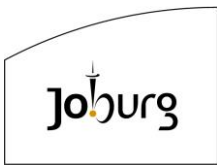
CIDB status to be active at the required CIDB grading at time of evaluation to avoid disqualification.

SIGNATURE:.....

DATE:

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

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

**T2.2.2 SARS TAX COMPLIANCE STATUS PIN AND PROOF OF CSD
REGISTRATION**

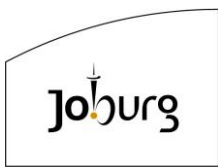
The Tenderer must attach hereto a copy SARS Tax Compliance Status Pin and Proof of CSD registration i.e. MA xxxxxxxxxxx number.

SIGNATURE:.....

DATE:

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

Employer:		Contractor:	
Witness:		Witness:	



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COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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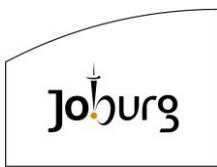
VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.3 LIST OF RETURNABLE SCHEDULES

3. Other documents that will be incorporated into the contract

<u>Document</u>	<u>Page No.</u>
T2.3.1 Returnable Annexure A: Acknowledgement of SHE Specification &	RD.42
T2.3.2 Returnable Annexure B: Acknowledgment of Tender Drawings	RD.43
T2.3.3 Minutes of the Mandatory Tender Briefing	RD.44
Error! Reference source not found.	

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

**T2.3.1 RETURNABLE ANNEXURE A: ACKNOWLEDGEMENT OF SHE
SPECIFICATION & ANNEXURES**

DECLARATION BY CONTRACTOR

I, the undersigned, and representing the tenderer as indicated hereby acknowledge that I have obtained copies of the following listed documentation and confirm that I fully understand the contents thereof and confirm compliance thereto in the event of being successful:

- OHS Specification (Volume 3)
- Annexure 1: Baseline Risk Assessment
- Annexure 2: Medical Screening Policy
- Annexure 3: Sign off form
- Annexure 4: Environmental Management Plan

We furthermore commit to:

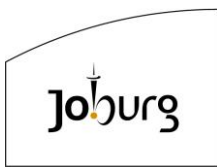
- Comply with all applicable SHE related legal and other requirements.
- Inform all staff of their role in managing environmental impacts and safety hazards on site.

Signed at on this Day of 20.....

Name of tenderer	
Name of Authorized person	
Authorized Signature*	

*Signature must be as per form T2.1.2 as applicable

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.3.2 RETURNABLE ANNEXURE B: ACKNOWLEDGMENT OF TENDER DRAWINGS

DECLARATION BY CONTRACTOR

I, the undersigned, and representing the tenderer as indicated hereby acknowledge that I have obtained copies of the following listed documentation and confirm that I fully understand the contents thereof and confirm compliance thereto in the event of being successful:

The drawings that are issued for **TENDER PURPOSES** are as per drawing list

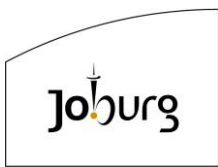
ITEM	DESCRIPTION	DRAWING NUMBER
1.	Orlando Block Boundaries	JW12002-OR-LAY-BLK01
2.	Layout Plan 1	JW12002/WL/202
3.	Layout Plan 2	JW12002/WL/203/2
4.	Layout Plan 3	JW12002/WL/204
5.	Meter Installation Layout (Orlando East)	JW14431-ORE-LAY-STS01
6.	Pipe Testing Layout Plan (Orlando West)	JW12002-OR-LAY-PT01
7.	Layout Plan (Orlando West)	JW12002-ORW-LAY-W01
8.	Meter Installation Layout (Orlando West)	JW14431-ORW-LAY-STS01
9.	Master Plan Items Layout Plan (Orlando West)	JW12002-OR-LAY-MP01
10.	River Crossing Layout Plan (Orlando West)	JW12002-OR-LAY-RC01

Signed at on this Day of 20.....

Name of tenderer	
Name of Authorized person	
Authorized Signature*	

*Signature must be as per form T2.1.2 as applicable

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 TENDER PART 2: RETURNABLE DOCUMENTS

T2.3.3 MINUTES OF THE MANDATORY TENDER BRIEFING MEETING

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

	Date	Title or Details
1.		Minutes of the Mandatory Tender Briefing Meeting

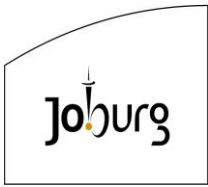
Attach additional pages if more space is required.

Signed: Date:

Name: Position:

Tenderer:

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

Johannesburg Water (SOC) Ltd

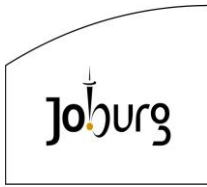


CONTRACT NO: JW14506

**COMPLETION OF SOWETO INFRASTRUCTURE
UPGRADE AND REHABILITATION PROJECT IN
SUPER BLOCK 7B (ORLANDO EAST AND WEST)**

**VOLUME 1
CONTRACT PART 1: AGREEMENT AND
CONTRACT DATA**

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO
EAST AND WEST)

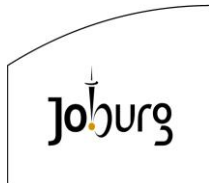


VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

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C1.2.2 Part 2: Data Provided by the Contractor	C.24
 C1.3 FORMS AND SECURITIES	 C.27
Error! Reference source not found.	C.28
C1.3.2 Blasting Indemnity	C.31
C1.3.3 Health and Safety Contract Between Employer and Contractor in Terms of Section 37(2) of the Occupational Health and Safety Act No 85 Of 1993	C.33
C1.3.4 Health and Safety Contract: General Information	C.34

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

C1.1 FORM OF OFFER (ACCEPTANCE & AGREEMENT)

C1.1.1 Form of Offer

The Contractor is to complete and sign the Form of Offer

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

JW14506: COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO EAST AND WEST)

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

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Contractor 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

Rand (in words); R_____ (in figures)

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

Signature(s)

Name(s)

Capacity

For the Contractor

(Name and address of organisation)

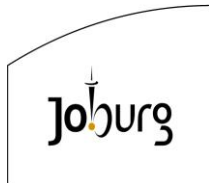
Name and signature of witness

(Name)

(Signature)

Date

Employer:		Contractor:	
Witness:		Witness:	



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COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

C1.1.2 Form of Acceptance

The Employer is to complete and sign the form of acceptance.

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

The terms of the contract are contained in:

Part 1	Agreement and Contract Data, (which includes this Agreement)
Part 2	Pricing Data
Part 3	Scope of Work
Part 4	Site Information

and drawings, pricing schedules (Bill of Quantities) and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

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

The Contractor shall within twenty-eight **(28) days** after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the employer's agent (whose details are given in the Contact Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date of this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

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

FOR EMPLOYER OFFICIAL USE ONLY

**Name and Signature of
Employer**

Capacity

For the Employer

**Johannesburg Water SOC (Ltd), Turbine Hall, 65 Ntemi Piliso Street,
Newtown.**

(Name and address of organisation)

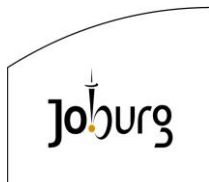
**Name and signature of
witness**

(Name)

(Signature)

Date

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

C1.1.3 Schedule of Deviations

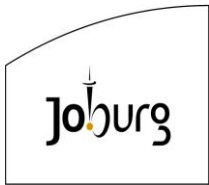
Notes:

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

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

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

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

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

For the Contractor:

Signature(s)

Name(s)

Capacity

For the Contractor

(Name and address of organisation)

**Name and signature of
witness**

(Name)

(Signature)

Date

For the Employer:

Name(s)

Capacity

For the Employer

**Johannesburg Water SOC (Ltd), Turbine Hall, 65 Ntemi Piliso Street,
Newtown**

(Name and address of organisation)

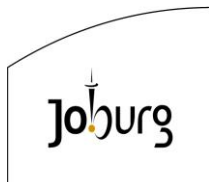
**Name and signature
of witness**

(Name)

(Signature)

Date

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

C1.2 CONTRACT DATA

C1.2.1 Part 1: Data Provided by the Employer

CONDITIONS OF CONTRACT

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

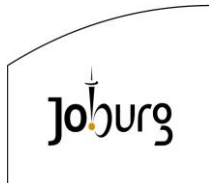
Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Telephone number: 011-805 5947)

C1.2.1.1 Contract Specific Data

The following contract specific data are applicable to this Contract:

GCC Clause	Information
1.1.1.13	The Defects Liability Period is 52 weeks from the date of the Certificate of Completion.
1.1.1.14	Delete clause 1.1.1.14 and replace with: “Due Completion Date” means the date of expiry of the time stated in the Contract Data for achieving Practical Completion of the Works, calculated from the date on which the Employer’s Agent instructs the commencement of Works and adjusted by such extensions of time or acceleration as may be allowed in terms of the Contract.” The time for achieving Practical Completion is 18 months, inclusive of non-working and special non-working days.
1.1.1.15	The name of the Employer is Johannesburg Water (SOC) Limited
1.1.1.16	The name of the Employer’s Agent is TBC.
1.1.1.26	The Pricing Strategy is a Re-measurement Contract.
1.2.1.2	The address of the Employer is: Physical Turbine Hall 65 Ntengi Piliso Street Newtown Postal P.O. Box 61542 Marshalltown 2107 Tel: 011 688 6570 Fax: 011 688 1528 Email: aluwani.matodzi@jwater.co.za
1.2.1.2	The address of the Employer’s Agent is TBA after Contract Award
3.2.3	Specific Approval – The Employer’s Agent is required to obtain the Employer’s approval for the following: • Approval of Variation Orders • The use of contingencies • Approval of Prov. Sum (3 Quotes system) • Approval to exceed the Contract Sum • Approval of Subcontracting Plan and work package breakdown

Employer:		Contractor:	
Witness:		Witness:	



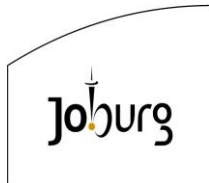
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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

GCC Clause	Information									
	• Stoppage/ suspension of Works by the Employer's Agent									
4.4.2	Add the following after this clause: Apart from sub-contractors identified by the Contractor for the execution of certain sections of the Works, subcontractors shall also include SMME's (Small Medium and Micro Enterprises), who are identified from the Local Community for the execution of certain sections of the Works. The appointment of subcontractors and the allocation of work to subcontractors shall, in addition to the provisions of the General Conditions of Contract, comply with, but not be limited to, the provisions of C1.2.1.2.14 (see below).									
4.10.1	Add the following to this clause: The Contractor shall employ labour from Local Communities (otherwise known as Local Labour), in accordance with the Tender Data, Scope of Work, Site Information, and Specifications. All Local Labour shall be recruited through the Community Liaison Officer (CLO) and/or Labour Desk Officer (LDO). The Contractor remains fully responsible for all Local Labour that are employed for the execution of the Works, as if they were the Contractor's own labour.									
4.11.1	Add the following to this clause: Competent Employees shall include, amongst others, the following Key Personnel: • Contracts Manager • Site Agent • Safety Officer • Environmental Officer The minimum requirements in terms of qualifications and experience of these Key Personnel are listed in (see below). <table><tr><th>Competent Employees</th><th>Qualifications</th><th>Experience</th></tr><tr><td>Contracts Manager</td><td> Minimum Qualifications of Contract Manager Only Contract Managers with qualifications of BTech/ BSc/BEng: (Civil) or Quantity Surveying, Construction Management AND Professional Registration (Pr.Eng. / Pr. Technologist, PrCPM/PrCM) will be accepted. However, the date of registration of Contract Manager will not impact post qualification number of projects </td><td>Four completed civil engineering projects as a Contract Manager.</td></tr><tr><td>Site Agent</td><td>Minimum Qualifications of Site Agent</td><td>2 (two) Water Meter Installation (minimum of 2000 meters) and Water Pipe Laying (reticulation or</td></tr></table>	Competent Employees	Qualifications	Experience	Contracts Manager	Minimum Qualifications of Contract Manager Only Contract Managers with qualifications of BTech/ BSc/BEng: (Civil) or Quantity Surveying, Construction Management AND Professional Registration (Pr.Eng. / Pr. Technologist, PrCPM/PrCM) will be accepted. However, the date of registration of Contract Manager will not impact post qualification number of projects	Four completed civil engineering projects as a Contract Manager.	Site Agent	Minimum Qualifications of Site Agent	2 (two) Water Meter Installation (minimum of 2000 meters) and Water Pipe Laying (reticulation or
Competent Employees	Qualifications	Experience								
Contracts Manager	Minimum Qualifications of Contract Manager Only Contract Managers with qualifications of BTech/ BSc/BEng: (Civil) or Quantity Surveying, Construction Management AND Professional Registration (Pr.Eng. / Pr. Technologist, PrCPM/PrCM) will be accepted. However, the date of registration of Contract Manager will not impact post qualification number of projects	Four completed civil engineering projects as a Contract Manager.								
Site Agent	Minimum Qualifications of Site Agent	2 (two) Water Meter Installation (minimum of 2000 meters) and Water Pipe Laying (reticulation or								

Employer:		Contractor:	
Witness:		Witness:	



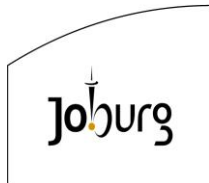
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EAST AND WEST)



VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

GCC Clause	Information		
		Only Site Agents with qualifications of National Diploma (Civil Engineering or higher) will be accepted.	bulk pipe laying) completed projects with a minimum of R30 million each as a Site Agent
	Safety Officer	Post Qualification Experience of Safety Officer Only a Safety Officer Registered with SACPCMP as a Construction Health and Safety Officer or Construction Health and Safety Manager or Professional Construction Health and Safety Agent.	Three Completed Civil Engineering Projects as a Safety Officer
	Environmental Liaison Officer/ Environmental Officer	Post Qualification Experience of Environmental Liaison Officer/ Environmental Officer Only an Environmental Officer with qualifications of National Dip/BA/BSc in Environmental Management will be accepted.	Three years' experience in construction projects or Three Completed Civil Engineering Projects as an Environmental Liaison Officer/ Environmental Officer

Employer:		Contractor:	
Witness:		Witness:	



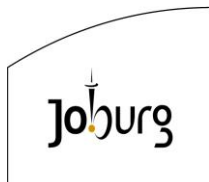
CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO
EAST AND WEST)



VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

GCC Clause	Information
5.3.1	The documentation required before commencement with Works execution are: • Approved Health and Safety File (Clause 4.3) • Approval of the Environmental File (Clause 4.3) • Initial programme & cashflow projections (Clause 5.6) • Performance Guarantee from Bank or Insurance Company which is registered as a Financial Service Provider (Clause 6.2) • Insurance of the Works, Plant, etc. (Clause 8.6), including but not limited to: ○ SASRIA Policy ○ Liability Insurance ○ Insurance of Construction Machinery and Plant ○ Contractor's all Risk Insurance ○ Insurance of Motor Vehicle Liability, ○ Any other insurance to be submitted by the Contractor • Compliance Certificate in respect of COID • Signed Notification to the Department of Labour • Construction Permit (where applicable). The Employer will require Health and Safety documentation from the Contractor to acquire this permit. • Subcontract plan / proposal which includes a number of Subcontractors that meet requirements as per conditions of C1.2.1.2.14 • Organogram of resources - CVs and certified qualifications and registration of competent employees as per conditions of Clause 4.11.1 above (Contracts Manager, Site Agent and Safety officer).
5.3.2	The time to submit the documentation required before Commencement of the Works is 28 days.
5.3.3	Time to instruct commencement of the Works Delete Clause 5.3.3 and replace with the following: The Contractor shall commence with carrying out the Works upon written instruction from the Employer's Agent to commence with the Works.
5.8.1	Working days shall be Monday to Friday, between 07h00 to 17h00.
5.8.1	The non-working days are Saturdays and Sundays. The special non-working days are all Public Holidays in terms of the Public Holidays Act (as amended), Election Day, and the annual "Builder's Break" as defined by SAFCEC on an annual basis.
5.11.1.2	Delete Clause 5.11.1.2
5.13.1	The penalty for failing to complete the Works is the greater of: An amount equal to the daily Time Related P&G rate (as calculated from the Time Related P&G section in the Bill of Quantities) or R5,000.00 per day, whichever is greater.

Employer:		Contractor:	
Witness:		Witness:	



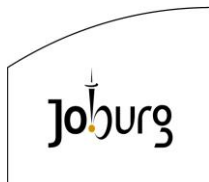
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5.14.1	The requirements for achieving Practical Completion are: • The secondary mains are tested and commissioned. • All the planned meters are installed, approved job cards, acknowledgement forms for receipt of Customer Interface Units and happy letters are submitted to the employer. • All the stands have been retrofitted; approved job cards and happy letters are submitted to the employer. Reinstate the surfaces to their original condition.
5.16.3	The latent defects period is 10 years.
6.2.1	The time to deliver the Form of Guarantee is within 28 days from the Commencement Date. The security to be provided by the Contractor shall be in the form of a On-demand Performance Guarantee and will comply with the requirements of Clause 6.2.3. The value of the Performance Guarantee shall be ten (10)% of the Contract Sum (including escalation), which sum excludes VAT.
6.8.2	The Contract Price Adjustment is Applicable for this Contract. The rates shall be adjusted by twelve-month year on year CPI index (as published in the monthly bulletin PO141.1 of statistics South Africa) ruling on the 12-month anniversary date of the Commencement of Contract.
6.8.3	Price adjustments for variations in the costs of special materials are NOT allowed.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%.
6.10.3	The percentage retention on the amounts due to the Contractor is 10%.
6.10.4	Delivery, dissatisfaction with and payment of payment certificates Delete Clause 6.10.4 and replace with the following: Payment shall be made upon: • The Contractor providing a payment certificate with all required supporting documents to the Employer's Agent on dates to be communicated to the Contractor upon award. • The payment certificate being submitted with an original tax invoice. • A statement being submitted on the last day of the month. Payment will be made within 30 days of receipt of the Contractor's statement/ valid tax invoice. Payment shall be subject to the Contractor submitting an Original Tax Invoice compliant with SARS requirements for a Valid Tax Invoice to the Employer for the amount due. Any dissatisfaction in respect of such payment certificate shall be dealt with in terms of Clause 10.2.
6.10.5	Payment of Retention Money Add to Clause 6.10.5 the following: Payment will be subject to Johannesburg Water processes as outlined in clause 6.10.4 as amended.
6.10.6.2	Delete Clause 6.10.6.2
6.11	Delete Clause 6.11
7.8.2	Cost of making good of defects

Employer:		Contractor:	
Witness:		Witness:	



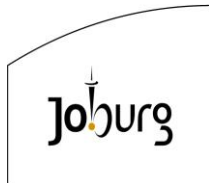
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GCC Clause	Information
	Amend Clause 7.8.2.1 as follows: In the first line, correct the spelling of 'therefore'.
8.1.1	Add to the end of Clause 8.1.1 the following text: "Although the extent of the Works and the Site are located within the boundaries of the Johannesburg City, the Contractor shall remain solely responsible for the protection of the Works and the Site".
8.4.1.1	Add to the end of Clause 8.4.1.1 the following text: "indemnifies the Employer against any liability in respect of damage or physical loss of property of any person or injury or death of any person due to non-compliance with the Occupational Health and Safety Act (Act 85 of 1993).
8.6	Add the following clause to 8.6 "In addition to any statutory obligations, or other requirements contained in the Conditions of Contract or in the Insurance Policy and Documents the Contractor shall report in writing to the Employer's Agent every accident within 48 hours of its occurrence, whether such accident is in respect of damage to persons or property. The report shall contain full details of the accident. The Employer's Agent shall have the right to make all and any enquiries either on the Site or elsewhere as to the cause and results of any such accident and the Contractor shall give the Employer's Agent full access and facilities for carrying out such enquiries. The Employer's Agent shall be given full and immediate access to all communication, reports, findings, assessments, etc. between the Contractor and its Insurance Broker (or Insurance Provider), particularly as it relates to the processing and outcomes of any and all claims. The Contractor shall further allow and authorise the Employer's Agent to communicate with its Insurance Broker (or Insurance Provider) to obtain any and all such information as the Employer's Agent deems necessary."
8.6.1.1.2	The value of plant and materials supplied by the Employer to be included in the insurance sum is R0.
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is an amount equal to 15% of the Contract Price.
8.6.1.2	Delete clause 8.6.1.2 and replace with the following: "Following the introduction of legislation affecting the articles of the South African Special Risks Insurance Association (SASRIA), insurance cover for loss or damage to the Works caused by any event defined as a risk in terms of the insurance offered by SASRIA, will be provided under a certificate issued by SASRIA."
8.6.1.3	The limit of indemnity for liability insurance is R20,000,000 (Twenty million Rand) for any single claim – the number of claims to be unlimited during the Construction and Defects Liability Periods.
8.6.1.5	In addition to the insurances required in terms of General Conditions of Contract for Construction Works 2015 Clauses 8.6.1.1 to 8.6.1.4 the following insurance is also required: a. The Contractor shall insure all Construction Machinery and Plant (including tools, offices and other temporary structures and content) and other items, other than those intended for incorporation into the works, owned, leased or hired and brought on to the

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GCC Clause	Information
	Site against all risks of physical loss or damage for the period that such Plant shall be on the Site to the full value thereof. In respect of Machinery and Plant brought on to the Site by or on behalf of Sub-Contractors, the Contractor shall be deemed to have complied with the provisions of this Sub-Clause if it has ensured that such Sub-Contractors have similarly insured such Plant and Machinery. Such insurance shall be affected by the Contractor with an Insurer and in terms approved by the Employer (which approval shall not be unreasonably withheld) and the Contractor shall, when required, submit to the Employer's Insurance Brokers, via the Employer's Agent, the policy or policies of insurance and receipts for payment of the current premiums. b. The Contractor and the Sub-contractors shall affect and maintain at their cost, insurance under the provision of the Compensation for Occupational Injuries and Diseases Act (COID), 1993 (Act No. 130 of 1993) c. The Contractor and the Sub-Contractors shall affect and maintain at their own cost, motor vehicle liability insurance with at least indemnification for "balance of third party" risks, including passenger liability with a limit of indemnity of not less than R2,5 million. d. Where the contract involves manufacturing and/or fabrication of the works or part thereof at premises other than the Site, the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such works during manufacture or fabrication then such interest shall be noted by endorsement to the Contractor's Policies of Insurance. e. Any other Insurance cover that may be deemed necessary by the Contractor to ensure full and successful completion of the Works.
9.2.1	Add to the end of Clause 9.2.1 the following text: "While the Employer has every intent to complete the full scope of works, the Employer reserves the right to terminate this contract, with adjustment to the agreed rates, sums or fees and without payment of any penalty in this regard."
10.5.1	Dispute resolution shall be by Amicable Settlement, failing which, any dispute shall be resolved by way of adjudication followed by arbitration.
10.5.3	The number of Adjudication Board Members to be appointed is one (1).
10.7.1	The determination of disputes shall be by arbitration.

C1.2.1.2 Additions

The additional Conditions of Contract are:

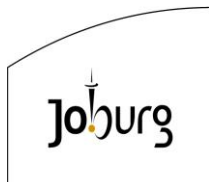
C1.2.1.2.1 Penalties

In addition to GCC clause 5.13, during the Contract Period should the Contractor:

a) Fail to report

- The Employer shall levy a penalty on Contractor, should the latter fail to provide reporting as required in C1.2.1.2.6, C1.2.1.2.14 and the specification highlighted in the Scope of Work, with regard to content and frequency, whilst as per the Pricing Data section no payment for work completed shall be processed.

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Witness:		Witness:	



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- The penalty value shall be R2,000.00 per report per occasion; and
- If the Contractor fails to complete the aforementioned more than three incidents and should the Employer or his duly authorised representative find that the Contractor is hindering his (the Employer's) deliverables to JW Senior Management, he shall reserve the right to:
 - i. perform the Works internally or through another Contractor; and
 - ii. deduct additional costs incurred by the Employer from monies owed to the Contractor or from the Contractor's Guarantee. Additional costs incurred by the Employer shall include all claims from Contract affected parties, claims such as but not be limited to claims from customers, any costs associated with the loss of water, and all costs associated with the procurement of an alternative Contractor.
 - iii. terminate the Contract.

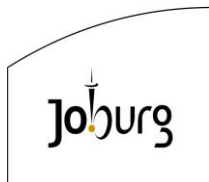
No liability in terms of this clause shall be attached to the Contractor if he can prove to the satisfaction of the Employer that the nature of the failure is due to fire, war, riot, strikes, act of God, lockout, accident or other unforeseen occurrences or circumstances beyond the Contractor's control, provided, however, that in all cases the Contractor has notified the Employer in writing within 24 hours of it first coming to his notice, that delivery shall be delayed or become impossible for the above-mentioned reasons.

b) Fail to pay any labourer or SMME

- The Employer shall levy a penalty on the Contractor, should the latter fail to provide payment to any labourer or SMME as required in the specification highlighted in the Scope of Work and specified in the appointment agreements with the Contractor and the labourer or SMME.
- The penalty value shall be R 10,000.00 per incident per occasion; and
- If the Contractor fails to complete the aforementioned more than three incidents and should the Employer or his duly authorised representative find that the Contractor is hindering his (the Employer's) deliverables to JW Senior Management, he shall reserve the right to:
 - i. perform the Works internally or through another Contractor; and
 - ii. deduct additional costs incurred by the Employer from monies owed to the Contractor or from the Contractor's Guarantee. Additional costs incurred by the Employer shall include all claims from Contract affected parties, claims such as but not be limited to claims from customers, any costs associated with the loss of water, and all costs associated with the procurement of an alternative Contractor.
 - iii. terminate the Contract.

No liability in terms of this clause shall be attached to the Contractor if he can prove to the satisfaction of the Employer that the nature of the failure is due to fire, war, riot, strikes, act of God, lockout, accident or other unforeseen

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occurrences or circumstances beyond the Contractor's control, provided, however, that in all cases the Contractor has notified the Employer in writing within 24 hours of it first coming to his notice, that delivery shall be delayed or become impossible for the above-mentioned reasons.

c) Failure to meet target participation by local SMME

If the Contractor fails to achieve the monetary value of the target set by the Employer for contract participation by local SMME Contractors in terms of **C1.2.1.2.14**, the Contractor shall be liable to the Employer for a sum calculated in accordance with the Contract Data and the aforementioned Scope as a penalty for such underachievement.

The penalty for failing to achieve the monetary value of the target set by the Employer for contract participation by Targeted Enterprises and local SMME Contractors in terms of the Scope of Works is 50% of the monetary value by which the achieved monetary value falls short of the target monetary value.

d) Failure to meet the occupational health and safety compliance target

Monthly compliance rating will be calculated for each Contractor as per a formula determined by the Employer focusing on or incorporating outcomes of assurance (e.g. monthly audit), operational (e.g. behavioral based safety inspection) assessments and other requirements, as necessary.

The Employer will impose a penalty value of R7 000,00 per audit report where a Contractor scores below 85%.

The Employer will impose a penalty value of R2 000,00 per occasion where the Contractor scores above 85% but below 93% for two successive months.

e) Failure to meet the Environmental compliance target

Monthly compliance rating will be calculated for each Contractor as per a formula determined by the Employer focusing on or incorporating outcomes of assurance (e.g. monthly audit), operational assessments and other requirements, as necessary.

The Employer will impose a penalty value of R5 000,00 per audit report where a Contractor scores below 85%.

The Employer will impose a penalty value of R2 000,00 per occasion where the Contractor scores above 85% but below 93% for two successive months.

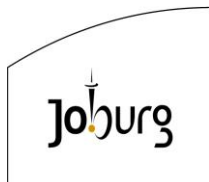
f) Penalties payable

If penalties are payable, they will be processed through a credit note issued by the Contractor.

g) Penalties irreversible

The Contractor shall note that all penalties once imposed shall be non-recoverable or non-reversible, even if the default is remedied.

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C1.2.1.2.2 Source of Instructions

The Contractor shall neither seek nor accept instructions from any authority external to the Employer's Agent in connection with the performance of his services under this Contract. The Contractor shall refrain from any action which may adversely affect the Employer and shall fulfill his commitments with fullest regard for the interest of the Employer. The Contractor may only accept and comply with instructions from the Employer's Health and Safety Representative or the Employer's Environmental Representative with regards to matters regarding Health & Safety or Environmental Management respectively, but with further approval from the Employer's Agent.

C1.2.1.2.3 Officials not to Benefit

The Contractor warrants that no official of the Employer has been or shall be admitted by the Contractor to any direct or indirect benefit arising from this Contract or the award thereof. The Contractor agrees that breach of this provision is a breach of the Contract.

C1.2.1.2.4 Prevention of Corruption

The Employer shall be entitled to cancel the Contract and to recover from the Contractor the amount of any loss resulting from such cancellation, if the Contractor has offered or given any person any gift or consideration of any kind as an inducement or reward for doing or intending to do any action in relation to the obtaining or the execution of the Contract or any other contract with the Employer or for showing or intending to show favor or disfavor to any person in relation to the Contract or any other contract with the Employer. If similar acts have been done by any persons employed by the Contractor or acting on his behalf whether with or without the knowledge of the Contractor in relation to this or any other Contract with the Employer, the same consequences shall apply.

C1.2.1.2.5 Confidential Nature of Documents

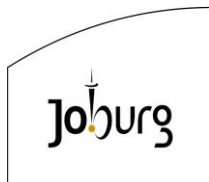
All maps, drawings, photographs, mosaics, plans, reports, recommendations, estimates, documents and all other data compiled by or received by the Contractor under the Contract shall be the property of the Employer, shall be treated as confidential and shall be delivered only to the Employer's Agent or his duly authorized representative on completion of the Works; their contents shall not be made known by the Contractor to any person other than the personnel of the Contractor performing services under this Contract without the prior written consent of the Employer.

C1.2.1.2.6 Returns of Labour, SMME, Plant, Equipment and Material

The Contractor shall provide a return in detail in the form and at such intervals as the Employer's Agent or his duly authorized representative may prescribe showing the supervisory staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting construction plant, equipment and material as the Employer's Agent or his duly authorized representative may require. The supporting documents required for SMMEs include but are not limited to the following:

- A completed and signed sub-contracting agreement between the Contractor and the SMME
- Valid CIPC registration (i.e. CK, COR)

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- SA ID copies of owners
- Active CIDB membership: minimum grading 1CE
- Valid CSD compliance status
- Valid EME affidavit
- COIDA certificate
- Company Profile including similar experience and skilled personnel CVs
- Health and Safety Plan
- Proof of Payments

The supporting documents required for local labourers include but are not limited to the following

- A completed and signed employment contract between the Contractor and labourer
- Certified Copies of IDs
- Monthly Individual proof of payment
- Monthly timesheets
- Training returns
- UIF forms (proof of registration from Labour)

C1.2.1.2.7 Materials and Workmanship

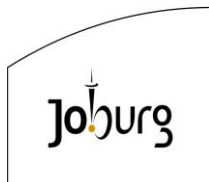
All materials and workmanship shall be of the respective kinds described in the Contract and in accordance with the Employer's Agent's instructions and shall be subjected from time to time to such tests as the Employer's Agent may direct at the place of manufacture or fabrication, or on the Site or at all or any of such places. The Contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any materials used and shall supply samples of materials before incorporation in the Works for testing as may be selected and required by the Employer's Agent. All testing equipment and instruments provided by the Contractor shall be used only by the Employer's Agent or by the Contractor in accordance with the instructions of the Employer's Agent.

- a) No material not conforming with the Specifications in the Contract shall be used for the Works without prior written approval of the Employer and instruction of the Employer's Agent, provided always that if the use of such material results or may result in increasing the Contract Price, the procedure in GCC clause 6.3 (Variations) shall apply.

C1.2.1.2.8 Examination of the Work before Covering Up

No work shall be covered up or put out of view without the approval of the Employer's Agent or his duly authorized representative and the Contractor shall afford full opportunity for the Employer's Agent or his duly authorized representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The Contractor shall give due notice to the Employer's Agent whenever any such work or foundations is or are ready or about to be ready for examination. The Employer's Agent or his duly

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authorized representative shall without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, attend for the purpose of examining and measuring such work or of examining such foundations.

C1.2.1.2.9 Employer's Agent's Power to Order Removal of Improper Work and Materials

The Employer's Agent or his duly authorized representative shall during the progress of the Works have power to order in writing from time to time, and the Contractor shall execute at his cost and expense, the following operations:

- a) removal from the Site within such time or times as may be specified in the order of any materials which in the opinion of the Employer's Agent are not in accordance with the Contract.
- b) substitution of proper and suitable materials; and
- c) removal and proper re-execution (notwithstanding any previous test thereof or interim payment therefore) of any work which in respect of materials or workmanship is not in the opinion of the Employer's Agent or his duly authorized representative in accordance with the Contract.

C1.2.1.2.10 Default of Contractor in carrying out Employer's Agent's or his Duly Authorized Representative's Instructions

In case of default on the part of the Contractor in carrying out an instruction of the Employer's Agent or his duly authorized representative, the Employer shall be entitled to employ and pay other persons to carry out the same, and all expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer and may be deducted by the Employer from any monies due or which may become due to the Contractor.

C1.2.1.2.11 Date Falling on Public Holiday or Weekend

Where under the terms of the Contract any act is to be done or any period is to expire upon a certain day and that day or that period fall on a day of rest or recognized public holiday or weekend, the Contract shall have effect as if the act were to be done or the period to expire upon the working day following such day.

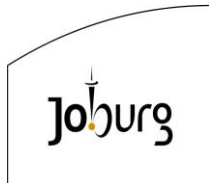
C1.2.1.2.12 Ambiguities and Inconsistencies

The Employer or the Contractor shall notify the other as soon as either becomes aware of an ambiguity or inconsistency in or between the documents which are part of this Contract. Governed by the spirit and intention of the Contract, the Employer shall give a binding instruction resolving the ambiguity or inconsistency.

C1.2.1.2.13 False Claims by the Contractor

- a. Failure, by the Contractor, to demonstrate or present any feature declared during the procurement stage shall constitute grounds for Contract termination or the market related equivalent price discount, if no market related value is available, the Employer shall give a final ruling on the amount. This shall be at the discretion of the Employer based on the implication of such omission. Should the Contractor refuse to accept the Employer's price, the Contract shall be terminated.

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- b. Any false claims by the Contractor or his staff (with or without his knowledge), based on Works to be performed or completed per site stage shall constitute grounds for Contract termination and result in blacklisting on the Employer's database.

The Contractor shall note that any of the above shall constitute non-performance on the part of the Contractor, further resulting in him forfeiting his full Contract Guarantee.

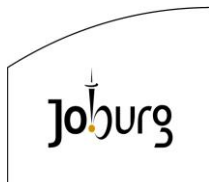
C1.2.1.2.14 Special Conditions

The successful Contractor must subcontract a minimum of 30% of the value of this Contract to an entity(s) described below. The value of the Contract for the purposes of this calculation shall be equal to the Contract Price (excluding VAT) as described in the General Conditions of Contract.

The subcontractor/s chosen for this purpose must be registered on National Treasury's Central Supplier Database (CSD) and must be from one of the following designated groups:

- An EME or QSE which is at least 51% owned by black people;
 - An EME or QSE which is at least 51% owned by black people who are youth;
 - An EME or QSE which is at least 51% owned by black women;
 - An EME or QSE which is at least 51% owned by black people with disabilities;
 - An EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships;
 - A cooperative which is at least 51% owned by black people;
 - An EME or QSE which is at least 51% owned by black people who are military veterans;
 - an EME or QSE .
1. Local Subcontractors will be sourced from within the Ward/Region where the project will be implemented.
2. The Contractor will identify subcontracting items or tasks that will meet the subcontracting minimum of 30% of the value of this Contract. In complying with this condition, the following shall be adhered with:
- The Contractor shall develop a Subcontracting Plan that sets out the details of the proposed Subcontracting arrangements including, but not limited to, competitive bidding process to be used for the appointment of SMME's, scope of work to be allocated, criteria for the selection of Subcontractor(s), Subcontractor agreements, cost of the work to be Subcontracted, etc.
 - The Subcontracting Plan shall be issued to the Employer's Agent for approval, prior to the engagement of any Subcontractor(s) by the Contractor. The activities, time periods, linkages, etc. associated with the development and approval of the Subcontracting Plan shall be included in the Project Programme, which Programme is subject to the approval of the Employer's Agent.
 - The Employers Agent may assist with identified items for subcontracting but

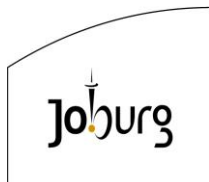
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where these do not form 30% of the Contract Price, the Contractor shall identify additional works that will be subcontracted to ensure compliance with the minimum subcontracting percentage.

- The Local sub-contracting appointment will be as per Johannesburg Water's Standard Operating Procedures for SMME recruitment process.
 - In the event that a rate supplied by the Contractor for a specific BoQ work item is not sufficient to cover Subcontractor costs/rates for that specific item, the Contractor shall provide a detailed rate breakdown for that specific BoQ item (and each and every subsequent BoQ work item where the rate is not sufficient to cover Subcontractor cost); and shall indicate costs (amongst others) for labour, material, handling, mark-ups, etc. to prove that the rate that was submitted during tender stage was in fact market related; and in balance with other rates that were submitted for work items that will not be undertaken by Subcontractors.
 - Should any delays be experienced during the period of the Contract due to the appointment of subcontractors by the Contractor, work stoppages by subcontractors, industrial action by subcontractors, etc. such delays shall be assigned to the Contractor, and no claims for Extension of Time will be entertained by the Employer.
 - The Contractor will be liable to pay a penalty if the Subcontracting target of 30% has not been met by the end of the Contract. The Employer will deduct this penalty amount through the Payment Certificate process. The Employer will have full discretion as to when the penalty will be applied (i.e. the month in which the penalty amount will be deducted). In calculating the total amount that has been (will be) paid to SMME's, all amounts that have actually been reimbursed to SMME's will be taken into account including P&G's, amounts for actual work done, etc.
 - The penalty amount described above shall be equal to 50% (fifty percent) of the difference between the target Subcontract amount (i.e 30% of the Contract Price) and the actual amount that has been spent on Subcontractors/SMME's by the end of the Contract.
3. A Subcontracting agreement between the Main Contractor and the Subcontractor shall be submitted to JW upon appointment and must include the following minimum information:
- Name of Subcontractor and BBBEE status
 - Subcontractor domicilium and registered address of business, as well as status of compliance with all applicable legal requirements.
 - Area and location of project
 - Scope of Work issued to the Subcontractor
 - Value of the Work issued including P&G's (this information must be submitted in a format that is readily auditable).
 - Assistance provided/to be provided to the Subcontractor by the Contractor, e.g. acquisition of materials, machinery, tools, etc.
 - Indicate the remuneration rate of all local labourers (the latest Gazetted labour

Employer:		Contractor:	
Witness:		Witness:	



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COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO
EAST AND WEST)

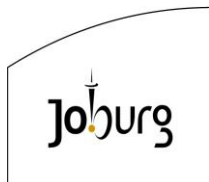


VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

rates)

- A Skills Transfer Plan which will indicate, amongst others, the proposed skills that will be transferred to the Subcontractor, individuals that will be identified for skills transfer, the amount that will be spent by the Contractor on skills transfer, evidence that will be produced by the Contractor (such as training certificates, training registers, etc.), etc.
 - A specific provision that enables the Contractor to pay the Subcontractor's suppliers, labour (skilled, local, etc.) or any other service provider of the Subcontractor, should the Subcontractor fail to do so. This provision shall include (but not be limited to) the following conditions/proviso's: Invoices that are due for payment from suppliers and the like must be invoices that have been approved for payment and be based on work or services that have actually been completed or delivered. Payments that are due to labour will be based on approved timesheets.
 - The Contractor is to ensure that any invoice presented for payment is indeed an approved invoice, and that the necessary work or services have been delivered or completed. The approved invoice shall be settled (paid) by the Contractor (on behalf of the Subcontractor) by the due date for payment.
 - The Contractor will be entitled to deduct payments made to any third party, on behalf of the Subcontractor, from subsequent payments that may become due to the Subcontractor.
 - The Contractor will be entitled to bill the Subcontractor a mark-up on the payments made on behalf of the sub-contractor. The mark-up shall not be more than 10% (ten percent) of the amount actually paid (i.e. the amount (excluding VAT) reflected on the invoice that has been settled). The mark-up amount shall be deducted from subsequent payments that may become due to the Subcontractor.
 - Proof of any such payments made on behalf of the Subcontractor shall be issued to the Employer's Agent, on request, with all necessary supporting information that the Employer's Agent may request
 - Payments made on behalf of the Subcontractor are not subject to the Contractor first being paid by the Employer. Therefore, the Contractor shall pay approved invoices, on behalf of the Subcontractor, irrespective of whether the Contractor has first been paid by the Employer. The Contractor will be entitled to levy interest on all payments that have been made in this regard, in accordance with the necessary interest payment provisions contained in the General and Special Conditions of Contract.
4. The successful Contractor shall submit periodic SMME/Subcontractor reports to the Employer's Agent as follows:
- Status of progress against the Subcontracting Plan (described above), to the approval of the Employer's Agent
 - Subcontractor domicilium and registered address of business, as well as ongoing status of compliance with all applicable legal requirements.
 - Name of Subcontractor and BBBEE status

Employer:		Contractor:	
Witness:		Witness:	



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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

- Area and location of project
 - Scope of work issued to the Subcontractor
 - Value of the work issued (this information must be submitted in a format that is readily auditable)
 - Monthly payments made to the subcontractor (this information must be submitted in a format that is readily auditable)
 - Assistance provided to the Subcontractor e.g. advance payments, acquisition of materials, machinery, tools, etc.
 - Performance of the Subcontractor, with evidence to support this performance assessment.
5. Upon completion of the project, the Contractor is required to provide a final report to JW on skills transferred to / acquired by the Subcontractor(s) engaged on the Project, description and value of work performed, as well as their overall performance.
6. The Contractor shall also indicate whether the experience gained by the Subcontractor is sufficient to assist the Subcontractor to improve their CIDB grading, with full details of supporting information.

The Contractor shall avail himself for all stakeholder engagement sessions leading to the appointment of subcontractors.

C1.2.1.2.15 Competent Employees

Please refer to Clause 4.11.1 of the Contract Data

C1.2.1.2.16 Tie-in Limitations

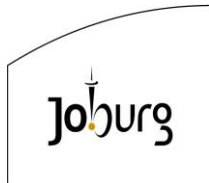
The connection of new infrastructure to the existing infrastructure is limited to low-flow periods and subject to prior arrangement and approval by the Works.

C1.2.1.3 Variations to General Conditions of Contract

Add the following Table:

3.2.4	Employer's Agent for Health and Safety Replace Clause 3.2.4 with the following: 'In terms of Clause 1.3.2, all parties to the Contract shall be subject to the relevant requirements of the Construction Regulations 2014 (as amended) of the Occupational Health and Safety Act, Act 85 of 1993 (as amended).' Add the following at the end of the above new replacement Clause 3.2.4: 'Where the Employer is obliged to appoint an Employer's Agent for Health and Safety in terms of the Construction Regulations 2014 (as amended) of the Occupational Health and Safety Act (Act 85 of 1993 as amended), and where such Employer's Agent for Health and Safety has complied with the registration requirements of a Construction Health and Safety Agent as a specified category in terms of section 18 (1) (c) of the
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Employer:		Contractor:	
Witness:		Witness:	



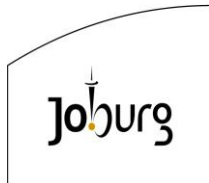
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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

	Project and Construction Management Professions Act (Act 48 of 2000), the applicable clauses of the latest edition of the “Standard Scope of Services for Construction Health and Safety Agents Registered In Terms Of Section 18(1)(c) of the Project And Construction Management Professions Act (Act No. 48 Of 2000)”, including Clauses 2.2.5 “STAGE 5 - CONSTRUCTION DOCUMENTATION AND MANAGEMENT”, and 2.2.6 “STAGE 6 - PROJECT CLOSE – OUT”, and 2.2.7 “ADDITIONAL RELATED SERVICES”, as published in “Registration Rules for Construction Health and Safety Agents in Terms of Section 18 (1) (c) of the Project and Construction Management Professions Act, 2000 (Act No. 48 of 2000)” by the South African Council for Construction and Project Management Professionals in terms of the Project and Construction Management Professions Act (Act 48 of 2000 as amended), shall also apply.’
5.1.1.2	Time Calculations SEPARATE THE PHRASE “shall be excluded from the calculation of the time-span concerned.” BY MOVING IT ONTO A NEW LINE AS A NEW PARAGRAPH, AND PROMOTE THAT PARAGRAPH BY ONE PARAGRAPH LEVEL TO A POSITION WHERE IT FORMS THE LAST PART OF SUB-CLAUSE 5.1.1, SO THAT SUB-CLAUSE 5.1.1.2 READS AS FOLLOWS: 5.1.1.2 The day on which the timespan commences shall be excluded from the calculation of the timespan concerned.”
5.7.1	Rate of progress ON PAGE 25, IN THE TOP PARAGRAPH, FOR THE SENTENCE COMMENCING WITH “Such steps shall...” REPLACE THE SENTENCE “Such steps shall be approved by the Employer's Agent, which approval shall not be unreasonably withheld.” WITH “Such steps shall be subject to the approval of the Employer's Agent, which approval shall not be unreasonably withheld.”
6.5.1.3	Basis of payment for dayworks ON PAGE 40, IN THE LAST LINE OF THE SUB-CLAUSE, REPLACE THE PHRASE “ruling plant hire rates” WITH “ruling construction equipment hire rates”

Employer:		Contractor:	
Witness:		Witness:	



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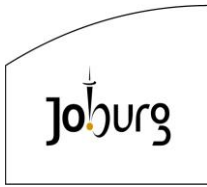


VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA

C1.2.2 Part 2: Data Provided by the Contractor

GCC Clause	Information																		
Clause 1.1.9	The name of the Contractor is..... The Contact person is.....																		
Clause 1.2.1.2	<table border="1"><thead><tr><th colspan="2">The address of the Contractor is:</th></tr><tr><th>Physical Address:</th><th>Postal Address:</th></tr></thead><tbody><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td>Tel:</td><td>Fax:</td></tr><tr><td> </td><td> </td></tr><tr><td>Email</td><td> </td></tr></tbody></table>	The address of the Contractor is:		Physical Address:	Postal Address:									Tel:	Fax:			Email	
The address of the Contractor is:																			
Physical Address:	Postal Address:																		
Tel:	Fax:																		
Email																			
Clause 6.2.1	The security to be provided by the Contractor shall be one of the following: The Performance Guarantee shall be irrevocable, On-Demand Performance Guarantee, to be issued exactly in the form of the proforma document provided in favour of the Employer by a Bank or registered financial services provider.																		
Clause 6.8.3	The variation in cost of special materials is Type Unit Rate NOT APPLICABLE																		

Employer:		Contractor:	
Witness:		Witness:	



Johannesburg Water (SOC) Ltd



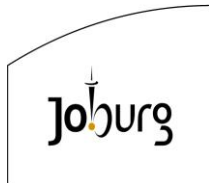
CONTRACT NO: JW14506

**COMPLETION OF SOWETO INFRASTRUCTURE
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SUPER BLOCK 7B (ORLANDO EAST AND WEST)**

VOLUME 1

**CONTRACT PART 1 C1.3: FORMS OF
SECURITIES**

Employer:		Contractor:	
Witness:		Witness:	



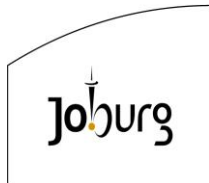
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C1.3.3 Health and Safety Contract Between Employer and Contractor in Terms of Section 37(2) of the Occupational Health and Safety Act No 85 Of 1993	C.33
C1.3.4 Health and Safety Contract: General Information	C.34

Employer:		Contractor:	
Witness:		Witness:	



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C1.3 FORMS AND SECURITIES

FORMS FOR COMPLETION BY THE CONTRACTOR

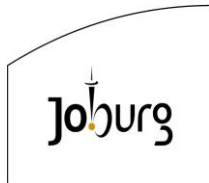
THE FOLLOWING FORMS ARE TO BE COMPLETED BY THE CONTRACTOR AFTER THE TENDER HAS BEEN AWARDED TO THE SUCCESSFUL TENDERER

- a) Form of Guarantee
- b) Blasting Indemnity
- c) Agreement in terms of the Occupational Health and Safety Act
- d) Occupational Health And Safety Indemnity Undertaking

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

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

Employer:		Contractor:	
Witness:		Witness:	



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TO BE PRINTED ON THE OFFICIAL LETTERHEAD OF THE GUARANTOR.

PERFORMANCE GUARANTEE

For execution of a Contract in terms of the General Conditions of Contract for Construction Works,
..... Edition,

GUARANTEE REFERENCE NUMBER: [*]**

Whereas [insert the full name of the Employer], registration number: [insert registration number], of [insert full physical address] (the “Employer”) has awarded a contract for [insert a detailed description of the contract], under contract number: [insert details] (the “Contract”), to [insert full names of the Contractor], registration number [insert details], of [insert full physical address] (the “Contractor”).

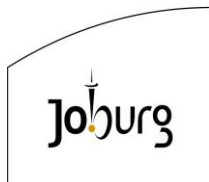
And whereas the Contract requires the Contractor to provide to the Employer an **on-demand** performance guarantee for the due and proper performance by the Contractor of its obligations in terms of the Contract.

Now therefore:

[insert full names of the Guarantor], registration number [Insert details], of [insert the full physical address] (the “Guarantor”), duly represented by the undersigned: [insert the full names of the signatory], and [insert the full names of the signatory], acting herein in their respective capacities as: [insert full title] and [insert full title] respectively, of the Guarantor, and being duly authorized to sign this on demand performance guarantee (this “Guarantee”) and to incur obligations in relation thereto, in the name, and on behalf, of the Guarantor under, and in terms of, a Resolution of the Board of Directors or other written authority of the Guarantor, hereby irrevocably and unconditionally guarantees and undertakes:

1. To pay the Employer the sum or sums not exceeding the following aggregate amount: R [insert the amount] (the “Guaranteed Amount”) (excluding VAT), upon receipt of the documents identified in clauses 1.1 to 1.3 below
 - 1.1. A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 1.2;
 - 1.2. A first written demand issued by the Employer to the Guarantor e-mailed towith a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 1.1 above and the sum certified has still not been paid;
 - 1.3. A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum.

Employer:		Contractor:	
Witness:		Witness:	

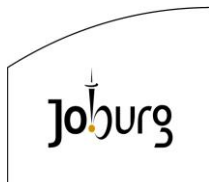


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2. To pay to the Employer the Guaranteed Amount or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor emailed to calling up this Performance Guarantee, such demand stating that:
 - 2.1. The Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 2; or
 - 2.2. A provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 2; and
 - 2.3. The aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
3. To pay to the Employer on demand any sum or sums not exceeding the Guaranteed Amount on presentation of a written demand signed by the Employer (the "**Demand**"), supported by a written statement signed by the Employer certifying that the Contractor, in the opinion of the Employer as at the date of issue of such Demand:
 - 3.1. Is in breach of its obligations under the Contract or that a defect had occurred following the non-performance by the Contractor of its obligations under the Contract.
 - 3.2. Is due to be terminated but the Employer elects for the Contractor to remain in risk for the appointment of a replacement contractor to correct the Contractor's defaults and/or complete the works, and without being required to prove or set out the nature of any such breach or defect.
4. Subject to the above, but without in any way detracting from the employer's rights to adopt any of the procedures provided for in the contract, the said demand can be made by the employer at any stage prior to the expiry of this guarantee.
5. Payment by the Guarantor in terms of 1 to 3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
6. The Guarantor hereby acknowledges that:
 - 6.1. Any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;
 - 6.2. Its obligation under this Performance Guarantee is restricted to the payment of money.
7. 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.
8. Neither the failure of the Employer to enforce strict or substantial compliance by the Contractor with its obligations under the Contract nor any act, conduct or omission by the Employer prejudicial to the interests of the Guarantor will discharge the Guarantor from liability under this Guarantee.
9. This Performance Guarantee, with the required demand notices in terms of 1 to 3, shall be regarded as a liquid document for the purpose of obtaining a court order.

Employer:		Contractor:	
Witness:		Witness:	



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10. This Performance Guarantee is neither negotiable nor transferable.
11. 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 date on which the Certificate of Completion of the Works has been issued or 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.
12. The Guarantor chooses the physical address **[insert the full physical address]** care of **[insert the full names]**, as well as the e-mail address, for the service of all notices for all purposes in connection herewith.
13. This Guarantor is governed by the laws of the Republic of South Africa and any dispute arising hereunder shall be subject to the jurisdiction of the South African courts. In respect of such proceedings, each of the Parties specifically consents to the non-exclusive jurisdiction of the High Court of South Africa (Gauteng Local Division, Johannesburg).

Signed at for and on behalf of

Guarantor's signatory (1)

Name:

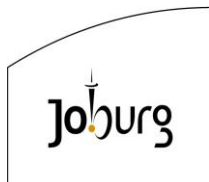
Designation:

Guarantor's signatory (2)

Name:

Designation:

Employer:		Contractor:	
Witness:		Witness:	



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C1.3.2 Blasting Indemnity

Given by _____

*Company Registration No. _____

Address _____

a *Company incorporated with limited liability according to the company laws of the Republic of South Africa, *Partnership, *Close Corporation, *Public Company (hereinafter called the Contractor), represented herein by _____
in his capacity as the Contractor's _____
duly authorised hereto by a resolution of the Contractor dated _____
a certified copy of which resolution is attached to this Indemnity.

WHEREAS the Contractor has entered into a Contract with the Johannesburg Water (SOC) Ltd (hereinafter called the Employer) for,

_____ and the Company requires this Indemnity from the Contractor

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

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

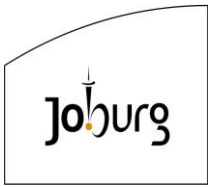
As witnesses:

1.

Name & Surname

Signature

Employer:		Contractor:	
Witness:		Witness:	



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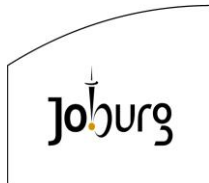
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2. _____
Name & Surname Signature

Duly authorised to sign on behalf of: _____

Address: _____

Employer:		Contractor:	
Witness:		Witness:	



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C1.3.3 Health and Safety Contract Between Employer and Contractor in Terms of Section 37(2) of the Occupational Health and Safety Act No 85 Of 1993

Written agreement between Johannesburg Water ((Proprietary) Limited (hereinafter referred to as "the Employer) and _____ (hereinafter referred to as "the mandatory") as envisaged by Section 37(2) of the Occupational Health and Safety Act, No. 85, of 1993 as amended.

I _____ representing _____ (mandatory) do hereby acknowledge that _____ (mandatory) is an employer in its own right and shall be regarded as the employer for purposes of the contract work specified in the body of the principal agreement with duties as prescribed in the Occupational Health and Safety Act, No. 85 of 1993 as amended so as to ensure that all work will be performed or machinery and plant used in accordance with the provisions of the said Act. I furthermore agree to comply with the requirements of the Employer as contained in the Occupational Health and Safety Specification included with the principal agreement and to liaise with the employer should I, for whatever reason, be unable to perform in terms of this agreement.

Signed this _____ day of _____ at _____

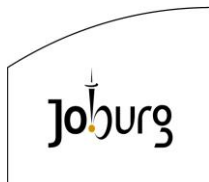
Signature on behalf of mandatory _____

Signature on behalf of Employer _____

Compensation Fund Registration No. of mandatory _____

Good Standing Certificate : ☐ yes ☐ no (tick one box)

Employer:		Contractor:	
Witness:		Witness:	



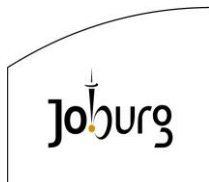
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C1.3.4 Health and Safety Contract: General Information

1. The Occupational Health and Safety Act comprises Sections 1 to 50 and all un-repealed regulations promulgated in terms of the former Machinery and Occupational Safety Act No 6 of 1983 as amended, as well as other regulations which may be promulgated in terms of the OHS Act.
2. 'Mandatory' is defined as including an agent, a contractor or a subcontractor for work, but without derogating from his status in his own right as an employer or user of plant and machinery
3. Section 37 of the Occupational Health and Safety Act potentially punishes employers (principals) for the unlawful acts or omissions of mandataries (contractors) save where a written agreement between the parties has been concluded containing arrangements and procedures to ensure compliance with the said Act by the mandatory.
4. All documents attached or referred to in the above agreement form an integral part of the agreement.
5. To perform in terms of this agreement mandataries must be familiar with the relevant provisions of the Act.
6. Mandataries who utilise the services of their own mandataries (subcontractors) are advised to conclude a similar written agreement.
7. Be advised that this agreement places the onus on the mandatory to contact the Employer in the event of inability to perform as per this agreement. The Employer, however, reserves the right to unilaterally take any steps as may be necessary to enforce this agreement.
8. The contractor shall be responsible for the full and proper implementation of the terms and provisions of the Act and its regulations in the area in which the work is to be undertaken by the Contractor.
9. The Contractor shall be responsible for the well-being, in relation to health and safety, of all persons coming upon or into such area in accordance with that legislation, including the implementation of any directives issued by management of the Employer in this respect.
10. The work to be done is **JW14506: COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO EAST AND WEST)**
11. The area in which the work is to be conducted is _____
12. The Contractor shall familiarise himself with such area and all risks existing thereon and undertakes to report to the representative of the Employer any hazard or risk to health and safety which arises during the contract work in the area concerned and over which the Contractor may have no control. All necessary and appropriate safety / health equipment shall be issued by the Contractor to all persons working on or coming into the area.

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 1 CONTRACT PART 1: AGREEMENT AND CONTRACT DATA
SECTION C1.3: FORMS AND SECURITIES



C1.3.4.1 Occupational Health and Safety Indemnity Undertaking

I, the undersigned _____
in my capacity as _____
of the firm _____

1. Hereby undertake to ensure that I/my firm and/or employees and/or subcontractors and/or his employees -
 - 1.1 comply strictly with the provisions of the Occupational Health and Safety Act of 1993 (as amended) and/or the regulations promulgated in terms thereof, with specific reference to section 37(2) of the said act, as well as any relevant legislation, in the course of the performance/execution of any service and/or work in, to or on any of the Employer's buildings, construction sites and/or premises;
 - 1.2 ensure that consultants and/or visitors comply with any instructions and measures relating to occupational health and safety, as prescribed by the Employer; and
 - 1.3 comply strictly with the statutorily prescribed work systems, operational equipment, machinery and occupational health and safety conditions;
2. And as an independent employer and contractor, hereby indemnify, in terms of the above undertakings, the Employer -
 - 2.1 in respect of any costs that I/my firm and/or employees and/or subcontractors and their employees may incur of necessity in compliance with the above undertakings; and
 - 2.2 against any claims that may be instituted against the Employer and/or any liability that the Employer may incur, whether instituted and/or caused by me/my firm's employees, agents, consultants, subcontractors and/or their employees and visitors or the Employer's clients or neighbours in respect of any incidents related to my/my firm's activities and as a result of which the occupational health and safety of the persons involved have been detrimentally affected; and
 - 2.3 against similar claims that I, managers or directors of my firm may have against the Employer and any damages for which I, managers or directors of my firm hold the Employer liable.
3. My firm's compensation commissioner number is _____ and I confirm that my firm and its subcontractors' fees have been paid up and obligations in respect of the compensation commissioner have been complied with and further that I shall furnish proof thereof in writing on request.
4. I hereby confirm that I have the authority to sign this indemnity undertaking and that the Employer is not obliged to confirm such confirmation.

Signed at _____ This _____ day of _____

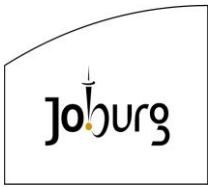
Signature Capacity

As witnesses:

1 _____

2 _____

Employer:		Contractor:	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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Employer:		Contractor:	
Witness:		Witness:	



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Johannesburg Water SOC Ltd



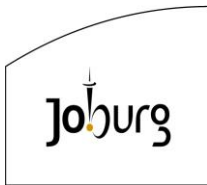
CONTRACT NO: JW14506

**COMPLETION OF SOWETO
INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER
BLOCK 7B (ORLANDO EAST AND
WEST)**

VOLUME 1

CONTRACT PART 2: PRICING DATA

Employer:		Contractor:	
Witness:		Witness:	



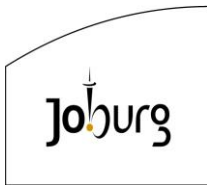
CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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Employer:		Contractor:	
Witness:		Witness:	



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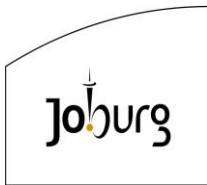
C2 PRICING DATA

C2.1 Pricing Instructions

C2.1.1 General preamble to the bill of quantities (Engineering works)

- a) All items in the Bill of Quantities, except where otherwise specified in Clause 8 of a Standardised Specification or in the Project Specification, shall be measured and shall cover operations as recommended in the standard system of measurement of civil engineering quantities, published under the title "Civil Engineering Quantities", by the South African Institution of Civil Engineering.
- b) The basis and principles of measurement and payment are described in this section (Pricing Instructions) and Clause 8 of each of the Standardised Specifications for Civil Engineering Construction. The applicable SANS 1200 Standardised Specifications are listed in the Scope of Work, Portion 1: Project Specifications. Variations and amendments to the Project Standard Specifications are contained in the Scope of Work, Portion 2: Variations and/or Additions to the Project Standard Specifications.
- c) Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification or the Scope of Work, conflict with the terms of the Bill of Quantities, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.
- d) The clauses in a specification in which further information regarding the Schedule item may be found are listed in the "Payment Refers" column in the Schedule. The reference clauses indicated are not necessarily the only sources of information in respect of listed items. Further information and specifications may be found elsewhere in the Contract Documents. Standardised Specifications are identified by the letter or letters which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200G.
- e) Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- f) The quantities set out in the Bill of Quantities are the estimated quantities of the Contract Works, but the Contractor shall be required to undertake whatever quantities may be directed by the Employer's Agent from time to time. The Contract Price for the completed Works shall be computed from the actual quantities of work done, valued at the relevant unit rates and/or prices. The Contractor must not order the quantities of materials stated in the Bill of Quantities until he has confirmed from the Construction Drawings or measurement on Site that such quantities are in fact the correct quantities.
- g) The rates and/or prices to be inserted in the Bill of Quantities are to be the full inclusive prices for the work described under the several items. Such rates and/or prices 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, as well as overhead charges and profit. Reasonable charges shall be inserted as these shall be used as a basis for assessment of payment for additional work that may have to be carried out.

Employer:		Contractor:	
Witness:		Witness:	



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- h) A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Schedule.

- i) The units of measurement described in the Bill of Quantities are metric units. Alternatives used are as follows:

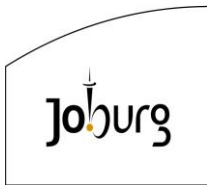
mm	=	millimetre	=	hour
m	=	metre	kg	= kilogram
km	=	kilometre	t	= ton (1000kg)
m ²	=	square metre	No.	= number
m ² pass	=	square metre pass	sum	= lump sum
ha	=	hectare	MN	= mega-newton
m ³	=	cubic metre	MN.m	= mega-newton-metre
m ³ km	=	cubic metre-kilometre	PC sum	= Prime Cost sum
l	=	litre	Prov sum	= Provisional sum
kl	=	kilolitre	%	= percent
MPa	=	megapascal	kW	= kilowatt
W/day	=	Workday	R/only	= Rate only

- j) For the purpose of this Bill of Quantities, where applicable, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the SANS 1200.
Quantity	:	The number of units of work for each item.
Rate	:	The agreed payment per unit of measurement.
Amount	:	The product of the quantity and the agreed rate for an item.
Lump sum	:	An agreed amount for an item, the extent of which is described in the Bills of Quantities but the quantity of work of which is not measured in any units.

- k) Arithmetical errors in the Bill of Quantities shall be corrected in accordance with Clause C3.9 of the Conditions of Tender. Should there be any discrepancy between rates and/or prices written in the Assessment Schedule and the Bill of Quantities, the latter shall govern.
- l) While the Employer has every intent to complete the full scope of works, the Employer reserves the right to reduce or increase the scope of works according to the budget, or to terminate this contract, with adjustment to the agreed rates, sums or fees and without payment of any penalty in this regard. The Service Provider shall however be entitled to pro-rata payment for all services carried out in terms of any adjustment to the Scope of Work or, in the case of termination, remuneration and/or reimbursement.
- m) The Bill of Quantities shall be completed by hand in INK or TYPED. The Bill of Quantities in the tender document may be replaced with the typed electronic Bill of Quantities, without changing the quantities, items and description.

Employer:		Contractor:	
Witness:		Witness:	



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C2.1.2 Sufficiency of tender

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his Tender for the construction of the Works and of the rates and prices, which rates and prices shall, except in so far as it is otherwise provided in the Contract, cover all his obligations under the Contract and all matters and things necessary for the proper execution and completion of the Works.

C2.1.3 Special payment conditions

This clause shall be read in conjunction with the 'Penalties' clause(s). Where the penalty clause shall always receive precedence over this clause, should it be found that duplicative financial corrective measures exist.

C2.1.3.1 Applicability of payment items

All payment items forming part of this Contract shall not apply to ordered Works completed by the Contractor under this Contract, where completed Works:

- are not completed to acceptable quality;
- are not issued by the Employer's Agent;
- are still within the defects and liability period; or
- are not accepted by the Employer's Agent or his duly authorised representative.

C2.1.3.3 Working outside normal hours

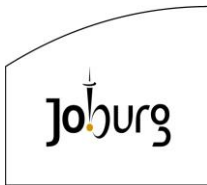
The additional costs, if any, to perform works outside normal working hours shall be deemed to have been allowed for in the provided activity pricing rates and/or prices.

C2.1.4 SMME Portion of the Works

A portion of the works must be allocated for completion by appointed SMMEs.

The Main Contractor shall retain liability and responsibility for the management, scheduling, and quality control of all works performed by the sub-contractors. All Sub-Contractors shall be appointed as per Johannesburg Standard Operating Procedures (SOP) for SMME appointments. The Main Contractor will be expected to conduct a competitive process to recommend a Sub-Contractor or Sub-Contractors to Johannesburg Water. Johannesburg Water will then evaluate all rates provided by the Sub-Contractor for fairness. Johannesburg Water will then either a) approve the appointment of the Sub-Contractor or Sub-Contractors or b) enter into negotiations with the Main Contractor and Sub-Contractor / s or c) request that the Contractor recommend a different Sub-Contractor.

Employer:		Contractor:	
Witness:		Witness:	



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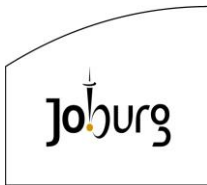


Further an allowance has been made for the Contractor to complete the following tasks:

- The Contractor shall ensure that the Sub-Contractor(s) complies with paying all amounts due in respect of his employees and himself in terms of all relevant legislation and regulations including, but not confined to, the
 - Income Tax Act, the
 - Compensation for Occupational Injuries and Diseases Act,
 - Unemployment Insurance Act,
 - Basic Conditions of Employment Act
- Monitoring of the Quality of Work completed by the Sub-contractor/SMME
- Skills transfer during the execution of the project
- Compliance with all aspects of the Scope of Work
- Assistance with sourcing of applicable material in line with the technical data sheets

Further an allowance has been made for “Training” – this is related to CETA accredited training which is to be agreed with the Employer during project execution. No amount can be claimed under this item for on-site or on-the-job training, only for accredited training which the SMME receives.

Employer:		Contractor:	
Witness:		Witness:	



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BILL OF QUANTITIES

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VOLUME 1 CONTRACT PART 2: PRICING DATA
SECTION C2: PRICING DATA

Employer:		Contractor:	
Witness:		Witness:	

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
1.	SANS 1200A & 1200AB 8.3	SCHEDULE A: PRELIMINARY AND GENERAL FIXED-CHARGE ITEMS				
1.1	8.3.1	Contractual requirements	Sum	1		
	8.3.2	ESTABLISHMENT OF FACILITIES ON SITE				
	8.3.2.1	Facilities for Engineer:				
1.2	PSA 8.3.2.1	a) Engineers Office Type 2	Sum	1		
		b) JW Engineering Team (No.2)	Sum	1		
		c) QCO's and CLO Office (No.2)	Sum	1		
		d) Boardroom (No:1)	Sum	1		
		e) Parking (No.2)	Sum	1		
		f) Nameboards (No.4)	Sum	1		
		g) Communication	Sum	1		
		h) Telephone and Computer facilities for Complaints Handler Team (No.4)	Sum	1		
		i) Ablution and latrine facilities	Sum	1		
1.3	8.3.2.2	Facilities for the Contractor				
		a) Offices and storage sheds	Sum	1		
		b) Workshops	Sum	1		
		e) Ablution and latrine facilities	Sum	1		
		f) Tools and equipment	Sum	1		
		g) Water supplies, electric power and communications	Sum	1		
		h) Dealing with water (SANS 1200A 5.5)	Sum	1		
		i) Access (see sub-clause 5.8)	Sum	1		
1.4	PSA 8.3.2.2	Facilities For SMMEs Fixed Charge Items				
		a) Establishment of storage and Facilities for the SMMEs	Sum	1		
		b) Tools and equipment	Sum	1		
		c) Other Fixed related obligations	Sum	1		
		d) Removal of Facilities	Sum	1		
1.5	PSA 8.3.2.3	Satellite Facilities for CLO & QCO Team				
		a) Office for CLO & QCO Team Type 2 (No,4)	Sum	1		
		b) Water supplies and electric power	Sum	1		
		c) Ablution & Latrine facilities	Sum	1		
		d) Removal of facilities	Sum	1		
1.6	PSA 8.3.5.1	OHS Act Obligations	Sum	1		
1.7	PSA 8.3.5.2	EMP Obligations	Sum	1		
1.8	PSA 8.3.5.3	Issuing of notices to Customers	Sum	1		
1.9	PSA 8.5.3.4	Other fixed charged obligations	Sum	1		
1.10	8.3.4	Removal of site Establishment	Sum	1		
1.11	PSA 8.4	TIME RELATED ITEMS				
1.12	8.4.1	Contractual requirements	Month	18		
1.13	PSA 8.4.3b	Contractor's Supervision for the duration of construction	Month	18		
TOTAL CARRIED FORWARD						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
TOTAL BROUGHT FORWARD						
1.14	PSA 8.4.2	Operation & Maintenance of Facilities on Site Facilities for Engineer: a) Engineers Office Type 2 b) JW Engineering Team (No.2) c) QCO's and CLO Office (No.2) d) Boardroom (No:1) e) Parking (No.2) f) Nameboards (No.4) g) Communication h) Telephone and Computer facilities for Complaints Handler Team (No.4) i) Ablution and latrine facilities	Month	18		
1.15	PSA 8.4.3	Facilities for the Contractor: a) Contractor's head office overhead costs for the duration of the Contract c) Offices and storage sheds d) Ablution and latrine facilities e) Tools and equipment f) Water supplies, electric power and communications g) Dealing with water (SANS 1200A 5.5) h) Access (see sub-clause 5.8)	Month	18		
1.16	PSA 8.4.4	OHS Act Obligations	Month	18		
1.17	PSA 8.4.5	EMP Obligations	Month	18		
1.18	PSA 8.4.6	Security Services	Month	18		
1.19	PSA 8.4.7	Contractor's Supervision of SMMEs for the duration of construction	Month	18		
1.20	PSA 8.4.8	Facilities for SMMEs Time Related Items a) Storage Facilities b) Tools and equipment c) Other time related obligations	Month	18		
1.21	PSA 8.4.9	Satellite Facilities for CLO & QCO Team a) Office for CLO & QCO Team Type 2 (No,4) b) Water supplies and electric power c) Ablution & Latrine facilities d) Security services	Month	18		
TOTAL CARRIED FORWARD						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
TOTAL BROUGHT FORWARD						
1.23	PSA 8.5	PROVISIONAL SUMS STATED BY ENGINEER				
		a) Community Liaison Officer Salaries and cellphone allowance(No 6)	Prov. Sum	1	R 1 404 000,00	R 1 404 000,00
		b) JW Communications and Complaints Handling team	Prov. Sum	1	R 1 433 300,00	R 1 433 300,00
		c) Community awareness material	Prov. Sum	1	R 100 000,00	R 100 000,00
		d) QCF and QCO(No:5)	Prov. Sum	1	R 1 980 000,00	R 1 980 000,00
		e) Training but not limited to the following: Plumbing	Prov. Sum	1	R 300 000,00	R 300 000,00
		f) MIS System or similar approved Training	Prov. Sum	1	R 100 000,00	R 100 000,00
		g) Reinstatement of Asphalt by JRA	Prov. Sum	1	R 200 000,00	R 200 000,00
1.23.1		Overheads, charges and profit on item 1.23 (a) to 1.23 (g)	%	R 5 517 300,00		
1.24	8.8	TEMPORARY WORKS				
	8.8.4	Existing Services				
	PSA 8.4.12	a) Excavation by hand in all material to expose existing services	m ³	2 000,00		
	PSA 8.4.13	b) Temporary protection of services	Sum	1		
	PSA 8.4.14	c)Accommodation of traffic	Sum	1		
	PSA 8.4.15	d) Provision of photographic records	Sum	1		
1.25	PSA 8.16	DAY WORKS (the rate shall cover overhead charges and profit of all day works items listed) (to be executed on instruction from the Employer's Agent)				
1.25.1		<i>Labour</i>				
		a) Unskilled	hr	150		
		b) Semi skilled	hr	150		
		c) Skilled	hr	150		
		d) Armed Security guard	hr	150		
1.25.2		TLB's (Tractor loader backhoe)				
		a) 2x4	hr	150		
		b) 4x4	hr	150		
1.25.3		Compactors				
		a) Wacker	hr	48		
		b) Plate compactor	hr	48		
1.25.4		Generator (Wet Rate)				
		a) 3kVA	hr	100		
		b) 5kVa	hr	100		
TOTAL CARRIED FORWARD TO SUMMARY						

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

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SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

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JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
Item No.	Payment Clause	Description	Unit	Qty	RATE	AMOUNT
3	SANS 1200DB	SCHEDULE C: EARTHWORKS (PIPE TRENCHES)				
3.1	8.3.2	Excavation				
3.1.1	PSDB 8.3.2(a)	Excavate in all material for trenches, shore and dispose of surplus material using labour intensive construction methods for the depths of:				
		a) Over 0,0m and up to 1,5m	m³	10595		
		b) Over 1,5m and up to 2,5m	m³	2119		
		c) Over 2,5m	m³	530		
3.1.2	PSDB 8.3.2(3)	Excavate by hand in all material for tie-ins, house connections, backfill and compact including disposal of surplus unsuitable material for depth:				
		a) Over 0,0m and up to 1,0m	m³	7077		
		b) Over 1,0m and up to 1,5m	m³	3538		
		c) Over 1,5m	m³	1769		
3.1.3	8.3.2(b)	Extra over Item 3.1.1 above for : Please refer to PSD 3.1.3 for Classification of materials for hand excavations				
		a) Intermediate excavation.	m³	4238		
		b) Hard excavation.	m³	3179		
		c) Rock excavation	m³	1060		
3.2	8.3.3	Excavation Ancillaries				
3.2.1	8.3.3.1	Make up deficiency in backfill material (Provisional)				
		a) from other necessary excavations on site	m³	2265		
		b) by importation from designated borrow pits	m³	453		
		c) by importation from commercial or off site sources selected by the Contractor	m³	1132		
3.3	PSDB 8.3.3.3	a) Additional compaction to 95% mod AASHTO density in road crossings	m³	809		
3.4	PSDB 8.3.4 (a)	a)Shore trench opposite structure or service for depths:	m	809		
TOTAL CARRIED FORWARD						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
TOTAL BROUGHT FORWARD						
3.5	PSDB 8.3.5(a)	a) Services that intersect a trench				
		i) Water house connections.	No.	5000		
		ii) Sewer pipes up to 300mm Dia.	No.	2500		
		iii) Cables.	No.	6066		
		iv) Stormwater pipes up to 1050mm dia.	No.	1500		
		v) Kerbs and Channels	No.	500		
		vi) Water pipes of any diameter	No.	2500		
		vii) Irrigation pipes	No.	250		
3.6	PSDB 8.3.5 (b)	b) Services that adjoin a trench				
		i) Water house connections	m	1618		
		ii) Sewer pipes up to 600mm Dia.	m	3235		
		iii) Cables.	m	8088		
		iv) Stormwater pipes up to 1050mm dia.	m	3235		
		v) Kerbs and Channels	m	3235		
		vi) Water pipes of any diameter	m	4044		
		vii) Irrigation pipes	m	1618		
3.7	PSDB 8.3.5(c)	Services that require special care	No	202		
3.8	PSDB 8.3.6	Trimming of tree roots on pipe alignment(This item will be measured as number of trees)	No	200		
CARRIED FORWARD TO SUMMARY						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
4	SANS 1200LB	SCHEDULE D: BEDDING (PIPES)				
4.1	PSLB 8.2.1	Provision of bedding from trench excavation				
		a) Selected granular material	m³	2 354		
		b) Selected fill material	m³	1 148		
	PSLB 8.2.1.1	c) Extra over item 4.1(a) and (b) for sieving where ordered by Engineer	m³	1 177		
4.2	8.2.2.3	Provision of bedding imported from commercial sources (Provisional)				
		a) Selected granular material	m³	1 177		
		b) Selected fill material	m³	574		
	PSLB 8.2.2.3 (c)	c) 19mm Crushed stones bedding	m³	235		
4.3	8.2.4	a) Encasing of pipe in 20MPa concrete (Provisional)	m³	404		
	PSLB 8.2.3	b) Concrete for Thrust/anchor blocks (including all required formwork) as per detail JW100-DET05-W01	m³	404		
TOTAL CARRIED FORWARD TO SUMMARY						

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
5	SANS 1200L	SCHEDULE E: MEDIUM PRESSURE PIPELINES				
5.1	8.2.1	a) Supply, lay, bed (class B bedding), all test and disinfect, backfill complete with victaulic couplings denso wrapped including knock on collars at joints, high impact mPVC Class 16 pipes: i) DN110 ii) DN160 iii) DN200 iv) DN250 v) DN315 b) Supply, lay, bed (class B bedding), all test and disinfect, backfill complete joints to be butt welded or electro fusion, HDPE PE100 SDR11 PN16 pipes: i) DN110 ii) DN160 iii) DN180 iv) DN200 v) DN225 vi) DN250 vii) DN315 viii) DN355 c) Supply, handle, lay, bed (Class B bedding), backfill complete, all test and disinfect 10mm thick Grade X42/300WA continuously welded steel pipes, cement mortar lining or similar approved, fusion bonded medium density polyethylene (sintakote 2) or polyclad 777 coating or similar approved with Spigot and Socket Joints i) DN400 ii) DN600 iii) DN760	m m m m m m m m m m m m m m m m	4360 870 725 1615 60 50 10 10 10 10 10 10 10 450 10 265		
5.1.1	PSL 8.2.1	Pressure Testing of existing pipes	m	23000		
5.1.2	PSL 8.2.2	Commissioning (Locating, disinfecting and commisioning of existing road reserve water pipes of all materials with diameters ranging from 110 mm to 250mm)	m	23000		
5.1.3	PSL 8.2.3	Decomissioning Material for existing pipes	Prov.Sum	1	R 2 000 000,00	R 2 000 000,00
5.1.4		Extra over items 5.1.3 above for overhead charges and profit	%	R 2 000 000,00		
5.1.5	PSL 8.2.4	River Crossings	Prov.Sum	1	R 1 500 000,00	R 1 500 000,00
5.1.6		Extra over items 5.1.5 above for overhead charges and profit	%	R 1 500 000,00		
5.2		Fittings to suit High Impact Class 16 mPVC pipes				
5.2.1	8.2.2	a) Shouldered end Steel Bends Fusion Bonded Epoxy coated 250 microns including thrust blocks to suit high impact mPVC pipe: DN110 i) 11½° ii) 22.5° iii) 45° iv) 90° DN160 i) 11½° ii) 22.5° iii) 45° iv) 90° DN200 i) 11½° ii) 22.5° iii) 45° iv) 90° DN250 i) 11½° ii) 22.5° iii) 45° iv) 90° DN315 i) 11½° ii) 22.5° iii) 45° iv) 90°	No No No No No No No No No No No No No No No No No No No No No No No No	50 50 50 50 20 20 20 20 20 20 20 20 20 20 20 20 1 1 1 1		
TOTAL CARRIED FORWARD						

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

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SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

[illegible]

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

[illegible]

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

[illegible]

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
TOTAL BROUGHT FORWARD						
5.5	8.2.15	Special wrapping in corrosive soil per joint and as instructed by the Engineer	No	20		
5.6		Tying into existing Pipes				
5.6.1	PSL 8.2.17	Tying into existing water line. Supply all fittings to suit pipe size including labour for the following pipe sizes, excavations will be allowed under pipe excavations: a) Tying new 110mm-160mm HDPE/MPVC into existing steel/HDPE/AC/uPVC pipes for the following pipe sizes: i) 100mm to 200mm ii) 201mm to 400mm b) Tying new 200mm-250mm HDPE/MPVC into existing steel/HDPE/AC/uPVC pipe for the following pipe sizes: i) 100mm to 200mm ii) 201mm to 400mm c) Tying new 315mm-355mm HDPE/MPVC/OPVC into existing steel/HDPE/AC/uPVC pipe for the following pipe sizes: i) 100mm to 200mm ii) 201mm to 400mm	No No	5 1		
5.6.2		Tying into existing water line using under pressure drilling. Supply all fittings to suit pipe sizes including labour for the following pipe sizes: a) Tying new 110mm-160mm HDPE/MPVC into existing steel/HDPE pipe for the following pie sizes: i) 100mm to 200mm ii) 201mm to 400mm iii) 401mm to 600mm b) Tying new 200mm-250mm HDPE/MPVC into existing steel/HDPE pipe for the following pipe sizes: i) 100mm to 200mm ii) 201mm to 400mm iii) 401mm to 600mm c) Tying new 315mm-355mm HDPE/MPVC/OPVC into existing steel/HDPE pipe for the following pipe sizes: i) 100mm to 200mm ii) 201mm to 400mm iii) 401mm to 600mm	No No No	1 1 1		
5.7	PSL 8.2.24.2	Supply, handle, install the following HDPE pipes using Horizontal Directional Drilling (HDD) in soft and intermediate material for any depth a) DN110 (HDPE pipe, Class 16 PE100 SDR 11) b) DN160 (HDPE pipe, Class 16 PE100 SDR 11) c) DN180 (HDPE pipe, Class 16 PE100 SDR 11) d) DN200 (HDPE pipe, Class 16 PE100 SDR 11) e) DN225 (HDPE pipe, Class 16 PE100 SDR 11) f) DN250 (HDPE pipe, Class 16 PE100 SDR 11) g) DN315 (HDPE pipe, Class 16 PE100 SDR 11)	m m m m m m m	1000 10 10 10 10 10 10		
5.7.1		Extra over item 5.7 for Horizontal Direction Drilling in rock material	m	10		
5.8		Excavate in all materials Launching and reception shafts/pits	m³	20		
TOTAL CARRIED FORWARD						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
TOTAL BROUGHT FORWARD						
5.9	PSL 8.2.18	a) Recover valves, fittings, meters, specials of all sizes etc and deliver to the respective Depot or as instructed by the Employer's Agent.				
		i) Valves following sizes:				
		1) 100mm to 300mm	No	10		
		2) 301mm to 600mm	No	10		
		ii) Fire Hydrants all sizes	No	10		
5.10		Close of valves	No	5		
5.11		Disconnecting pipes	No	7		
5.12	PSL 8.2.21	Supply and install PRV complete with all fittings, including PRV Chamber as per Standard Drawing JW1000-STD-PRV01 to 04				
		a) 150mm diameter	No	1		
		b) 200mm diameter	No	1		
CARRIED FORWARD TO SUMMARY						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
6.	SANS1200 LF	SCHEDULE F: ERF CONNECTIONS (WATER)				
6.1	SANS1200 DB	EXCAVATIONS				
	8.3.2(a)	Excavate in all materials for trenches 400mm wide, backfill, compact, dispose of surplus / unsuitable material, levelling and cleaning for the following pipe diameters:				
		a) 0 - 40mm diameter	m³	2800		
		b) > 40mm - 50mm diameter	m³	560		
6.2	8.3.2 (b)	Extra-over items (8.3.1 (a)) for				
		i) Intermediate excavation	m³	840		
		ii) Hard rock excavation	m³	280		
6.3	SANS1200 LF	ERF CONNECTIONS				
6.3.1	PSLF 8.2.9	Illegal erf connection locating and removal	No.	3500		
6.3.2	PSLF 8.2.10	Erf connection provision and installation				
		Domestic erf connections				
		All erf connections HDPE				
		a) Single short erf connections	No.	200		
		b) Double short erf connections	No.	100		
		c) Single long erf connections	No.	200		
		d) Double long erf connections	No.	100		
6.3.3	PSLF 8.2.11	HORIZONTAL DRILLING (LONG ERF CONNECTIONS)				
		Supply and installation of pipe through horizontal drilling				
		a) 20 mm diameter HDPE pipes	m	10		
		b) 25 mm diameter HDPE pipes	m	10		
		c) 32 mm diameter HDPE pipes	m	1000		
		c) 40 mm diameter HDPE pipes	m	10		
6.3.3.1		Extra-over item 6.4.3 for horizontal drilling through hard rock	m	10		
6.4		VALVES				
6.4.1	PSLF 8.2.12	Provision and installation of ball valves				
		a) Provision and installation of ball valves on existing and new erf connections. (Less than 500mm deep)				
		1) 20 mm diameter ball valve	No.	10		
		2) 25 mm diameter ball valve	No.	5250		
		3) 32mm diameter ball valve	No.	10		
		4) 40mm diameter ball valve	No.	10		
6.4.2		b) Provision and installation of ball valves on existing erf connections (More than 500mm deep)				
		1) 20mm diameter ball valve	No.	10		
		2) 25 mm diameter ball valve	No.	1750		
		3) 32mm diameter ball valve	No.	10		
		4) 40mm diameter ball valve	No.	10		
6.4.3		Extra-over above item for ball valve installation for existing pipes other than HDPE.				
		1) 20 mm diameter ball valve	No.	10		
		2) 25 mm diameter ball valve	No.	10		
		3) 32 mm diameter ball valve	No.	10		
		4) 40mm diameter ball valve	No.	10		
6.4.4		Supply and install valve boxes for ball valves	No.	7000		
TOTAL CARRIED FORWARD TO SUMMARY						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
7		SCHEDULE G: YARD CONNECTIONS				
7.1	PA 8.2.17	YARD CONNECTIONS				
7.1.1		Provision and installation of yard connections	Prov.Sum	1	R 5 600 000,00	R 5 600 000,00
7.1.2		Extra over items 7.1.1 above for overhead charges and profit	%	R 5 600 000,00		
7.2		LEAK DETECTION				
7.2.1	PA 8.2.19	Leak free tests	No.	7 000		
TOTAL CARRIED FORWARD TO SUMMARY						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
8		SCHEDULE H: ON-PROPERTY PLUMBING RETROFITTING				
8.1	PA 8.2.20	Preparation and delivery of notice to owner	No.	7 000		
8.2	PA 8.2.21	100% pre-intervention survey on customer properties	No.	7 000		
8.3	PA 8.2.22	Provision and installation of on-property plumbing retrofitting	Prov.Sum	1	R 14 700 000,00	R 14 700 000,00
8.3.1		Extra over items 8.3 above for overhead charges and profit	%	R 14 700 000,00		
TOTAL CARRIED FORWARD TO SUMMARY						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

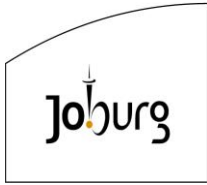
Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
9.		SCHEDULE I: CUSTOMER METER INSTALLATION				
9.1	PF22.7	a) Supply of 15mm diameter STS Pre-payment water meter as per JW Metering Guidelines complete inclusive of couplings and Meter Box Unit (MBU)	No.	7 000		
9.2	PF22.9	STS Customer Interface Unit (CIU-IOT) (Supply and pairing of STS meter & Switching of meters from Conventional to Prepaid Mode)	No.	7 000		
9.3	PF22.10	Annual Data Management Fee IOT Network Hosting for 3 years after completion of the contract. (To cover cost for meter reading, meter performance audit and reporting) Please refer to Schedule A and B in the specifications.	No.	7 000		
9.4	PF22.8	b) Installation of meter per stand	No.	7 000		
9.5	PF22.2	TRAINING				
9.5.1	PF22.2.1	Training for Employer's staff per session (20 people per group)	No.	10		
9.5.2	PF22.2.3	Meter demonstration per stand by the Supplier's technicians	No.	7 000		
9.6	PF22.3	TECHNICAL SUPPORT				
9.6.1	PF22.3.1	On- Site Support during construction	Month	18		
9.6.2	PF22.3.2.1	After hours On-Ste Support	No	1 000		
9.6.3	PF 22.3.4	On-Site Support-for 3 years after completion of the contract.	No	7 000		
9.6.4	PF22.4	Removal of existing meters	No	7 000		
9.6.6	PF22.5	Provision and installation of bulk Meinecke WPD meters complete with logging facilities, specials and fittings including construction of chamber				
		a) 150mm diameter	No	2		
		b) 200mm diameter	No	1		
		c) 300mm diameter	No	1		
		d) 350mm diameter	No	2		
		e) 400mm diameter	No	1		
		f) 450mm diameter	No	1		
		g) 650mm diameter	No	1		
TOTAL CARRIED FORWARD TO SUMMARY						

JOHANNESBURG WATER

SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS

Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
Item No.	Payment Clause	Description	Unit	Qty	Rate	Amount
10.	PO 1.1	SCHEDULE J: OCCUPATIONAL HEALTH AND SAFETY				
		SUPPLY OF ALL ITEMS OF PERSONAL PROTECTIVE CLOTHING/EQUIPMENT & ENSURE USE THEREOF FOR FULL COMPLIANCE				
10.1		a)Steel toe capped safety boots	No.	200		
10.2		b) Appropriate protective clothing	No.	200		
10.3		c) Safety gloves	No.	200		
10.4		d) Colour coded hardhats	No.	50		
10.5		e) Induction tags /cards	No.	200		
10.6		f)Luminous high visibility safety vests	No.	200		
10.7		g) Additional items: Contractor to specify (To be approved by the Engineer)	No.	200		
10.8		BARRICADING				
		Supply & install Proper Safety Nets, including removal upon completion to ensure full compliance to legislation				
10.8.1		Rigid type barricading	m	150		
10.8.2		Additional items: As specified by the Engineer	Prov.Sum	1	R 200 000,00	R 200 000,00
10.8.2.1		Profit on item 10.8.2 above	%	200 000		
TOTAL CARRIED FORWARD TO SUMMARY						

JOHANNESBURG WATER	
CONTRACT NUMBER: JW14431	
SOWETO (ORLANDO EAST & WEST) STS PREPAYMENT WATER METER AND RETROFITTING INSTALLATIONS	
DESCRIPTION	
SCHEDULE A: PRELIMINARY AND GENERAL	
SCHEDULE B: SITE CLEARANCE	
SCHEDULE C: EARTHWORKS (PIPE TRENCHES)	
SCHEDULE D: BEDDING (PIPES)	
SCHEDULE E: MEDIUM PRESSURE PIPELINES	
SCHEDULE F: ERF CONNECTIONS	
SCHEDULE G: YARD CONNECTIONS	
SCHEDULE H: ON PROPERTY PLUMBING	
SCHEDULE I: METER INSTALLATION	
SCHEDULE J: OCCUPATIONAL HEALTH AND SAFETY	
SUBTOTAL 1.....	
10% Escalation	
SUBTOTAL 2.....	
10% Contingencies	
SUBTOTAL 3.....	
15% VAT	
Amount Incl.VAT	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO
EAST AND WEST)
VOLUME 2 CONTRACT PART 3: SCOPE OF WORK



Johannesburg Water SOC Ltd



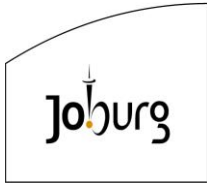
CONTRACT NO: JW14506

**COMPLETION OF SOWETO
INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER
BLOCK 7B (ORLANDO EAST AND WEST)**

VOLUME 2

CONTRACT PART 3: SCOPE OF WORK

Employer:		Contractor	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO
EAST AND WEST)
VOLUME 2 CONTRACT PART 3: SCOPE OF WORK



C3 PREAMBLE TO SCOPE OF WORK

GENERAL

This section specifies and describes the supplies, services and 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.

SCOPE

These Project Specifications are set out in two portions:

PORTION 1: PROJECT SPECIFICATION covers a general description of the project, the facilities available and the requirements to be met.

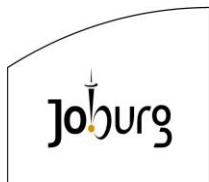
PORTION 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS covers variations to the standardized specifications and particular specifications which are applicable to the contract.

PORTION 3: PARTICULAR SPECIFICATIONS covers project specific standards

STATUS

Should any requirement of the Project Specification conflict with any requirement of the Standardized or particular specifications, the requirements of the Project Specifications shall prevail.

Employer:		Contractor	
Witness:		Witness:	



CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO
EAST AND WEST)

VOLUME 2 CONTRACT PART 3: SCOPE OF WORK

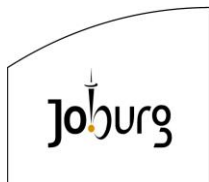


ABBREVIATIONS AND DEFINITIONS

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

BEE	:	Black Economic Empowerment
BS	:	British Standard
CE	:	Civil Engineering Works
CESA	:	Shall mean the Consulting Engineers of South African
CETA	:	Shall mean the construction education and training authority
CIDB	:	Construction Industry Development Board
CLO	:	Shall mean community liaison officer
CDO	:	Shall mean the JW community officer
CoJ	:	City of Johannesburg
CLO	:	Community Liaison Officer
CONTRACT	:	Shall mean an identified super-block or part thereof of the Project where an ITQS or a Consortium is appointed
HDI and HDC	:	Shall mean historically disadvantage individuals and companies
ITQS	:	Shall mean independent technical and quantity surveyor
CONSORTIUM	:	Shall mean design and construct consortium appointed for the implementation of a contract of the project
CONTRACT AREA	:	shall mean the area within the boundary of the Project Area with suburbs listed under the contract scope in Part PS 1.2 of Volume 1 that is normally defined as a superblock
ECSA	:	Engineering Council of South Africa
EDA	:	Enterprise Declaration Affidavit
ERF Connection	:	Shall mean a connection from the secondary mains to property boundary
EMP	:	Environmental Management Plan
EPWP	:	Expanded Public Works Programme
Ext	:	Extension
GCC	:	General Conditions of Contract
GIS	:	Geographic Information System
JW	:	Johannesburg Water (SOC) Ltd as the employer or client
JASWIC	:	Joint Acceptance Scheme for Water Installation Components
l	:	Litres
LOCAL	:	Shall mean within suburb/s within the boundaries of the project area
LOS	:	Level of Service
MI	:	Megalitres
PROJECT	:	Shall mean "Supply, Installation and Technical Supply of STS Prepayment Water Meters in Soweto Orlando East and West
PROJECT AREA	:	Shall mean the area within the boundary of the scope of works Area as defined in section PS1
PROPERTY	:	Shall mean a stand or sub-division thereof resulting in the separate issue of water and /or other service accounts to owner or occupier

Employer:		Contractor	
Witness:		Witness:	



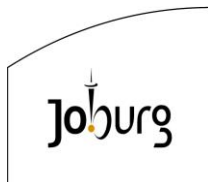
CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
REHABILITATION PROJECT IN SUPER BLOCK 7B (ORLANDO
EAST AND WEST)

VOLUME 2 CONTRACT PART 3: SCOPE OF WORK



PROPERTY CONNECTION	:	Shall mean a pipe which connects a property drain to a collector sewer or manhole or the meter to the secondary supply mains. In addition to straight pipes, it includes a junction on the collector sewer or saddle on the secondary supply mains.
QAS	:	Shall mean quality assurance system
QCO	:	Quality Control Officer
SABS	:	South African Bureau of Standards
SANS	:	South African National Standard
SERVICE PROVIDER	:	Shall mean either a consultant or contractor appointed to provide a particular service, i.e. investigations, design, labour provision and/or construction.
SMME	:	Shall mean small, medium and micro enterprises
SOP	:	Standard Operating Procedure
STAND	:	Shall mean a designated property as per JW drawings for purposes of human occupancy
mPVC	:	Modified polyvinyl chloride
uPVC	:	Un-plasticised Polyvinyl Chloride
HDPE	:	High Density Polyethylene
UAW	:	Unaccounted for Water
WISA	:	Shall mean water institution of South Africa
VAT	:	Shall mean Value Added Tax in terms of the Value Added Tax Act 89 of 1991 as amended.
YARD CONNECTION	:	Shall mean on property connection on any point

Employer:		Contractor	
Witness:		Witness:	



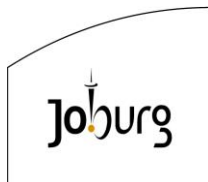
CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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EAST AND WEST)
VOLUME 2 CONTRACT PART 3: SCOPE OF WORK



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Employer:		Contractor	
Witness:		Witness:	

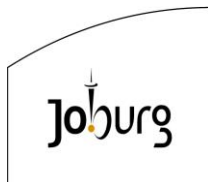


CONTRACT JW14506
COMPLETION OF SOWETO INFRASTRUCTURE UPGRADE AND
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VOLUME 2 CONTRACT PART 3: SCOPE OF WORK



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Employer:		Contractor	
Witness:		Witness:	



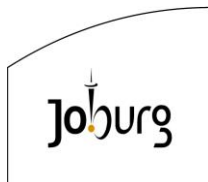
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Employer:		Contractor	
Witness:		Witness:	



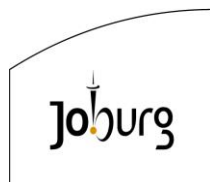
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Employer:		Contractor	
Witness:		Witness:	



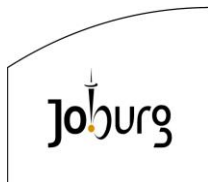
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PSLF PSLF 3 PSLF 3.2	ERF CONNECTIONS (WATER) MATERIALS STOP TAPS AND METERS

Employer:		Contractor	
Witness:		Witness:	



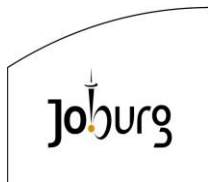
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PD	EMPLOYMENT AND TRAINING OF LABOUR
PD 1	SCOPE

Employer:		Contractor	
Witness:		Witness:	



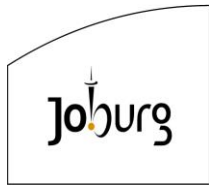
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PF 23	MEASUREMENT AND PAYMENT

Employer:		Contractor	
Witness:		Witness:	



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PORTION 1: PROJECT DESCRIPTION AND GENERAL INFORMATION

PS 1 DESCRIPTION OF THE WORKS

PS 1.1 EMPLOYER'S OBJECTIVES

Johannesburg Water has high non-revenue water and as a result has prioritised implementation of the water conservation and water demand management strategies. Johannesburg Water is implementing the water infrastructure upgrade and rehabilitation programme that employs establishment of district metered areas, installation of customer meters, water pipe replacement, retrofitting and removal of wasteful devices in private properties.

The primary objective of the project is to replace and upgrade water pipelines, install STS prepayment water meters and retrofitting to the Community of Soweto (Orlando East and West). Johannesburg Water (JW) aims to employ the STS technology in order to reduce non-revenue water and also increase vending platforms, whereby customers will be able to vend online, through multiple retailers and cell phones

It is envisaged that the STS prepayment water meters will inculcate a culture of water conservation which will in turn contribute to the reduction of the Non-Revenue Water (NRW).

The scope of works entails supply, installation and technical support of STS prepayment water meters. To implement the project, JW has resolved to implement the following interventions:

- Replace and upgrade water pipelines.
- Complete incomplete pipelines and pressure test before commissioning
- Construct road crossings through trenchless and open trench methods
- Installation of erf connections
- Replacement of leaking Yard connections
- Supply of 15mm STS prepayment water meters and CIUs
- Pairing of the meters with the CIU prior to installation
- Installation of STS prepayment water meters
- Retrofitting
- Replacement of leaking gate valves / installation of gate valves where required
- Conducting a leak-free test after meter installation
- Reinstatements where required
- Meter demonstration and issue water meter pamphlets to customers
- Provide technical support during meter installation and stand-by technicians with their own transport for the duration of the contract.

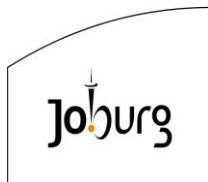
PS 1.2 OVERVIEW OF THE WORKS

The work to be carried out under this contract includes the supply of goods, construction material and labour for the successful completion of the project within the constraints of time, cost and quality.

The overview of the works to be implemented for construction is as follows:

- Replace/ repair yard connections where necessary.
- Water pipe replacement and upgrades

Employer:		Contractor	
Witness:		Witness:	



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- Supply of STS prepayment water meters and CIUs and installation (approval of Supplier is subject to JW's approval). Supplied STS prepayment water meters **MUST** be complete and be inclusive of associated couplings and fittings.
- Conduct leak-free tests on all properties after meter installation
- Re-instatements works on all properties. i.e grass replacements, paving & concrete slabs that were damaged during yard connections and meter installation.

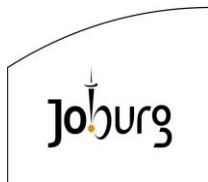
The overview of the works to be implemented for Technical Support by the Contractor's Meter Supplier is as follows:

- Connect meters to IOT and maintain connectivity for a period of 3 years after construction.
- Pairing of Customer Interface Units CIU per stand during meter installation
- Provide training to the Employer's project stakeholders, JW prepayment & Revenue departments' staff and JW facilitators.
- Conduct meter demonstration to customers and issue meter pamphlets per stand.
- Compile a draft of the meter pamphlet for JW's approval. Upon approval print and distribute meter pamphlets in 3 languages. Pamphlets to demonstrate the supplier's meter functionality and the CIU.
- Manage the scheduling of the meter orders placed by JW and delivery thereof.
- Provide Technicians to attend to meter Technical queries during meter installations and after hours (5pm-7am), weekends and public holidays and three years after project completion.
- Manage site staff (foreman, technicians) to ensure that site support & stand-by support and customer complaints are managed adequately.
- Provide monthly reports as per the KPI i.e. delivered meters & meter verification certificates submission and complaints reports.

The scope of works will be implemented within the following areas of Soweto: Orlando East and Orlando West.

The project shall deliver AMI hardware, software and data analysis as per Diagram A below:

Employer:		Contractor	
Witness:		Witness:	

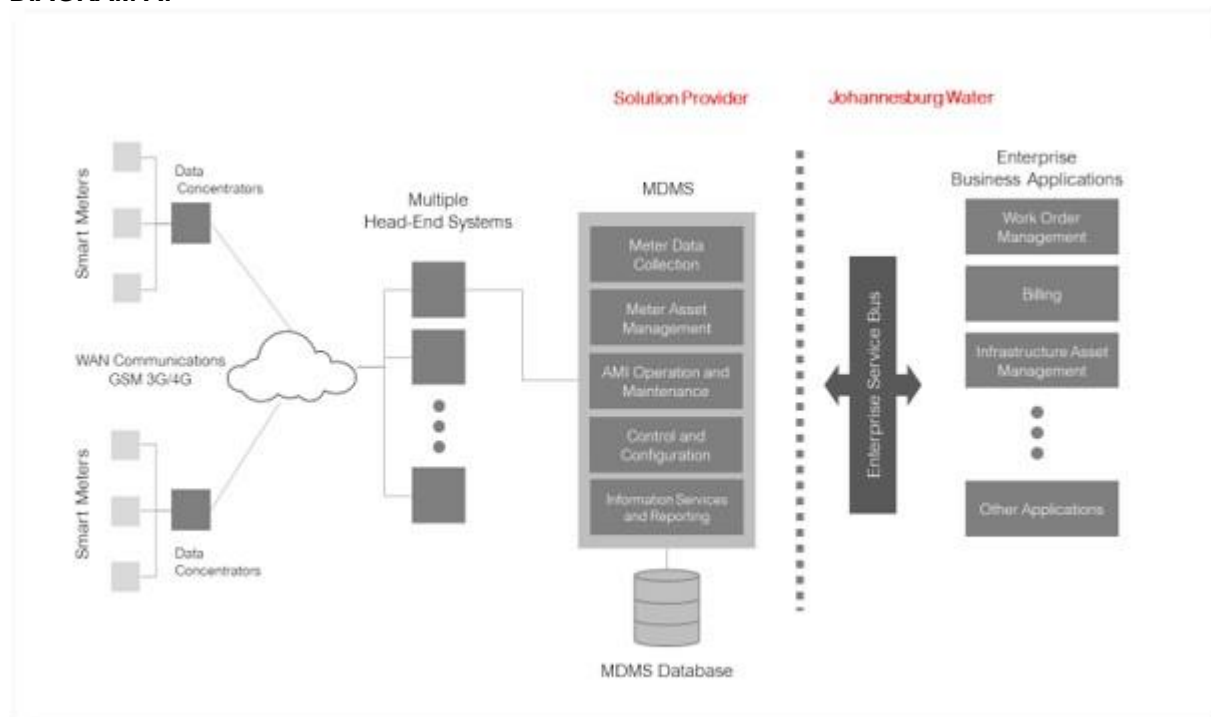


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DIAGRAM A:



PS 1.3 EXTENT OF THE WORKS

The Works to be completed under this Contract consists of the following:

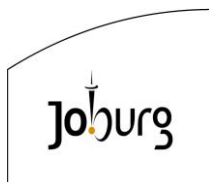
A. YARD CONNECTION INSTALLATION

The scope of work for this section entails the repair and replace Yard connections that was identified during the pre-intervention inspection survey.

Activities shall typically include:

- Arrange access if required with all stakeholders to commence with the works;
- Review work order items as per the pre-intervention survey conducted;
- Locating and exposing existing Yard connection by hand excavation;
- Arrange shutdown with all stakeholders
- Supply and installation of HDPE pipes and pipe specials;
- Material testing
- Connecting from point of supply to the property Yard
- Backfilling and compaction;
- Re-instatement of the surface to restore topsoil to original state by levelling and removing debris;
- Link stand number to the meter serial number prior to installation and submit an AMR report of such in an excel spreadsheet format.
- Signature of the customer acknowledging satisfaction of the work done (confirmation of meter installation, leak free meter, provision of the CIU to the customer).

Employer:		Contractor	
Witness:		Witness:	



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B. CUSTOMER METER INSTALLATION

The scope of work for this section entails the installation of STS prepayment water meters on the domestic properties. Only water meters compliant with the specification document shall be installed at **all user connections**.

Meters are to be sourced, ***from approved metering supplier(s) appointed by the Contractor for the purposes of supplying meters during the period in question.***

Details of the required certificates from the Supplier and scope of works are outlined on PE 2

Activities shall typically include:

- Arrange access with all stakeholders to commence with the works;
- In cases where Johannesburg Water supplies the meters, the contractor will collect the customer meter at storage site as specified by JW and including fittings and couplings. (All materials making up the meter box shall be supplied by the Employer)
- Locating and exposing Yard connections by hand excavation;
- Arrange shutdown with all stakeholders;
- Connecting to Yard connection;
- Leak free test and commissioning
- Backfilling and compaction;
- Re-instatement of the surface to restore top soil, pavements, surroundings to original state by levelling and removing debris;
- Contractor to provide record of evidence that installed Meter corresponds to correct stand number.
- Location of meter to be provided in DDMMSS and WGS XY coordinates.
- Contractor to record meter details for Client Management Information System (MIS).

NOTA BENE: The contractor shall supply all customer domestic meter including; meter and immediate associate accessories (STS prepayment water meter CIU's, connection adapters, meter cover, and inline upstream strainer).

- a) The Contractor to supply record of installation, device information, stand information to be used by the Employer
- b) **Meters will be tested upon delivery at the designated JW Lab prior to installation and meter failed meter batches will be rejected.**

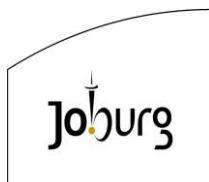
C. TECHNICAL SUPPORT

The scope of work for this section entails the provision of sufficiently experienced and dedicated personnel, including, Supervisor and Technicians from the Supplier, Team leaders for management and coordination for meter or MBU supply, delivery and technical support.

Qualifications:

Job Description	Qualifications	Years of Experience
Supervisor	NQF 6 Civil Engineering or equivalent	4 years' experience in meter installation and maintenance projects.

Employer:		Contractor	
Witness:		Witness:	



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Technician	NQF 6 Civil Engineering or equivalent	1 years' experience in meter installation and maintenance.
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Activities shall typically include:

- a) Pairing of the meters with the CIU prior to installation
- b) Ensuring that all installed meters dispense water
- c) Attend and rectify meter errors
- d) Meter demonstration and issue water meter pamphlets to customers
- e) Provide overall technical support during meter installation and stand-by technicians with their own transport
- f) Training of designated JW project stake holders

D. SECONDARY MAINS RETICULATION UPGRADING

The Works entails the following:

-) The alterations of secondary mains reticulation in the road reserve and shall generally be applicable to areas where secondary mains were installed in the previous phases,
-) The upgrading of secondary mains reticulation from mid-block to road reserve in areas where the secondary mains are still located in mid-block.

The Section activities shall typically include:

- trench excavations,
- provision of materials, meter/s, pipes, fittings (bends, valves, hydrants, etc.), couplings, and manhole construction materials (unless otherwise instructed),
- construction of valve and hydrant boxes,
- bed, lay, disinfect, and test meter/s, pipes sections, fittings and couplings,
- backfilling and compaction,
- de-commissioning of existing mid-block and other redundant secondary reticulation, and
- re-instatement of pre-intervention surface finishing or top soiling, levelling and debris removal.

Leakage detection shall be conducted through approved methods such as;

- i) Step testing,
- ii) Sounding,
- iii) Leak noise correlation,
- iv) Fast Fourier Transform (FFT),
- v) Gas injection,
- vi) Ground radar (subsurface radar), and/ or
- vii) Infrared.

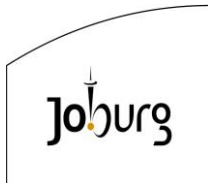
E. BULK METER INSTALLATION

The Works entails the following:

-) The inspection and rectification of defects of bulk meters and shall be applicable to areas of the previous intervention where no bulk tonal meters are present.
-) The installation of bulk / zonal meters on existing and new secondary mains reticulation for Block discretization.

The Section activities shall typically include:

Employer:		Contractor	
Witness:		Witness:	



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- Locating bulk meters and inspection for any defects
- small excavations,
- provision of material, meter/s, pipes sections, fittings (bends, valves, hydrants, etc.), couplings, and chamber construction materials (unless otherwise instructed),
- construction of bulk meter chamber/s,
- bed, lay, disinfect, and test meter/s, pipes sections, fittings and couplings,
- backfilling and compaction, and
- Re-instatement of pre-intervention surface finishing or top soiling, levelling and debris removal.

F. ERF CONNECTION INSTALLATION

The works under this section consists of:

-) The rectification of existing erf connections installed in the previous phases; and
-) The installation of erf-connections on existing and new secondary mains reticulation located within the road reserves in the Block.

The Section activities shall typically include:

- Connection investigation
- trench excavations,
- provision and installation of pipes (HDPE, unless otherwise stated or instructed by the Engineer), stop tap/s, stop tap chambers, couplings, connecting to existing yard connection or meter (old or new) at erf boundary supply point,
- backfilling and compaction, and
- re-instatement of pre-intervention surface finishing or top soiling, levelling and debris removal.

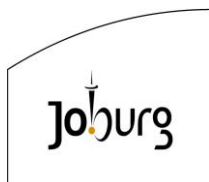
NOTA BENE: Sections 5 and 6 of the Works shall always, unless otherwise instructed by the Engineer, be separated with two valves (stop taps) on either side of a 2.5-meter (minimum) section of HDPE or Polypropylene pipe of similar diameter as pipes for Sections 5 and 6 of the Works. This shall ensure undisturbed water supply while consumer meters are installed or maintained.

G. ON-PROPERTY PLUMBING FITTING LEAK REPAIRS AND RETROFITTING

The scope of this section shall be limited only to plumbing fittings and pipe work that contribute to potable water wastage or the proper drainage of water into the existing wastewater system. The Section activities shall include:

- On property survey,
- Trench excavations
- Backfilling and compaction,
- Repair of leaking or damaged:
 - i). pipes (HDPE or galvanised),
 - ii). taps (mostly biptaps),
 - iii). stop taps,
 - iv). cisterns, and
 - v). external toilet structural brickwork and concrete floor.
- Retrofitting of:
 - i). pipes (HDPE or galvanised),
 - ii). taps (mostly biptaps),
 - iii). stop taps,
 - iv). toilet pans,
 - v). cisterns tanks, and

Employer:		Contractor	
Witness:		Witness:	



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- vi). cisterns flushing mechanism complete.
- Re-instatement of pre-intervention surface finishing or top soiling, levelling and debris removal.

The Contractor shall conduct a pre-intervention property-to-property survey to assess the condition of on-property plumbing fittings for all occupied properties to receive or who have already received prepayment meters (domestic and small non-domestic properties), with the aim of assessing whether repair or retrofitting is required, to quantify and price such requirement for intervention approval. The Contractor shall not commence with intervention without prior approval and written instruction from the Engineer. If the Contractor does commence without such approval the Employer shall not be liable for any cost incurred for such non-approved intervention. Once approval has been obtained from the Employer for on-property intervention the Contractor shall not deviate from the approved scope without prior approval from the Engineer.

H. DECOMMISSIONING

Decommissioning of secondary mains located in the mid-block and partial removal thereof.

This description of the works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this contract.

The Contractor is expected to participate (by availing the necessary resources) in the stakeholder engagement processes during project implementation and this should be catered for in his rates.

PS 1.4 LOCATIONS OF THE WORKS

The works is located within Soweto (Orlando East and Orlando West).

PS 1.5 TEMPORARY WORKS

Temporary works conducted by the Contractor shall be as follows:

- a) Temporary water connections, Contractor's offices, storage sheds, latrines, barricading of Works shall be located in an approved position and subject to the approval of all authorities concerned.
- b) Safety and security of the Contractors' temporary works shall be at the Contractors' discretion, but always in accordance with stipulated Occupational Health and Safety requirements.
- c) The camp shall be adequately guarded during or outside working hours.
- d) include the works required to locate, verify and protect existing services within the works area.
- e) be such to ensure no or limited interruption to vehicular and pedestrian traffic; and

Further the Contractor shall note that no stockpiling of materials, TOOLS & EQUIPMENT, excavated material or any other construction related infrastructure shall be allowed in locations that may interfere with the operations of the Employer and the public in general.

Employer:		Contractor	
Witness:		Witness:	



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PS 2 ENGINEERING

PS2.1 EMPLOYER'S SPECIFICATIONS

The Contractor undertakes to follow the construction on the basis of the specifications and construction drawings laid out by the Employer.

PS 2.2 DRAWINGS

PS 2.2.1 VOLUME 3

Drawings are included in Volume 3 of this Contract Document based on current available information. Such drawing may be updated (based on actual site situation uncovered during execution of the works) and re-issued during the Contract Period as required.

PS 2.2.2 CONSTRUCTION DRAWINGS

Upon receiving the instruction to commence with the Works the Contractor shall receive three (3) sets of construction drawings, since the works on the project only involves yard connections and meter installations, As Built drawings will not be applicable.
the later shall be:

- a) Made available to the Employer's Agent or his duly authorised representative within 24-hour on request.

PS 2.2.3 SHOP DRAWINGS

Where an item to be supplied in conformance with this Contract specification has not been designed by the Employer's Agent or Employer, the Contractor shall be required to supply the Employer's Agent with 3 copies of detailed shop drawings prior to delivery of materials, including an electronic copy in drawing format that is compatible with the software packages (AutoCAD or DXF) used by the Employer's Agent and/or Employer.

NOTA BENE: Only on approval of such shop drawings or an amended version thereof, shall the Contractor proceed with the manufacturing, supply and installation of the designed item.

PS3 PROCUREMENT

PS 3.1 PREFERENTIAL PROCUREMENT PROCEDURES

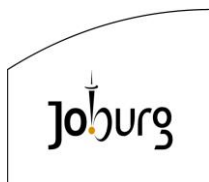
The Employer's promotes preferential procurement.

PS 3.2 SUBCONTRACTING

PS 3.2.1 PERFORMANCE AND EXECUTION OF THE SUBCONTRACT WORK

The main contractor must ensure that his subcontractors shall supply sufficient, suitable resources (e.g. equipment, labour, material) to execute all the Subcontract Work including the portion identified by the Employer as outlined in the Scope of Work PS 3.2 and Bill of Quantities.

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Witness:		Witness:	



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The Contractor shall also ensure that the Subcontractor(s) shall execute the Subcontract Work in accordance with the Scope of Work and Programme to the reasonable satisfaction of the Employer.

PS 3.2.2 QUALITY OF THE SUBCONTRACT WORK

In accordance with the requirements of Clause 4.4 in the General Conditions of Contract for Civil Engineering Works (2015), 3rd Edition, it is the responsibility of the Contractor to ensure that the Subcontractor shall be capable of executing the Subcontract Work efficiently and in accordance with the Scope of Work.

PS 3.2.3 LAWS AND REGULATIONS

The Contractor shall ensure that the Subcontractor(s) complies with the paying all amounts due in respect of his employees and himself in terms of all relevant legislation and regulations including, but not confined to, the

- Income Tax Act, the
- Compensation for Occupational Injuries and Diseases Act,
- Unemployment Insurance Act,
- Basic Conditions of Employment Act,

PS 3.2.4 RESOURCES TO COMPLETE SUBCONTRACT WORK

Although it is preferred by JW that the Contractor ensure that the Subcontractor(s) supply all required resources such as labourers, equipment, hand tools, power-driven tools if need be, which are required by him for the execution of the Subcontract Work, however the onus is upon the Contractor to determine the extent of resources the subcontractor shall supply to ensure that the works are completed in time. The agreement between the Contractor and subcontractor is the Contractor's responsibility and JW is indemnified from any agreements entered between Contractor and his Subcontractor (s)

PS 3.2.5 PAYMENT

The Contractor shall ensure that sub-contractor(s) are paid within stipulated time as per the Agreement with the subcontractor, failure which the Contractor can be reported to the Employers' Supply Chain Department and may prejudice his future employment with Johannesburg Water.

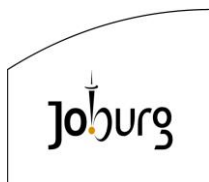
PS 3.2.6 RETENTION MONIES

The Employer will deduct Retention money for the overall works including the Subcontract Work at the percentage stated in the Contract Data.

PS 3.2.7 RESOLUTION OF DISPUTES

Should any dispute between the Contractor and the Subcontractor arise out of the provisions of the Subcontract, or the execution of the Subcontract Work, every effort shall

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Witness:		Witness:	



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be made by the Parties to resolve the matter themselves without the intervention of the Employer. The agreement signed between the Contractor and Sub-contractor should state dispute resolution procedure.

PS 3.2.8 LOCAL SUBCONTRACTING

- a) The Contractor shall be required to sub-contract 30% of the Contract Sum.
- b) The Contractor is expected to include in the rates all direct and indirect costs for SMMEs. These costs are but NOT limited to:
 - Management
 - Overheads
 - PPE
 - Supervision
 - Insurances
 - Health and Safety
 - Facilities for SMMEs
 - Other Fixed and Time-Related Obligations

N.B No separate allowances shall be made for SMMEs

- c) For all other facilities such as Site Camp, storage of tools etc. the Subcontractors will use the facilities established by the Contractor.
- d) The Contractor will identify items in the BOQ to be subcontracted and a separate BOQ for subcontracting will be prepared.

PS4 CONSTRUCTION

PS 4.1 GENERAL CONDITIONS AND APPLICABLE STANDARDS

PS 4.1.1 General Conditions

The “Special Condition of Contract” to be read in conjunction with the “General Conditions for Construction Works 2015 Third Edition (GCC 2015).

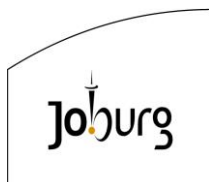
PS 4.1.2 Applicable Standardized Specifications

The Standard Specifications for all associated civil work applicable to this Contract shall be:

SANS Description

- 1200 A : General (1986)
 1200 AB : Employer's Agent's office (1986)
 1200 C : Site clearance (1980)
 1200 D : Earthworks (1988)
 1200 DB : Earthworks (Pipe trenches) (1989)
 1200 GA : Concrete (Small works) (1982)
 1200 GE : Precast Concrete (1984)

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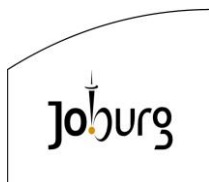


- 1200 L : Medium pressure pipe lines (1983)
1200 LB : Bedding (Pipes) (1983)
1200 LC : Cable ducts (1981)
1200 LF : Erf connection (water) (1983)
1200 DM : Earthworks (Roads, Subgrade) (1981)
1200 LD : Sewers (1982)
1491-1 : Portland cement extenders Part 1: Ground granulated blast-furnace slag (2005)
1491-2 : Portland cement extenders Part 2: Fly ash (2005)
1491-3 : Portland cement extenders Part 3: Silica fume (2005)
1882 : Polymer concrete surface boxes, manhole and inspection covers, gully gratings and frames (2003)
50197-1/ : Cement - Part 1: Composition, specifications and conformity criteria for common
EN 197-1 cement
5831 : Presence of chlorides in aggregates
5861-2 : Concrete tests - Sampling of freshly mixed concrete (2006)
5862-1 : Concrete tests - Consistence of freshly mixed concrete - Slump test (2006)
5863 : Concrete tests - Compressive strength of hardened concrete (2006)
5864 : Concrete tests - Compressive strength of hardened concrete (2006)
5865 : Concrete tests - The drilling, preparation, and testing for compressive strength of
cores taken from hardened concrete (1994)
6509 : Corrosion of metals and alloys – determination of dezincification resistance of brass.
15874 : Plastics piping systems for hot and cold-water installations – polypropylene, specifically Part 2: pipes and Part 5: fitness for purpose of the system
967 : Unplasticized polyvinyl chloride (PVC-u) soil, waste and vent pipes and pipe fittings
16135 : Industrial valves: ball valves of thermoplastics materials
Reference is made to certain provisions of:

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

All the above specifications are not issued with this volume but are available at the Contractor's expense from: Standards South Africa.

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Witness:		Witness:	



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

For "Workmen's Compensation Act" read "Compensation for Occupational Injuries and Diseases Act, 1993 (Act No.130 of 1993)" wherever it appears. For "Machinery and Occupational Safety Act" and "Mines and Works Act" read "Occupational Health and Safety Act, 1993 (Act 85 of 1993)" wherever they appear. For "maintenance period" read "Defects Liability Period in terms of Clause 1.1.1.13 of the General Conditions of Contract, 2015" wherever it appears

PS4.1.3 Other Standards

Other Standard Specifications applicable to this Contract shall be:

PA : SMALL DIAMETER PIPEWORK WITHIN ERVEN
PD : EMPLOYMENT AND TRAINING OF LABOUR
PO : EXTRA OVER FOR OCCUPATIONAL HEALTH & SAFETY
PF : JOHANNESBURG WATER METER SPECIFICATIONS AND METER TECHNICAL SUPPORT

PS4.2 Particular generic specifications

PS4.2.1 Minimum health and safety requirements

This section of the specifications is to be read in conjunction with the Contract Health and Safety specifications, included as Volume 2. The following requirements shall be deemed minimum compliance requirements to ensure the health and safety of the public and workers during the execution of the Contract.

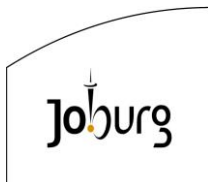
PS4.2.1.2 Personal safety equipment

The construction team unit shall be provided with:

Personal equipment per member:

- i) safety helmet.
- ii) safety boots.
- iii) disposable protective gloves.
- v) Cloth Musk (Tripple layer) or Surgical
- vi) First Aid Kit suitable to cater for the number of team members.
- vii) facilities for washing, including:
 - a. soft soap.
 - b. disinfectant.
 - c. clean water.
 - d. Hand sanitizer (70% alcohol based)

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- viii) radio equipment and cellular phone for onsite and emergency communication.
- ix) fire extinguisher.

PS4.2.3 Site preparation

Prior to any Works commencement the Contractor shall photograph or video tape entire work area. One copy of which shall be given to the Employer's Agent's authorized representative, and one copy shall remain with the Contractor for a period of 12 months following the issue of a Completion Certificate. This record shall be used to establish accountability for damages during the execution of the Contract.

No alterations beyond what is required for Works are to be made. Contractor shall confine all activities to designated work areas, to the absolute minimum required.

PS4.2.4 Pipe handling and storage

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

Where slings are used for lifting

- a) timber, timber wedges or sandbags. Pipes shall be placed on timber bearers not more than 1.5m apart. Where pipes are stacked, timber bearers shall be placed between each layer of pipes.
- b) HDPE/Plastic pipes shall be stored away from contact with chemicals or ground contaminated with chemicals.
- c) Care shall be taken to prevent scoring and scratching of HDPE/Plastic pipes.

PS4.2.5 Inspection of pipes and fittings

Pipeline rehabilitation components shall be checked for damage and flaws immediately before installation, where:

- a) plastic pipes and fittings shall be checked for gouges, cracks, holes, flattening and indentations.

Damaged or flawed pipes and fittings can only be used if approved by the Employer's Agent. Pipes and fittings considered unsuitable for use by the Employer's Agent shall be removed from the site at the Contractor's expense. The Employer's Agent may approve the repair of any damage where the pipe or joint may be repaired without affecting its performance.

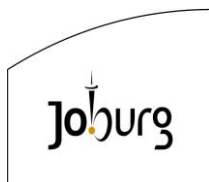
PS4.2.6 Cutting of pipes

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

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

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

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PS4.2.7 Acceptability of damaged pipe

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

PS4.2.8 Property or branch connection excavation

a) Property or branch connections shall be exposed and disconnected from the existing pipe prior to commencement of bursting. Property or branch connections to be redirected to temporary water line.

b) All excavations for property or branch reconnections shall be the minimum necessary to execute the operations. Care shall be taken to prevent material entering the live existing system when performing the disconnection and/or connection.

PS4.2.9 Reconnection of property and branch connections

Property connections shall not to be out of service for more than 8 hours, unless otherwise agreed in writing with the property owner or occupier. If this is not possible, temporary connections are to be made at convenient locations as approved by the Employer's Agent.

All connections shall be by means of approved fittings, in accordance with the manufacturer's instructions, for:

a) PVC pipes and fittings, using either, solvent-cement joints, push-on joints, threaded joints, clamps or flanged joints.

b) HDPE pipe and fittings, using fusion jointing techniques, clamps or flange joints (either installing flange ended fittings, HDPE flange adapters and mechanical couplings)

PS4.2.10 General Requirements for all Water Meter Installations

All metering installation within the City of Johannesburg shall be of the above ground type, except for threaded 32 - 40mm meters for which a surface meter box may be used. All plastic meters shall also be appropriately protected from exposure to sunlight in a meter box compliant with Section PF 4.2

PS4.2.11 Pre-delivery Requirements for delivered STS meters

Before delivery, all compliance certificates of STS meters should be delivered to JW flow lab together with a sample meter for approval. After the approval, meters are delivered to site from which another sample is taken for testing before the installation commences.

PS4.2.12 Meter Selection, Sizing and Installation

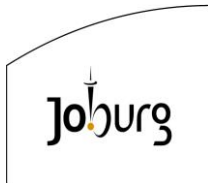
The standard meter size for all small connections shall be a **15mm** diameter **Class C** meter complying with Johannesburg Water Metering GuidelinesError! Reference source not found. regardless of the size of the connection pipe 20mm and 25mm meters.

PS4.2.13 Cement

Cement shall be Portland cement (or similar approved) complying with the requirements of SANS 50197-1/EN 197-1 or SANS 5831.

Samples of cement from anyone, or from every consignment, may be required by the Employer's Agent or his duly authorized representative for test purposes. Cement in any consignment from which a sample may have been taken for testing shall not be used

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until it has been approved. Allowance shall be made for possible delay in that tests may take 10 days to carry out.

Bags of cement shall be stacked in a waterproof, solidly constructed shed with a central door and a floor rendered damp-proof with a tarpaulin. The bags of cement shall be closely stacked (but not against walls) in order to reduce air circulation in such a manner that the cement is used in the order in which it was received, i.e. first in first out.

Unless otherwise specified in the documents the use of ordinary Portland cement blended with ground granulated blast furnace slag complying with SANS 1491, or ordinary Portland Cement blended with Pulverized Fly Ash complying with SANS 50197-1/EN 197-1 will be allowed in certain instances as an alternative, after acceptance of tender offer, but only with the approval of and at the sole discretion of Employer's Agent. If not so specified in the documents the Contractor must demonstrate a saving in favour of the Employer together with this alternative.

PS 4.3 EQUIPMENT AND MATERIALS

The Contractor shall provide all tools and equipment required to install pipework in accordance with this specification. The Contractor shall only use tools that are approved by the Engineer. Any materials that are damaged by the use of non-approved implements or tools will be rejected and the replacement cost shall be borne by the Contractor.

No additional allowances other than those already specified in the Schedule of Rates shall be allowed for with respect to tools, equipment and materials.

PS 4.4 ENGAGEMENT OF LABOUR

PS 4.4.1 Provision of a Temporary Workforce for the Contract

The Contractor shall have regard for the stipulation laid down for all Labour-Intensive projects that he employs labour from the local community through the Labour Desk that has been established for this purpose.

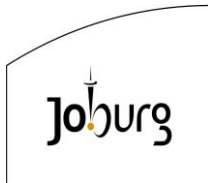
The Labour Desk shall assist in identifying available local labour and, where available, semi-skilled labour. The Labour Desk shall also assist and advice regarding conditions of employment, minimum wages, disputes and disciplinary procedures.

The workforce that is employed on Site shall consist of local labour where applicable, except for approved key staff, to the extent that is compatible with the requirements of Clause 4.11 of the General Conditions of Contract for Construction Works 2015.

The Occupational Health and Safety Act must be adhered to with reference to the safety of any employee irrespective of whether such employee is employed by the Contractor. Furthermore, a contract of employment must be signed between the Contractor and each of his employees. and each of the contractor's employees with clear reference to the following conditions:

- The minimum agreed wage rate per hour in respect of labourers.
- The agreed pay rate per unit of production where applicable.

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- UIF and WCA payments.
- Minimum working hours per day.
- Start and end times of a daily shift.
- Lunch break times.

Company Policy regarding the following:

- Rain time
- No work no pay - sick, absent
- Disciplinary policy
- Grievance policy
- Method of payment
- Workers' clothing and safety equipment to be issued.
- The Contractor is required to show these items to the Employer's Agent for approval before construction commences.

PS 4.4.2 Transportation of labourers

The labour employed on this Contract shall be local labour from the nearest local community. Transportation should be provided for the labourers from Site Office to where they are working and back to the Site Office.

PS 4.4.3 Minimum wage for local labour

Contractor to comply with the latest Government Gazette: Labour Relations Act, 1995 as set out by the Bargaining Council for Civil Engineering Industry.

PS 4.4.4 Training

The Contractor will be expected to provide formal training for the labourers and the CLOs. In this regard the labourers will be attending training for five days and the labourers should receive their full salary while on training. The Contractor is expected to have allowed for this in his rates elsewhere.

PS 4.4.5 Labour Returns

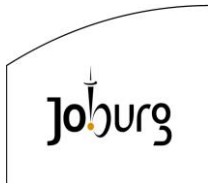
The Contractor will be required to submit his payment certificate together with monthly labour returns including copies of certified IDs, individual contracts, proof of payment, timesheets and training returns. **No payment certificate will be processed if correct labour returns are not submitted.**

PS 4.5 SITE ESTABLISHMENT, FACILITIES AVAILABLE AND REQUIRED

PS4.5.1 General

In order to facilitate compliance with the General Conditions of Contract and Conditions of Contract 2015 the Contractor shall be required to set-up an individual construction camp. The size and functionality of the site camp shall be in relation to the individual Contracts. It is, however, expected that the Contractor would have made themselves aware on whether one or multiple site camps are required for the execution of the complete Works.

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Witness:		Witness:	



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The Contractor shall price accordingly and state so in their proposal. For the camp/s, the following shall apply:

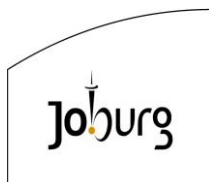
- a) The Contractor shall make arrangements with the relevant authority for a suitable site to establish a construction camp, storage, works offices, workshop/s, kitchen, and shelters for security personnel.
- b) The Contractor shall note that only security personnel shall be permitted to remain in the campsite overnight.
- c) Ablution facilities shall be provided for men and women separately. One toilet per twenty workers shall be provided. Such facilities shall at all times be maintained in a clean and hygienic condition. Toilets shall be screened from public view and their use shall be enforced.
- d) Covered accommodation shall be provided for perishable or corrodible materials, fittings and the like and shall be adequate and suitable for their purpose. In the case of cement stores, they shall be well ventilated, weatherproof and waterproof with appropriate floors to keep the materials dry and freely aerated.
- e) All such accommodation shall be subject to the approval of the Employer's Agent who shall have free access thereto at all times.
- f) Temporary buildings and fencing are to be safe, neat and presentable and the surrounding areas must at all times be kept in a neat, clean and orderly condition for the duration of the Works.
- g) It shall be the Contractor's responsibility to ensure that they are in compliance with all relevant laws and regulations as well as tribal requirements.

PS4.5.2 Site facilities required for Employer's Agent

- a) Source of water supply: It will be the responsibility of the Contractor to make his own arrangements for the supply of water. Potable water is available in the area and the Contractor is to make the necessary arrangements for the provision of a metered point of supply with the Employer. The sum entered by the Contractor in the Bill of Quantities for provision of water shall be deemed to include full compensation for the procurement, transport, storage (where necessary), supply and application of water and for all the work necessary and incidental thereto for the various items of work where water is required for the purposes of the contract. The Employer does not guarantee the availability, sufficiency or continuity of any supply and no claims in this regard will be considered.

The Contractor is to be aware of the fact that this Contract is to be carried close to a built-up environment and that, as such, excessive dust creation will be considered unacceptable by the local residents. The Contractor is to make provision for regular watering of the works in order to alleviate dust creation. During dry weather, or during periods when dust is created by the construction process, the Contractor will be required to water the works a minimum of twice a day, or as specified by the Employer's Agent. This is a requirement over and above the normal requirement for watering of the works.

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Witness:		Witness:	



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- b) Source of power supply: It will be the responsibility of the Contractor to make his own arrangements for the supply of electricity. The sum entered by the Contractor in the Bill of Quantities for the provision of power shall be deemed to include full compensation for the procurement and supply of powers to the works. The Employer does not guarantee the availability, sufficiency or continuity of any supply and no claims in this regard will be considered.
- c) Contractor's camp: A suitable site for the Contractors camp will be identified prior to Commencement by the Contractor. The Contractor is to make the necessary arrangements for any approvals and payment of services to the Municipality where applicable. The camp site shall be kept clean and tidy, and at the completion of the contract shall be restored to its original condition at the Contractor's own cost, and to the satisfaction of the Employer's Agent. In order to facilitate compliance with the Conditions of Contract and the Specification, the Contractor may establish storage accommodation, works offices, workshops, mess-rooms, kitchens, shelters for watchmen, latrines, ablutions and the like in such positions and under such conditions as may be agreed by the Employer's Agent and indicated in the Addendum to the EMP.

Temporary buildings and fencing are to be neat and presentable, and the surrounding areas must at all times be kept in a neat, clean and orderly condition.

The Contractor shall not make any excavation without written permission of the Employer's Agent.

Covered accommodation for perishable or corrodible materials, fittings and the like shall be adequate and suitable for their purpose, and, particularly in the case of cement stores, shall be well ventilated, weatherproof and waterproof with floors raised off the ground, so as to keep the materials perfectly dry and freely aerated. All such accommodation shall be subject to the approval of the Employer's Agent who shall have free access there at all times.

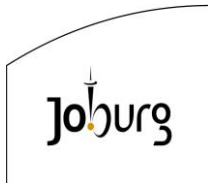
In addition to the above, the Contractor shall provide one toilet per 20 workmen. Portable toilet facilities shall be made available to workers of both male and female genders, the number provided to be in proportion to the ratio of the sexes. The toilets shall be located in the vicinity of the work site, shall be screened from public view and the use thereof shall be enforced. The Contractor shall, where applicable, make the necessary arrangements for the regular removal of night soil.

The Contractor may not house members of his permanent staff except for a security guard at the site and is to make the necessary arrangements for the transport of his staff members to and from the site on a daily basis. As the Contractor's Camp may be located in close proximity to a residential area, attention to noise levels, particularly after hours, will be essential.

- d) Site facilities required for Employer's Agent and others: The requirements of the Employer's Agent's Site Establishment are detailed in Project Specification PSA and PSAB.

The Contractor shall provide the following office facilities at his main site camp for the Employer's Agent and others:

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Witness:		Witness:	



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- One office for the Employer's Agent's Representative.
- Temporary office accommodation to suit his own requirements.
- Covered parking facilities for two (2) cars for the Employer's Agent's Representative.

A cell phone will be required for the sole use of the Employer's Agent's Representative. The Contractor shall be responsible for the payment of calls related to the Contract made by the Employer's Agent's Representative, on this mobile phone, during the course of the Contract. A Wi-Fi line with modem facilities shall be provided on site and be available for the sole use of the Employer's Agent's Representative at all times.

PS 4.6 SITE USAGE

PS4.6.1 Work on private or state property

The Contractor shall regulate his work so as to cause the least possible inconvenience to consumers. The Contractor shall endeavour to minimise possible damage to private property and shall, after backfilling, make good those portions of lawns, flower beds, driveways, pathways, etc., that have been disturbed or damaged by his operations.

The Contractor shall, as soon as is practically possible, inform the Employer's Agent of any damages to services and shall not repair any such damage unless instructed to do so. The Contractor shall be responsible for making good at his own cost and to the satisfaction of the Employer's Agent, all damage caused by him to buildings and other improvements to properties.

Should the Contractor consider that damage to buildings and structures is unavoidable in the execution of any portion of the Works, he shall obtain the approval of the Employer's Agent before proceeding with the work. Where damage is noticed before commencement of work on that erf, this should be reported to the Employer's Agent in order to prevent a possible liability claim from the owner.

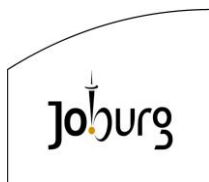
PS4.6.2 Site safety and precautions against nuisance

The Contractor shall ensure that all safety measures are strictly adhered to. The Contractor shall ensure that excavations on sidewalks within the road reserves or within the erven do not at any time present a safety hazard to pedestrians. All excavations that remain open overnight are to be adequately protected.

The Contractor shall provide all safety materials and equipment necessary for barricading and safeguarding the excavations. The safety of staff and labour involved with the Works and the security of installations, tools and equipment is of major concern and need special attention during the execution of the Works.

Tools used on the Works shall be as efficiently silenced as possible and noisy operations will be permitted only between the hours of 07:00 and 17:00. Any work outside normal hours will be permitted only on the written authority of the Employer's Agent. Wherever trench excavations or loading of material is liable to form dust, an effective method of spraying water over the excavated area and loaded material shall be instilled. Any rock or debris falling from trucks on the roads shall be removed immediately. Precautions shall be taken to prevent fouling of public roads or private surfaces. The Employer's Agent may

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Witness:		Witness:	



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order the Contractor to broom off and clean roads or surfaces where debris may constitute a danger to the public or a nuisance to the owners.

PS4.6.3 Work outside normal working hours

Normal working hours shall be defined as between 07:00 and 17:30 Mondays to Fridays and also 07:00 to 13:00 on Saturdays.

Should the Contractor choose to work outside normal working hours without having been ordered to do so by the Employer's Agent, permission will not be unreasonably withheld but all additional costs arising out of such work shall be entirely to the Contractor's account.

PS 4.7 INSPECTION OF ADJOINING STRUCTURES, SERVICES, BUILDINGS AND PROPERTIES

The Contractor shall, before commencing with works which have the potential to damage surrounding structures, services, buildings or property, arrange an inspection with the owners of such structures, services, buildings and property and representatives of local or controlling authorities, as appropriate, to determine the condition of buildings, structures, services, paved surfaces, roads, kerbs, channels and the like, that the works could affect, and document their current condition in sufficient detail to enable disturbances or damage which might be caused by the works to be evaluated. The Contractor shall furnish the Employer with copies of all such documentation and shall be held responsible for any disturbance and damage to such structures, services, buildings and property arising from the performance of the contract as well as any costs involved in refuting or processing such claims.

PS 4.8 WATER, SANITATION AND ELECTRICITY FOR CONSTRUCTION PURPOSES

PS4.8.1 Water

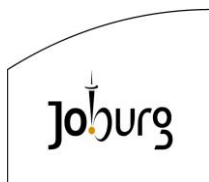
The Contractor shall make his own arrangements with the Employer to obtain a potable water metered standpipe connection for which at least 14 days' notice shall be given. The size of the connection provided will be as specified in the Water and Sanitation By-laws.

The Contractor may only draw water from fire hydrants through means of a legal, Employer owned, potable water metered standpipe. Failure to use such Employer owned potable water metered standpipes, or using illegal, non-Employer owned equipment for purposes of drawing water from fire hydrants, will result in the Contractor having to pay an account to the Employer, for an amount determined by the Employer

The potable water metered standpipe(s) must be made available to the Employer's water inspectors for purposes of reading and inspection, and failure to do so, will result in the immediate withdrawal of such potable water metered standpipe(s). The onus is on the Contractor to return such potable water metered standpipe(s) if they are found to be defective (not registering consumption). Failure to do so will result in an account being levied, payable to and determined by the Employer. Claims for delays caused where standpipe(s) are withdrawn and/or replaced will not be considered.

The current water tariffs applicable to the Contract are available from the Employer.

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Witness:		Witness:	



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PS4.8.2 Sewer

The Contractor shall provide, maintain, move to positions as required and finally remove proper sanitary accommodation at each work front. Sanitary accommodation shall be properly screened and its use strictly enforced. The Contractor shall comply with the Employer's Sanitation General By-Laws Section 19(1) and 19(3).

The situation of sanitary accommodation prescribed in terms of the Sanitary General By-Laws shall be approved by the Employer's Agent as being convenient for the person for whose use it is intended. The sanitary accommodation provided must be adequately ventilated, properly disinfected and kept in a thoroughly clean condition at all times.

The Contractor shall bear all costs associated with the provision of sanitary accommodation. Compensation for these costs will be made under the relevant item in the Schedule of Rates.

PS4.8.3 Power

The Contractor shall make arrangements with the relevant authority for the supply and distribution of power for purposes of this Contract, the cost of which shall be deemed to be included in the rates inserted in the Schedule of Rates.

Power used for carrying out of the works in accordance with these Specifications will not be subject to measurement or payment.

PS4.9 EXISTING SERVICES

PS4.9.1 Treatment of existing services

The Contractor must liaise with all relevant local authorities to satisfy himself that all relevant services have been located. At the commencement of the contract, the Contractor must hand excavate a distance 0,5 metre on each side of the located service to expose it. The exposed service shall be identified and recorded on a drawing.

A copy of the drawing with all known services shall be submitted to the Engineer before construction can commence in any road reserve. Once the exposed service is identified and recorded the excavation must immediately be backfilled. Re-excavation by hand at construction stage will not be measured in addition to normal trench excavation.

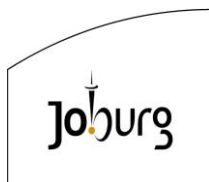
The Contractor shall retain full responsibility for establishing the exact positions of the various services in advance of any construction work. No allowance for delays or disruption shall be entertained unless the Contractor complies fully with the provisions of this clause regarding the establishment of the exact positions of the various services in advance of any construction work.

PS4.9.2 Use of detection equipment for the location of underground services

The Contractor:

- a) is responsible to provide his own equipment in order to determine the location of existing services, and
- b) shall locate and expose existing services by hand.

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PS4.9.3
services

Damage to existing

The Contractor:

- a) must make provision for the possible existence of numerous services within and in close proximity to the work areas.
- b) shall take necessary steps to protect any existing services whatsoever against damage which may arise as a result of his operations on site. Adequacy in terms of protection of existing services shall be at the discretion of the Engineer. The Contractor is to make good the protection of and any breakages to existing services.
- c) must inform the relevant service provider immediately (within 2 hours of the incident) such that procedures for the re-instatement of the service can be effected, should he damage or break an existing service (whether known or unknown);
- d) shall bear the cost of the repair of damages to any service, the possible existence of which could reasonably have been ascertained by him in good time.

Contractor shall contact the following persons should there be any disruption, damage or co-ordination required with the relevant services agencies:

☐	EGOLI GAS	Joice / Selo	(011) 718 7133
☐	ESKOM	Mr Christo Louw	(011) 711 2941
☐	CITY POWER	Mr D Oliver	(011) 490 7000
☐	CITY PARKS	Mr Mike Griffiths	(011) 407 3722
☐	JOBURG WATER	Thula / Nkala	(011) 688 1400
☐	JRA	Mr Theo Molamu	(011) 866 8697
☐	RAND WATER	Mr Job Kubheka	(011) 682 0911/0433
☐	NEOTEL	Mr Shane Cannon	(011) 359 1105
☐	TELKOM	Mr L Ramolobela	(011) 309 9186
☐	SASOL	Mr B van der Heuvel	(011) 865 8563
☐	MTN	Shasha le Grange	(011) 912 3289
☐	DFA / VODACOM	Ms Nadia Verhoog	(012) 345 7520

The Contractor's attention is drawn to Clause PSA 5.4.

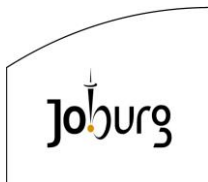
PS4.10

PERMITS AND WAYLEAVES

The Contractor will be required to obtain permits and wayleaves from all the applicable service providers who may have services in the vicinity of the Works. These include the following: Rand Water, Sasol Gas, Egoli Gas, Telkom, Eskom, City Power, Johannesburg Roads Agency, Johannesburg City Parks, Johannesburg Water, Neotel and the like.

The Employer will assist the Contractor to obtain clearance from the various authorities with services that are likely to be affected by the Contract. It is, however, the Contractor's responsibility to obtain final permit and wayleave approval according to applicable procedures and specifications. In the case of Johannesburg Roads Agency, this will be as per the City of Johannesburg Code of Practice for Work within the Road Reserve. Further, a processing fee of R400,00 per wayleave per project per suburb will be payable to cover the cost of processing and approval of the Johannesburg Roads Agency wayleave applications.

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Permits and way leave associated costs shall be deemed to have been included in the scheduled rates for excavation and location of existing services under the relevant section of SANS 1200A.

PS 5 MANAGEMENT OF THE WORKS

PS 5.1 PLANNING AND PROGRAMMING

PS5.1.1 Work plan

Seven days prior to commencing with any part of the Works, the Contractor shall submit to the Employer's Agent, for review and approval, a work plan detailing the procedure and schedule to be used to execute such works, detailing and substantiating any deviation from the originally proposed approach. Further, the work plan shall include the following:

- a) time frame.
- b) description of all equipment and tools to be used.
- c) list of personnel and their qualifications and experience (including back-up personnel in the event that an individual is unavailable).
- d) list of sub-contractors, schedule of work activity.
- e) safety plan (clearly highlighting any potentially hazardous substances to be used).
- f) traffic control plan (if applicable).
- g) an environmental protection plan; and
- h) Contingency plans for possible problems.

The approval given by the Employer's Agent shall in no way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the work as prescribed under this Contract

Work plan shall be comprehensive, realistic and based on actual working conditions. Further it shall form the various sub-sections of the overall Contract programme and plan

NOTA BENE: No works shall be allowed to commence without an approved work plan.

PS5.1.2 Planning

The Contractor shall ensure that he:

- a) is well informed with regard to the Employer's overall maintenance programme and avail resources as required to efficiently complete this Contract; and
- b) delivers goods and services timeously to meet the Employer's prevalent performance standards and where applicable to not unnecessarily delay any other contractors, service providers and suppliers.

PS5.1.3 Programming

In order to ensure a clear understanding, at the inception of the Contract, of the programming and documentation format requirements, the Contractor shall appoint a project programmer/ planner for liaison during the Contract. The Contractor shall for the Contract Period provide and regularly update (maximum monthly) a Contract Programme.

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Witness:		Witness:	



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The programme shall at minimum contain:

- a) Time Scale (minimum):
 - i) Days, where the period does not exceed three months. Weeks, where the project period exceeds three months.
 - ii) Months, where the period does not exceed one year.
 - iii) Years, where the project period exceeds one year.
- b) Tasks: Where phases or stages are anticipated, this shall be the highest level of division, and all tasks related to the successful accomplishment of that phase of the area shall be grouped. Resources allocation and task dependency shall be indicated.
- c) Start and Finish Dates: All tasks shall have specific start and finish dates.
- d) Critical Path: All tasks forming the programme line that will establish any delays in the overall Contract Period shall be clearly indicated and an indication of their sensitivity characteristics shall be provided.
- e) Progress Tracking: The Contractor shall be required to periodically indicate progress per task graphically and on a percentage basis.
- f) Non-working Time: All South African public holidays, weekends and the local traditional annual builder's break shall be incorporated in the programme.

No deviation from the approved sequence of construction shall be accepted without prior written approval.

The programme shall not be in the form of a bar chart only but shall show clearly the anticipated quantities of work to be performed each month, together with the manner in which the listed TOOLS & EQUIPMENT is to be used, as well as the anticipated earnings for the various sections of work.

NOTA BENE: A Contract programme shall be submitted to the Employer's Agent no later than 28 days after Contract Commencement Date.

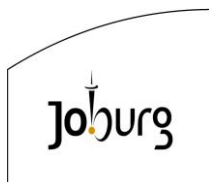
The Contractor shall provide the Employer's Agent with a method statement indicating the manner and sequence in which he intends to construct the works, for each work area, with the program. In the method statement the Contractor must address at least the following items:

- a) sequence of the works for the relevant works area.
- b) target dates for the tasks identified in sequence of the works for the relevant works area.
- c) materials requirements.
- d) construction TOOLS & EQUIPMENT to be used.
- e) services affecting construction; and
- f) any factors that could affect construction progress after commencement.

The method statement must be approved by the Employer's Agent before commencement of construction. In order to minimize the impact on traffic, pedestrians and business the Contractor will be required to segment the works in such a manner that no portion of the works is more than one day ahead of the following position. These segments of the works shall be clearly defined in the Contractor's method statement for each work area.

If, during the progress of the work, the quantities of work performed per month fall below those shown on the program or if the sequence of operations is altered, or if the

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program is deviated from in any other way, the Contractor shall, within one week after being notified by the Employer's Agent, submit a revised program.

If the program is to be revised by reason of the Contractor falling behind his program, he shall produce a revised program showing the modifications to the original program necessary to ensure completion of the Works or any part thereof within the time for completion. Any proposal to increase the rate of work must be accompanied by positive steps to increase production by providing more labour and TOOLS & EQUIPMENT on the Site, or by using the available labour and TOOLS & EQUIPMENT in a more efficient manner.

Failure on the part of the Contractor to submit or to work according to the program or revised program shall be sufficient reason for the Employer to take steps as provided for in the GCC.

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

PS 5.1.4 Sequences of the Works

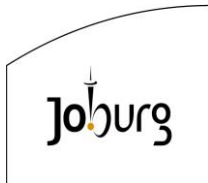
Notwithstanding any changes that the Employer's Agent deems necessary the sequences should include the following:

- Mobilisation, project planning and control and communications to stakeholders
- Delivery of meters and arrange for testing by JW prior to installation
- Investigation of Yard connections
- Investigation of gate valves
- Exposing existing services and driveways
- Hand excavation for Yard connections and meter installations
- Supply, bedding and laying of pipes
- Provision and installation of gate valves and chambers
- Backfilling including compaction
- Trenchless installations
- Reinstatement of paved and other areas where affected.
- Leak free testing of the installation
- Clearing of the site including removal of spoil
- Site hand over

PS 5.1.5 Software Applications for Programming

The construction programme shall be completed in Microsoft ® Project Standard (Latest version) or compatible software. The construction programme and updated versions thereof shall be made electronically available to the Employer's Agent.

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PS 5.1.6 Methods and Procedures

The Contractor shall submit to the Employer's Agent, within a period stated in the Contract Data, a detailed construction programme, detailing the date of commencement and completion of the work activities, dates, duration and extent of traffic accommodation interruption water supply to affected consumers. The detailed programme shall be based on the preliminary programme submitted with the tender and shall make an allowance for the following:

- Normal working hours shall be defined as between 07:00 and 17:30 Mondays to Fridays and also 07:00 to 13:00 on Saturdays.
- No work outside working hours will be allowed. Should the Contractor wish to work outside normal working hours written permission shall be obtained from the Employer's Agent and all additional costs arising out of such work shall be entirely to the Contractor's account.

Once a detailed programme has been approved, the Contractor shall not deviate from the planned operations.

PS 6 QUALITY PLANS AND CONTROL

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the specifications and drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality-control system and provide experienced personnel, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the works at all times.

The cost of supervision and process control will be deemed to be included in the rates tendered for the related items of work.

On completion and submission of every part of the Works to the Employer's Agent for examination, the Contractor shall furnish the Employer's Agent with proof of quality in the form of a data pack containing measurements, levels and all compaction and hydraulic test results to indicate compliance with the scope of work.

PS 7 ACCESS TO PROPERTIES

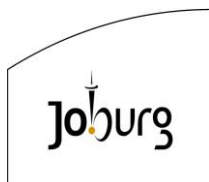
Adequate access shall at all times be maintained to public and private properties unless otherwise arranged and approved. Details of the proposed means of access shall be submitted before any such access is restricted. Claims arising from impeded access shall be the responsibility of the Contractor.

At least 7 days before commencing any work affecting access to a property, the Employer's Agent and the occupier/owner of each such property shall be notified of the Contractor's intention to commence work, the date of commencement, expected duration and arrangements which will be made regarding maintenance of access.

PS 8 OTHER CONTRACTORS ON SITE

There may be other Contractors working within the same area. As such, the Contractor is required to make adequate allowances for such possibilities. No claims with respect to works being carried out by other Contractors shall be entertained by the Employer.

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Witness:		Witness:	



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PS 9

TESTING, COMPLETION, COMMISSIONING AND CORRECTION OF DEFECTS

The onus is on the Contractor to produce goods and services which shall conform in quality and in accuracy of detail to the requirements hereinafter specified. The Contractor must clearly understand that it is not the duty of the Employer's Agent or his representative to act as foreman or surveyor on the Works.

The Contractor shall, at his own expense, provide experienced Construction Manager/Site Agents, foremen and surveyors together with all transport, instruments and equipment for supervising, checking and controlling the work.

The act of passing any completed work or accepting materials or goods for payment by the Employer's Agent shall not be construed as signifying approval or acceptance thereof. Failure on the part of the Employer's Agent to reject any defective work or material or goods shall not in any way relieve the Contractor of his obligations under the Contract, nor prevent later rejection when such work or material is discovered.

The Contractor shall, when submitting any work to the Employer's Agent for examination, satisfy himself by testing, measurement and otherwise as may be necessary that the work does in fact meet with the requirements of the Specifications. This information shall be submitted with the Contractor's request for examination and the Employer's Agent shall be authorised to decide on the number and type of tests, measurements, etc. required to enable him to judge the quality of the work. The submission of this information shall in no way diminish the authority of the Employer's Agent to conduct such tests as he may consider necessary in order to determine the quality of the work performed by the Contractor, nor shall he be bound to take account of the Contractor's tests, measurements, etc. should he consider these to be either incorrect or not representative.

Quality control and completion tests shall be in accordance with the relevant standard and amended specifications and additional specifications.

PS 10

RECORDING OF WEATHER AND ABNORMAL RAINFALL

If during the time for completion of the works or any extension thereof abnormal rainfall or wet conditions shall occur, then an extension of time in accordance with Clause 5.12.2 of the General Conditions of Contract 2015 hereof shall be granted by the Employer calculated in accordance with the formula given below for each calendar month or part thereof.

$$V = (Nw - Nn) + ((Rw - Rn)/X)$$

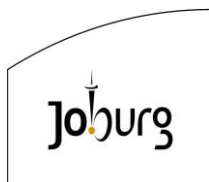
Extension of time in calendar days in respect of the calendar month under consideration.

Actual number of days during the calendar month on which a rainfall of Y mm or more has been recorded.

Average number of days, as derived from existing rainfall records, on which a rainfall of Y mm or more has been recorded for the calendar month.

Actual rainfall in mm recorded for the calendar month under consideration.

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Witness:		Witness:	



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Average rainfall in mm for the calendar month as derived from existing rainfall records.

For purposes of the contract Nn, Rn, X and Y shall have those values assigned to them in the Appendix and/or the Specification.

The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for part of a month to be calculated using pro rata values of Nn and Rn.

This formula does not take account of flood damage that could cause further or concurrent delays and will be treated separately as far as extension of time is concerned.

The factor (Nw-Nn) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm. The factor (Rw-Rn)/X shall be considered to represent a fair allowance for variations from the average in the number of days during which the rainfall did not exceed Y mm, but wet conditions prevented or disrupted work.

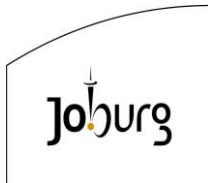
The following average rainfall figures are applicable:
 INFORMATION SOURCE: South African Weather Service
 Pretoria, Tel.: 082 233 8484

Y= 10 mm/24-hour day
 X= 20 mm

Table 5.1: Statistical rainfall

STATISTICAL INFORMATION: JOHANNESBURG SOWETO: 1985-2006		
Month	RAINFALL	
	Nn = Actual number of days during the calendar months in which a rainfall of more than Y-mm has been received	Rn Average monthly rainfall
January	4.1	116.4
February	3.6	121.3
March	2.6	96.0
April	1.1	30.4
May	0.5	15.2
June	0.1	5.9
July	0.0	1.5
August	0.2	8.7
September	0.3	13.2
October	2.0	66.0
November	3.0	84.5
December	3.8	105.4
TOTAL	21.3	664.6

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The Contractor shall be permitted to take his own rainfall measurements on site subject to the Employer's Agent's approval, but access to the measuring gauge(s) shall be under the Employer's Agent's control. The Contractor is to provide and install all the necessary equipment for accurately measuring the rainfall as well as to provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost.

PS 11 FORMAT OF COMMUNICATIONS

The Contractor and Employer shall follow the communication protocol through the Employer's Agent and Contractor's representatives. Communication media applicable shall be site meetings, telephone, fax, letter and email.

PS 12 KEY PERSONNEL

The key role players involved or associated with the contract are listed below with references made to the General Conditions of Contract for Construction Works 2015 3rd Edition.

- The Employer (GCC, Clause 1.1.1.15)
- The Employer's Agent (GCC, Clause 1.1.1.16)
- The Employer's Agent's Representative (GCC, Clause 1.1.1.17)
- The Contractor (GCC, Clause 1.1.1.9)
- The Contractor's Construction Manager (GCC, Clause 4.12.2)
- Responsible person in terms of the OHAS Act (GCC, Clause 3.2.4)

On appointment in terms of the new Construction Regulations, the Contractor will be required to appoint a Construction Manager and Safety Officer (registered with SACPCMP.)

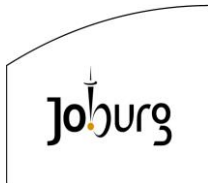
PS 13 MANAGEMENT MEETINGS

Fortnightly site meetings shall be arranged and facilitated by the Employer's Agent or his representatives. Senior Contractor management staff attendance shall be compulsory. The Contractor shall be required to provide reporting with regard to project progress, resources (human, TOOLS & EQUIPMENT and equipment), community issues, environmental and health and safety aspects.

PS 14 FORMS FOR CONTRACT ADMINISTRATION

The Contractor shall maintain a file which shall contain project information related to project progress, resources (human, tools & equipment and equipment), community issues, environmental, health and safety aspects, penalties imposed, claims lodged and outcomes, disputes and resolutions, payment and variations.

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Witness:		Witness:	



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PS 15 DAILY RECORDS

The Contractor shall keep daily site records as required by the Employer or his representative and as specified herein. Daily records shall include, labour, TOOLS & EQUIPMENT, materials, rainfall, environmental issues, health and safety issues, daily diary and the like. Such records shall be the property of the Employer and shall be made available to the Employer or his representative within 24 hours from being requested to do so.

PS 16 BONDS AND GUARANTEES

In addition to GCC 2015 Clause 8.6, the Contractor shall provide the Form of Guarantee for the due and punctual fulfilment and completion of all the Contractor's obligations under the Contract. No extension of time of the Contract Period of Performance or neither any variation of the Contract, nor the determination of the Contract by the Employer in terms of Clause 8.6 hereof, shall in any way impair or diminish or terminate any liability to the Employer under and by virtue of such Guarantee.

Should the Contractor, when notified of the acceptance of his offer, fail to provide an approved Guarantee within the stated period, then the Employer may, at his sole discretion:

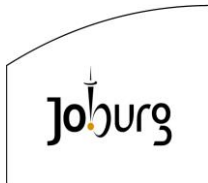
- (a) Grant the Contractor a further reasonable period in which to provide the bond; or
- (b) Withdraw his acceptance of the tender in which case the Contract shall be deemed to be void, but without prejudice to the Employer's rights to recover whatever damages he may have suffered by virtue of the Contractor's failure to fulfil his obligations.

PS 17 PAYMENT CERTIFICATES

Measurements will be done continuously between the Employer's Agents Representatives and the Contractor on dates and times agreed on. Dates must be arranged by these parties. The progress of the following items will be recorded hereunder:

- The Contractor will provide a certificate with quantities to the Employer's Agent before or on the 20th of every month.
- If any material on site is claimed, proof of ownership must be provided either by means of the necessary receipts or a letter from the supplier stating that ownership has been transferred to the Contractor upon delivery.
- After the payment certificate has been approved by Employer's Agent, the Contractor must issue a VAT invoice. The certificate will then be ready for handing in.
- Payment certificates must be completed monthly and submitted to the Employer's Agent before or on the 20th of each month. The payment certificate shall be accompanied by the monthly EPWP stats, copies of individual contracts, certified copies of individual IDs, Timesheets and proof of payment.
- The Contractor shall note that payment shall only be made for Works activities successfully (delivering the end result) executed, complying with the quality requirements and provided to the Employer's Agent or his duly authorized representative.

Employer:		Contractor	
Witness:		Witness:	



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- The Contractor will be required to submit his payment certificate together with monthly labour returns including copies of certified IDs, individual contracts, proof of payment and timesheets. **No payment certificate will be processed if correct labour returns are not submitted.**

PS 18 FEATURES REQUIRING SPECIAL ATTENTION

PS18.1 Security

The Contractor shall be responsible to provide security on site(s):

a) as he deems necessary. The Employer shall not be held responsible for any loss or damage(s) suffered by the Contractor, his TOOLS & EQUIPMENT, equipment, materials, subcontractors or employees as a result of a security incident of any nature.

b) which have been identified, by the Employer's Agent and/or Employer, as potential high risk areas requiring security during site visits for the duration of the contract. The Contractor shall arrange that the security meet with the Employer's Agent and/or Employer representative at a convenient and safe location and thereafter escort to the necessary areas.

PS 18.2 Work outside normal working hours

The Contractor is permitted to work outside of normal working hours only upon obtaining written permission from the Employer's Agent. It is anticipated that the Contractor would find it necessary to re-visit stands where access was not initially obtained during normal hours for the purpose of installing meters. Prior arrangement with the property owner must be arranged to visit the relevant stands outside normal working hours.

PS18.3 Sanitary facilities

The Contractor is required to supply adequate sanitary facilities for employees, visitors, the Employer's Agent and Employer. The facilities will be as per standards acceptable by OHS regulations.

PS18.4 Community liaison and community relations

For the purpose of this project, Community Liaison Officers will be required, who shall be required to inform the community with regards to Contractor's activities in particular where such activities may affect the service provision to the affected community (See PD 2).

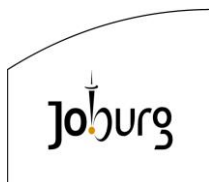
PS18.5 Notices and warning to consumers

The Contractor shall ensure he maintains service (water and/or sanitation) provision at all times whilst executing the works where:

a) The maximum amount of time of no service shall be 8 hours for any property. Any service disruption longer than 8 hours shall be temporary bypassed by methodologies approved by the Employer's Agent or his duly authorized representative.

b) A Public Notification Program shall be implemented, requiring at minimum that the Contractor shall deliver written notices to each domestic and non-domestic customer

Employer:		Contractor	
Witness:		Witness:	



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affected by the works, 48 hours before commencement of the works, including providing:

- i) a summary of work to be completed.
- ii) the time and duration of service interruption; and
- iii) a local telephone number to contact the Contractor for inquiries or complaints. All complaints received shall be addressed and resolved within the standard Employer response times and a summary of such complaints and associated actions shall be presented to the Employer's Agent or his duly authorized representatives on a monthly basis.

PS18.6 Continuity of service supply to customers

The activities of the Contractor shall not unreasonably interfere with the service supply to customer and be executed outside the agreed and notice time frames.

Where the Contractor cannot reasonably re-establish services within times agreed and notice time frames, he shall proceed to contact the affected customer and make alternative arrangements that shall be acceptable to the customer and the Employer's Agent.

The associated costs of any customer claim arising from a lack of service provision due to the Contractor's negligence or his disregard for the Employer's SOP or his disregard for the conditions of this Contract, whilst executing activities as per this Contract, shall be solely for his account. The Employer shall have the right to make equivalent monetary deductions from monies owed to the Contractor or from his Guarantee under this Contract and any other active contract(s) with the Employer.

PS18.7 Generic labour-intensive specifications

EPWP guidelines shall not be applicable to this Contract, although it is expected that the Contractor execute the majority portion of the works utilising local labour. The Contractor will be required to submit monthly labour returns, including individual contracts, certified ID copies, Timesheets and proof of payment.

PS18.8 Return of materials

All old valves, valve covers, meter boxes and all pipework that can be reused shall be returned by the Contractor to the Johannesburg Water Depot or as directed by the Employer's Agent. The Contractor shall obtain the signature of the Superintendent acknowledging receipt of materials returned. The Contractor shall determine the condition of the materials.

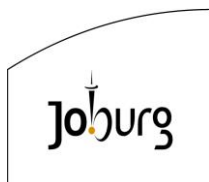
PS18.9 Political and Community unrest

The Contractor shall notify the Employer or its duly Authorized Representative/s of any unrest situation and shall indicate all active Contract sites affected.

PS19 HEALTH AND SAFETY SPECIFICATION FOR CONSTRUCTION WORK

The Occupational Health and Safety Specification of the Employer's is bound in Volume 2 of these contract documents. Volume 2 forms an integral part of the Contract Specification

Employer:		Contractor	
Witness:		Witness:	



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and, in particular, shall be a part of the HEALTH AND SAFETY SPECIFICATION FOR CONSTRUCTION WORK.

In terms of Construction Regulations 5 (1) (b) of the Occupational Health and Safety Act, Act No 85 of 1993, the Employer is required to compile an occupational health and safety specification for any intended project and to provide the specification to prospective tenderers.

The objective of this specification is to ensure that the principal Contractor entering into a contract with the Employer achieves and maintains an acceptable level of occupational health and safety performance.

The specification provides the requirements that the principal Contractor and other Contractors shall comply with in order to reduce the risks associated with the contract work, and that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable and possible.

The Contractor, appointed by the Employer in terms of Regulation 5 (1) (k), is required to prepare an occupational health and safety plan.

This plan has to be prepared in terms of Regulation 7 (1) as well as the Employer's occupational health and safety specification. In terms of Regulation 7 (1) (L), the Employer and the Principal Contractor are required to agree on the occupational health and safety plan before any work may commence.

The principal Contractor's health and safety plan has to follow the framework in Volume 2, as a minimum.

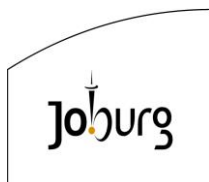
PS 20 ENVIRONMENTAL MANAGEMENT

Tendering Contractors are to adhere to the mitigation measures listed in the EMP (refer to Volume 2: Occupational Health and Safety Specification and Environmental Management Plan for Capital Investment Projects). Environmental mitigation measures are actions needed to align a project implementation phase with environmental control principles, where potential impacts to the natural and social environment are prevented, minimised or remediated. Environmental safeguarding is governed by various sets of legislation, with the most noteworthy for this project constituting the National Environmental Management Act (No. 107 of 1998) and the National Water Act (No. 36 of 1998).

To comply with Environmental Management Acts, The Employer's Agent when required, may issue instruction to the contractor to appoint Environmental Officer with experience and qualification as shown in the table below:

Appointment	Qualifications and Experience
Full time site Environmental Liaison Officer/Environmental Officer	National Dip in Environmental Management/ + 3 years' experience in construction project; or

Employer:		Contractor	
Witness:		Witness:	



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	BA/BSc Environmental Management + 3 years' experience in construction project;
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PS 21

Domestic Water Meter

Preferred Type of Meter to be used by Johannesburg Water

Sizes (Nom Dia)	Customer Type / End Use	Approved Meter Type	Class	Strainer Required
15	Domestic	Multi-jet or volumetric (Plastic Bodied) Above ground Existing Areas	C	No
15	Domestic	Concentric Multi-jet or volumetric (Plastic Bodied) Above ground New Areas	C	No

PS 21.1

Domestic meter boxes

All domestic water meters must be fitted into a proprietary meter box for above ground configuration

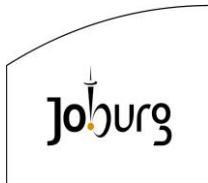
PS 21.2

Above Ground Meter Boxes

Above ground meter boxes are to be installed in new areas and existing areas.

Meters and related plastic components in above ground installations must be protected from direct sunlight and from freezing where freezing is considered a danger.

Employer:		Contractor	
Witness:		Witness:	



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PORTION 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS

The following variations and additions to the SANS 1200 Standardized Specifications referred to in the last clause of Portion A apply to this Contract. The prefix PS indicates an amendment to SANS 1200. The letters and numbers following these prefixes respectively indicate the relevant Standardized Specification and clause numbers in SANS 1200.

PSA GENERAL

PSA 2 INTERPRETATIONS

PSA 2.3 DEFINITIONS

) **General**

ADD THE FOLLOWING DEFINITIONS:

“General conditions: The General Conditions of Contract specified for use with this Contract and the special conditions of Contract as applicable.

Specified: As specified in the standardized specifications, the Drawings or the Project Specifications. Specifications shall have the corresponding meaning.”

) **Measurement and payment**

REPLACE THE DEFINITIONS FOR “fixed charge”, “time-related charge” AND “value-related charge” WITH THE FOLLOWING:

“Fixed charge: A charge that is not subject to adjustment on account of variation in the value of the Contract amount or the Contract Time of Completion.

Time-related charge: A charge, the amount of which varies in accordance with the Time for Completion of the work, adjusted in accordance with the provisions of the Contract.

Value-related charge: A charge, the amount of which varies pro rata with the final value of the measured work executed and valued in accordance with the provisions of the Contract.”

PSA 3 MATERIALS

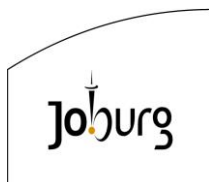
PSA 3.1 QUALITY

ADD THE FOLLOWING:

“All manufactured materials supplied shall be new materials unless the contrary is specified. All materials specified in accordance with SANS Specifications shall bear the SANS mark, whether so specified or not.”

ADD THE FOLLOWING SUB-CLAUSE:

Employer:		Contractor	
Witness:		Witness:	



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PSA 3.1 ORDERING OF MATERIALS

The quantities set out in the Schedule of Quantities have been carefully determined from calculations based on data available at the time and should therefore be considered to be approximate quantities only. Before ordering materials of any kind the Contractor shall check with the Employer's Agent whether or not the scope of the work for which the materials are required is likely to change substantially. No liability or responsibility whatsoever shall be attached to the Employer for materials ordered by the Contractor except when ordered in accordance with written confirmation issued by the Employer's Agent."

PSA 4 TOOLS & EQUIPMENT

PSA 4.1 SILENCING OF TOOLS & EQUIPMENT

REPLACE THE HEADING OF SUBCLAUSE 4.1 "PLANT" AND INSERT "TOOLS" AND
REPLACE THE CONTENTS OF SUBCLAUSE 4.1 WITH THE FOLLOWING:

"The Contractor's attention is drawn to the applicable regulations pertaining to noise and hearing conservation, framed under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) as amended.

The Contractor shall at all times and at his own cost, be responsible for implementing all necessary steps to ensure full compliance with such regulations, including but not restricted to the provision and use of suitable and effective silencing devices for pneumatic tools and other tools & equipment which would otherwise cause a noise level in excess of that specified in the said regulations.

Where appropriate, the Contractor shall further, by means of temporary barriers, effectively isolate the source of such noise in order to comply with the said regulations."

PSA 5 CONSTRUCTION

PSA 5.3 PROTECTION OF EXISTING STRUCTURES

REPLACE "Machinery and Occupational Safety Act, 1983 (Act No 6 of 1983)" WITH "Occupational Health and Safety Act, 1993 (Act No 85 of 1993), as amended," AND INSERT THE FOLLOWING AFTER "(Act No. 27 of 1956)": "as amended."

PSA 5.4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES

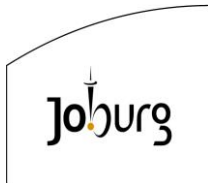
REPLACE THE HEADING AND THE CONTENTS OF SUBCLAUSE 5.4 WITH THE FOLLOWING:

PSA 5.4 LOCATION AND PROTECTION OF EXISTING SERVICES

PSA 5.4.1 Location of existing services

Before commencing with any work in an area, the Contractor shall ascertain the presence and actual position of all services which can reasonably be expected by an experienced and competent Contractor to be present on, under, over or within the Site.

Employer:		Contractor	
Witness:		Witness:	



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Without in any way limiting his liability in terms of the Conditions of Contract in relation to damage to property and interference with services, the Contractor shall, in collaboration with the Employer's Agent, obtain the most up-to-date plans as are available, showing the positions of services existing in the area where he intends to work. Neither the Employer nor the Employer's Agent offers any warranty as to the accuracy or completeness of such plans and because services can often not be reliably located from plans, the Contractor shall ascertain the actual location of services depicted on such plans by means of careful inspection of the Site.

Thereafter, the Contractor shall, by the use of appropriate methodologies, carefully expose the services at such positions as are agreed to by the Employer's Agent, for the purposes of verifying the exact location and position of the services. Where the exposure of existing services involves excavation to expose underground services, the further requirements of Clauses 5.1.2.2 of SANS 1200 D (as amended) shall apply.

The aforesaid procedure shall also be followed in respect of services not shown on the plans, but which may reasonably be anticipated by an experienced Contractor to be present or potentially present on the site.

All services, the positions of which have been determined as aforesaid at the critical points, shall henceforth be designated as 'known services and their positions shall be indicated by the Contractor on a separate set of drawings, a copy of which shall be furnished to the Employer's Agent without delay.

As soon as any service which has not been identified and located as described above is encountered on, under, over or within the site, it shall henceforth be deemed to be a known service and the aforesaid provisions pertaining to locating, verifying and recording its position on the balance of the site shall apply. The Contractor shall notify the Employer's Agent immediately when any such service is encountered or discovered on the Site.

Whilst he is in possession of the Site, the Contractor shall be liable for all loss of, or damage as may occur to

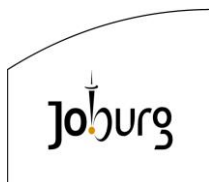
- (a) known services, anywhere along the entire lengths of their routes, as may reasonably be deduced from the actual locations at which their positions were verified as aforesaid, due cognizance being taken of such deviations in line and level which may reasonably be anticipated, and
- (b) any other service which ought reasonably to have been a known service in accordance with the provisions of this clause.

The Contractor shall also be liable for consequential damage in regard to (a) and (b), whether caused directly by the Contractor's operations or by the lack of proper protection.

No separate payment will be made to the Contractor in respect of any costs incurred in preparing and submitting to the Employer's Agent the Drawings as aforesaid. These costs shall be deemed included in the Contractor's other tendered rates and prices included in the Contract.

Payment to the Contractor in respect of exposing services at the positions agreed by the Employer's Agent and as described above will be made under the payment items (if any)

Employer:		Contractor	
Witness:		Witness:	



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as may be provided for in the respective sections of the specifications pertaining to the type of work involved.

PSA 5.4.2 Protection during construction

The Contractor shall take all reasonable precautions and arrange its operations in such a manner as to prevent damage occurring to all known services during the period which the Contractor has occupation and/or possession of the Site.

Services left exposed shall be suitably protected from damage and in such a manner as will eliminate any danger arising there from to the public and/or workmen, all in accordance with the requirements of the prevailing legislation and related regulations.

Unless otherwise instructed by the Employer's Agent, no services shall be left exposed after its exact position has been determined and all excavations carried out for the purpose of exposing underground services shall be promptly backfilled and compacted. In roadways, the requirements of Subclause 5.9 of SANS 1200 DB should be observed. In other areas compaction is to be to 90% modified AASHTO density.

PSA 5.4.3 Alterations and repairs to existing services

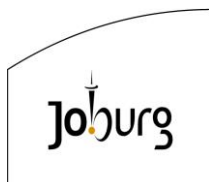
Unless the contrary is clearly specified in the Contract or ordered by the Employer's Agent, the Contractor shall not carry out alterations to existing services. When any such alterations become necessary, the Contractor shall promptly inform the Employer's Agent, who will either make arrangements for such work to be executed by the owner of the service or instruct the Contractor to make such arrangements himself.

Should damage occur to any existing services, the Contractor shall immediately inform the Employer's Agent, or when this is not possible, the relevant authority, and obtain instructions as to who should carry out repairs. In urgent cases, the Contractor shall take appropriate steps to minimize damage to and interruption of the service. No repairs of telecommunication cables or electric power lines and cables shall be attempted by the Contractor.

The following list of contact telephone numbers is provided for:

Service	Authority	Contact Details	Contact Number
Communication	Telkom	J Tshabalala	(011) 301-9052
Electricity	Eskom	K Bedessie	(011) 711-2290
Municipal Electricity	City Power	D Oliver	(011) 490-7195
Gas	Sasol	B van der Heuvel	(011) 617-8261
Bulk Water	Rand Water	I Davids	(011) 682-0911
Provincial Road	Gautrans	J Olivier	(012) 310-2200
Municipal Road	Johannesburg Roads Agency	J Montero	(011) 298-5000

Employer:		Contractor	
Witness:		Witness:	



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PSA 7 TESTING

PSA 7.2 APPROVED LABORATORIES

REPLACE THE CONTENTS OF SUBCLAUSE 7.2 WITH THE FOLLOWING:

“Unless otherwise specified in the relevant specification or elsewhere in the Project Specification, the following shall be deemed to be approved laboratories in which design work, or testing required in terms of a specification for the purposes of acceptance by the Employer’s Agent of the quality of materials used and/or workmanship achieved, may be carried out:

- (a) Any testing laboratory certified by the South African National Accreditation Systems (SANAS) in respect of the nature and type of testing to be undertaken for the purposes of the Contract.
- (b) Any testing laboratory owned, managed or operated by the Employer or the Employer’s Agent.
- (c) Any testing laboratory established and operated on the Site by or on behalf of the Employer or the Employer’s Agent.
- (d) Any other laboratory that the Employer’s Agent approves in his absolute discretion.”

PSA 8 MEASUREMENT AND PAYMENT

PSA 8.1 MEASUREMENT

PSA 8.1.2 Preliminary and General Item or Section

PSA 8.1.2.1 Contents

REPLACE THE LAST SENTENCE OF SUBCLAUSE 8.1.2.1(b) WITH THE FOLLOWING:

“Separate items will be scheduled to cover the fixed, value-related and time-related components of the Contractor’s preliminary and general costs.”

PSA 8.1.2.3 Contractor to Price all Items

ADD THE FOLLOWING PARAGRAPH.

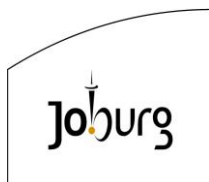
"The grouping of payment items under one all-inclusive rate is prohibited. Each payment item shall have its own rate. Where the Contractor elects not to insert a rate for any particular item, then it shall be deemed to be zero".

PSA 8.2 PAYMENT

PSA 8.2.1 Fixed-charge and Value-related Items

REPLACE THE CONTENTS OF SUBCLAUSE 8.2.1 WITH THE FOLLOWING:

Employer:		Contractor	
Witness:		Witness:	



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PSA 8.2.1.1 Fixed-charge Items

Payment of fixed charges in respect of item 8.3.1 will be made as follows:

- (a) EIGHTY PER CENT (80%) of the sum tendered will be paid when the facilities have been provided and approved.
- (b) The remaining TWENTY PER CENT (20%) will be paid when the works have been completed, the facilities have been removed, and the site of the Contractor's establishment has been cleared and cleaned to the satisfaction of the Employer's Agent.

No adjustment will be made to the sum tendered in respect of item 8.3.1 should the value of the works finally executed or the time for completion vary in any way from that specified in the tender."

PSA 8.2.1.2 Value-related Items

Payment for the sum tendered under item 8.3.2 will be made in three separate instalments as follows:

- (a) The first instalment, which is 40% of the sum, will be paid when the Contractor has fulfilled all his obligations to date under this specification, the General Conditions of Contract and the Special Conditions of Contract, and when the value of work certified for payment, excluding materials on site and payments for preliminary and general items, is equal to not less than 5% of the total value of the work listed in the Schedule of Quantities.
- (b) The second instalment, which is 40% of the sum, will be made when the amount certified for payment, including retention moneys but excluding this second instalment, exceeds 50% of the tender sum.
- (c) The final payment, which is 20% of the sum, will be made when the works have been certified as completed and the Contractor has fulfilled all his obligations to date under this Specification, the General Conditions of Contract and the Special Conditions of Contract.

Should the value of the measured work finally completed be more or less than the tender sum, the sum tendered under item 8.3.2 will be adjusted up or down in accordance with the provisions of *Clause 6.11* of the *Conditions of Contract 2015*, and this adjustment will be applied to the third instalment."

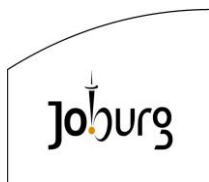
PSA 8.2.2 Time-related Items

REPLACE THE CONTENTS OF SUBCLAUSE 8.2.2 WITH THE FOLLOWING:

"Subject to the provisions of sub clauses 8.2.3 and 8.2.4, payment under item 8.4.1 (time-related item) will be made monthly in equal amounts, calculated by dividing the sum tendered for the item by the tendered contract period in months, provided always that the total of the monthly amounts so paid for the item is not out of proportion to the value of the progress of the Works as a whole.

Note: An approved extension of time will qualify the contractor to receive payment for each relevant time-related item at a unit rate determined from the sum tendered for such

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Witness:		Witness:	



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item and for designated operation, the period stated for the completion of the tender contract period as applicable.”

PSA 8.3 SCHEDULED FIXED-CHARGE AND VALUE-RELATED CHARGE

REPLACE THE CONTENTS OF ITEMS 8.3.2.1 WITH THE FOLLOWING AND GUIDED BY PSAB EMPLOYER'S AGENT'S OFFICE

PSA 8.3.2.1 Facilities for the Engineer

- PSA 8.3.2.1. a)** Engineer's Office Type 2.....Unit: Sum
- PSA 8.3.2.1.b)** Johannesburg Water Engineering Team Unit: Sum
- PSA 8.3.2.1.c)** QCO and CLO Office.....Unit: Sum
- PSA 8.3.2.1.d)** BoardroomUnit: Sum
- PSA 8.3.2.1.e)** Parking.....Unit: Sum
- PSA 8.3.2.1.f)** Name boardsUnit: Sum
- PSA 8.3.2.1.g)** Communication.....Unit: Sum
- PSA 8.3.2.1.h)** Telephone & Laptop facilities for Complaints Handler Team.....Unit: Sum
- PSA 8.3.2.1.i)** Ablution and latrine facilities.....Unit: Sum

ADD THE FOLLOWING NEW SUB CLAUSE TO CLAUSE 8.3.2.2

PSA 8.3.2.2 Facilities for the SMMEs Fixed charge items

The rate shall cover all requirements listed below:

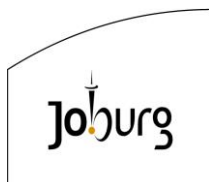
- PSA 8.3.2.2. a)** Establishment of storage and Facilities for SMMEs.....Unit: Sum
- PSA 8.3.2.2.b)** Tools and Equipment Unit: Sum
- PSA 8.3.2.2.c)** Other Fixed related Obligations.....Unit: Sum
- PSA 8.3.2.2.d)** Removal of facilities.....Unit: Sum

ADD THE FOLLOWING NEW SUB CLAUSE TO CLAUSE 8.3.2.2

PSA 8.3.2.3 Satellite facilities for CLO & QCO Team

The rate shall cover all requirements listed below:

Employer:		Contractor	
Witness:		Witness:	



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- PSA 8.3.2.3. a)** Office for CLO & QCO Team.....Unit: Sum
- PSA 8.3.2.3. b)** Water Supplies and electric powerUnit: Sum
- PSA 8.3.2.3.c)** Ablution and latrine facilities.....Unit: Sum
- PSA 8.3.2.3.d)** Removal of facilities.....Unit: Sum

ADD THE FOLLOWING NEW SUBCLAUSES TO CLAUSE 8.3

PSA 8.3.5 Additional Contractual Obligations

- PSA 8.3.5.1** OHS Act ObligationsUnit: Sum

The rate shall include the complete cost for the provision of resources (human and equipment), communication, transportation and travelling, documentation of activities and reporting activities required to fully comply with the implementation and maintenance of the Health and Safety Plan as per the Health and Safety Specifications contained in Volume 2 for the duration of the Contract. The contractor shall ensure that all personnel comply including SMMEs and the Meter Supplier's technical support staff. The rate to include the compilation of the OHS files for the contractor and the sub-contractors appointed by the contractor.

- PSA 8.3.5.2** EMP Obligations Unit: Sum

The rate shall include the complete cost for the provision of resources (human and equipment), communication, transportation and travelling, documentation of activities and reporting activities required to fully comply with the implementation and maintenance of the Environmental Management Plan contained in Volume 2 for the duration of the Contract. The contractor shall ensure that all personnel comply including SMMEs and the Meter Supplier's technical support staff. The rate to include the compilation of the Environmental Management files for the contractor and the sub-contractors appointed by the contractor.

- PSA 8.3.5.3** Issuing of notices to customers Unit: Sum

The rate shall include the complete cost for the issuing of notices to all the affected customers for the duration of the project.

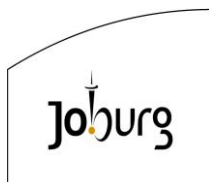
- PSA 8.3.5.4** Other fixed charge obligations..... Unit: Sum

The rate shall include the cost of additional fixed charge obligations which are provision if not made for in the bill of quantities. Contractor will be required to provide a rate composition for the above item for approval by the Engineer prior to submitting a claim.

PSA 8.4 SCHEDULED TIME-RELATED ITEMS

REPLACE THE CONTENTS OF ITEMS 8.4.2 WITH THE FOLLOWING AND GUIDED BY PSAB EMPLOYER'S AGENT'S OFFICE

Employer:		Contractor	
Witness:		Witness:	



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Facilities for Engineer

- PSA 8.4.2 a)** Engineer's Office Type 2.....Unit: Month
- PSA 8.4.2b)** Johannesburg Water Engineering Team Unit: Month
- PSA 8.4.2c)** QCO and CLO Office.....Unit: Month
- PSA 8.4.2d)** BoardroomUnit: Month
- PSA 8.4.2e)** Parking.....Unit: Month
- PSA 8.4.2f)** Name boardsUnit: Month
- PSA 8.4.2g)** Communication.....Unit: Month
- PSA 8.4.2.h)** Telephone & Laptop facilities for Complaints Handler Team.....Unit: Month
- PSA 8.4.2.i)** Ablution and latrine facilities.....Unit: Month

ADD THE FOLLOWING NEW SUB CLAUSE TO CLAUSE 8.4.3

PSA 8.4.3 Facilities for Contractor

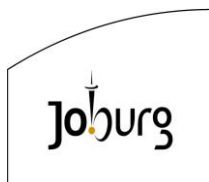
- PSA 8.4.3 a)** Head Office overhead costs for the duration of the contract.....Unit: Month
- PSA 8.4.3b)** Contractor's Supervision for the duration of the contractUnit: Month
- PSA 8.4.3c)** Office & Storage Sheds.....Unit: Month
- PSA 8.4.3d)** Ablution and latrine facilities.....Unit: Month
- PSA 8.4.3e)** Tools and Equipment.....Unit: Month
- PSA 8.4.3f)** Water supplies, electric power and communications.....Unit: Month
- PSA 8.4.3g)** Dealing with waterUnit: Month
- PSA 8.4.3h)** Access.....Unit: Month

ADD THE FOLLOWING NEW SUB CLAUSE TO CLAUSE 8.4.4 to 8.4.5

- PSA 8.4.4** OHS Act Obligation.....Unit: Month

The sum shall cover the full compensation and all-time related costs for the duration of the contract, for the compliance with the Occupational Health and Safety Act, Construction Regulations and all the requirements stipulated in the Employer's Health and Safety Specifications. The cost shall include the salary for a full time OHS Officer for the duration of the project.

Employer:		Contractor	
Witness:		Witness:	



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PSA 8.4.5 EMP ObligationsUnit: Month

The sum shall cover the full compensation and all-time related costs for the duration of the contract, for the compliance with the Environmental Management Regulations Act, and all the requirements stipulated in the Employer's Environmental Management Specifications. The cost shall include the salary for a full time Environmental Control Officer for the duration of the project.

PSA 8.4.6 Security services costs on site.....Unit: Month

The sum shall cover the full compensation and all costs for a sufficient 24 hour guarded services for the duration of the contract.

PSA 8.4.7 Contractor's supervision of SMMEs for the duration of the contract.....Unit: Month

Contractors shall price the monthly rate for the Management of SMMEs. This rate shall cover all the management costs for the main Contractor to manage local Subcontractors / SMMEs. The monthly rate will only be claimed at inception of the appointment of the SMMEs until such a time when the SMME contracts are concluded. The Employer shall not be liable for payment of the management beyond the contract duration. A schedule of quantities will be prepared for each subcontract Work package to be issued and the management fee to main Contractor will be paid based on the completed subcontracted work by SMMEs as and when it is invoiced to Client.

ADD THE FOLLOWING NEW SUBCLAUSES TO CLAUSE 8.4.8

PSA 8.4.8 Facilities for the SMMEs

PSA 8.4.8a) Storage facilities.....Unit: Month

PSA 8.4.8b) Tools and equipment.....Unit: Month

PSA 8.4.8c) Other time related obligations.....Unit: Month

ADD THE FOLLOWING NEW SUBCLAUSES TO CLAUSE 8.4.9

PSA 8.4.9 Satellite facilities for CLO and QCO Team

PSA 8.4.9a) Office for CLO and QCO Team.....Unit: Month

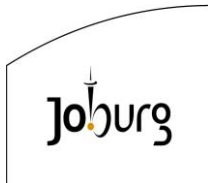
PSA 8.4.9b) Water supplies and electric power.....Unit: Month

PSA 8.4.9c) Ablution and latrine facilities.....Unit: Month

PSA 8.4.9d) Security services.....Unit: Month

Refer to PSA 8.4.

Employer:		Contractor	
Witness:		Witness:	



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Additional Obligations

PSA 8.5 SUMS STATED PROVISIONALLY BY EMPLOYER'S AGENT

AMEND SUBCLAUSE 8.4.11.b)1 AND ADD THE FOLLOWING ITEMS:

-) Community Liaison OfficerUnit: Prov. Sum

The stated sum shall cover full compensation and all costs payable monthly, to provide a full time qualified and suitable experienced Community Liaison Office for the duration of the contract. The stated sum shall also cover for the CLO salary, the cost of typing, printing and distributing notices, cellular facilities of minimum of R300 up to R500.

-) Complaints Handling team and Field Workers..... Unit: Prov. Sum

The stated sum shall cover full compensation and all costs payable monthly, to provide a full time qualified and suitable experienced Complaints Handlers for the duration of the contract. The stated sum shall also cover for the Field Workers' (as and when required) salary, the cost of typing, printing meter data reports, cellular facilities of minimum of R300 up to R500.

-) Community awareness material Unit: Prov. Sum

The sum stated shall be for the sourcing of community awareness material, from 3 independent sources and shall be reviewed and selected by the client for approval and acceptance.

-) QCO and QCF..... Unit: Prov. Sum

The stated sum shall cover full compensation and all costs payable on a monthly basis, to provide a full time qualified and suitable experienced QCOs and QCF for the duration of the contract. The stated sum shall also cover for the QCO and QCF salary.

-) Training but not limited to the following: plumbing.....Unit: Prov. Sum

The sum stated shall be for the training of labour but not limited to plumbing, sourcing of community awareness material, from 3 independent sources and shall be reviewed and selected by the Employer's Agent for approval and acceptance.

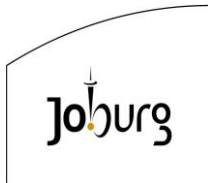
-) MIS System or similar approved training.....Unit: Prov. Sum

The sum stated shall be for the training the contractor's staff on the MIS System or similar training to be approved by the Employer's Agent. The contractor will be required to source quotations from 3 independent sources which shall be reviewed and selected by the Employer's Agent for approval and acceptance.

-) *Reinstatement of Asphalt* by JRA.....Unit: Prov. Sum

The sum stated shall be for the reinstatement of Asphalt by JRA, to be approved by the Employer's Agent. The contractor will be required to source quotations from 3 independent sources which shall be reviewed and selected by the Employer's Agent for approval and acceptance.

Employer:		Contractor	
Witness:		Witness:	



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AMEND SUBCLAUSE 8.5.b)1 AND ADD THE FOLLOWING ITEMS:

PSA 8.4.12 Excavation by hand in all materials to exposing services.....Unit: m³

Rate to include all for excavating by hand to expose existing services. The cost of protecting the exposed services shall be included in this rate.

PSA 8.4.13 Temporary protection of services.....Unit: Sum

Rate to include the costs for the temporary protection of services during construction.

PSA 8.4.14 Accommodation of traffic.....Unit: Sum

Rate to include the costs for the temporary accommodation of traffic during construction.

PSA 8.4.15 Provision of photographic records.....Unit: Sum

Add the following

Contractors will be required to take pictures of the site conditions and customers driveways, lawns BEFORE constructions and again AFTER construction. The photographic record should be stored safe for reference when there are disputes pertaining to original condition of surfaces before construction. Contractors to also take pictures of the existing meters prior to removal, showing the meter number, meter reading and stand number. The meter images to be attached to the meter job cards. The rate to include all costs associated with the provision of photographic records as stated.

PSA 8.16 DAYWORKS

ADD THE FOLLOWING NEW CLAUSES:

PSA 8.7.1 Scope

This section covers the method of measurement and payment for work carried out on a day work basis.

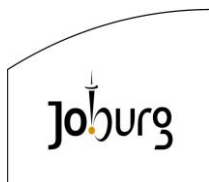
PSA 8.7.1.1 General Requirements

Work will be classified as day work only if the Employer's Agent considers no other rate in the Bill of Quantities appropriate for payment purposes.

An instruction regarding all work to be carried out under day work in terms of Clause 6.5 of the General Conditions of Contract 2015 will be issued at the discretion of the Employer's Agent. Some or all of the items priced under day work in the Bill of Quantities may possibly not be required for this Contract.

Before ordering any material, the Contractor shall submit quotations to the Employer's Agent for his approval and shall submit such receipts or vouchers to the Employer's Agent as may be necessary for proving the amount claimed.

Employer:		Contractor	
Witness:		Witness:	



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PSA 8.7.1.2 Measurement and Payment - Day works

The day work rates submitted for vehicles and construction equipment, in the Bill of Quantities shall be a hire charge for the use of the vehicle and driver or constructional tools & equipment/equipment and operator (excluding VAT) and shall apply only to vehicles and construction equipment approved in writing by the Employer's Agent. The rate shall include for maintenance, fuels and oils and other operating costs, establishment, insurance and other contingency costs relating to the running of the vehicle, tools & equipment or equipment.

Where there is ambiguity between the power developed at the flywheel and mass of a machine, the power shall govern the measurement category.

The Contractor and the Employer's Agent will agree on the method of recording the working hours prior to the commencement of the work. Any long period of idling at any one time which in the opinion of the Employer's Agent or his representative is beyond that required for normal operating conditions will not be paid for as working time. Non-working hours for any reason shall not be measured for payment.

The rate shall cover full compensation for all administrative costs, supervision, overheads, liabilities and obligations related to the running of the vehicles, constructional tools & equipment and also include for profit and shall be subject to the Contract Price Adjustment factor laid down in the Contract Data

SANS1200 AB: ENGINEER'S OFFICE (1986)

The following variations and additions to the standardised specifications

PSAB EMPLOYER'S AGENT'S OFFICE

PSAB 3 MATERIALS

PSAB 3.1 NAME BOARDS

DELETE THE ENTIRE CLAUSE AND REPLACE WITH:

"The name board shall be of either tempered hardboard at least 12mm thick or steel sheeting so braced on the reverse side as to prevent warping or buckling and shall be mounted on two or more firmly planted poles as necessary. The quality of the paint shall conform to SANS Standard Specification CKS 193. The colour of the paint shall conform to SANS 1091-1975 colour F11, strong blue. The height of the larger name board shall be 2400mm and the width 4800mm, whilst the height of the smaller name board shall be 800mm and the width 1600mm".

PSAB 3.2 OFFICE BUILDING(S)

Delete this sub-clause entirely and re-title the sub-clause "FACILITIES FOR THE EMPLOYER'S AGENT"

Add the following sub-clause.

Employer:		Contractor	
Witness:		Witness:	



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PSAB 3.2.1 Office Building(s)

The Contractor shall provide, furnish and equip one or more offices (as scheduled) for the use of the Employer's Agent.

Each office shall be weatherproof. The Contractor shall provide and furnish one office for the use of the Employer's Agent. Each office shall consist of one room with a floor area of at least 15 m² and a ceiling height of at least 2.5 m.

, shall be air conditioned, shall have a wooden boarded floor that is at least 150 mm above the ground, and shall be provided with a ceiling and a lining to the walls, or equivalent insulation, with an acceptable type of door with a secure lock, and two opening windows of glazed area at least 3 m². Each office shall be well ventilated and shall be so insulated as to provide comfortable working conditions.

Office building shall be painted with an approved paint after erection and the paintwork shall be maintained during the contract period.

Each door shall be provided with a lock and two keys.

The sitting of all offices shall be to the Employer's Agent's satisfaction and shall be decided upon in consultation with him/her and confirmed in writing before erection.

All accommodation shall include the provision of access roads where required, fresh clean portable water and sewerage, which will be considered as part and parcel of the accommodation provided and will not be paid for separately.

The site Office shall be fenced using diamond wire mesh right round with access gate.

All accommodation shall meet with the approval of the Employer's Agent.

The offices shall comply with the following requirements.

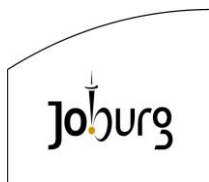
<u>Dimensions</u> <u>Office</u>	<u>Boardroom</u>	<u>Employer's</u> <u>Agent's</u>
Minimum floor area	28 m ²	15 m ²
Minimum window area	4.0 m ²	3.0 m ²
Minimum window area opening	2.4 m ²	1.5 m ²
Minimum clear height	2.5 m	2.5 m
Shaded parking for vehicles		2

Furniture and Equipment

Employer's Agent's shall be equipped with the following:

- (i) Office desk with a surface area of at least 1.5m² with at least 3 drawers one of which can be locked.

Employer:		Contractor	
Witness:		Witness:	



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- (ii) Two office chairs.
- (iii) a lockable upright steel cabinet with three shelves or a steel filing cabinet with four drawers
- (iv) Refrigerator
- (v) Printer
- (vi) Sufficient racks and hangers for hanging contract drawings. The hangers shall be of the "Barhold" type, with one hanger to five drawings.
- (vii) 1 x Double 80-watt fluorescent light fittings complete with ballast and tubes.

The Boardroom shall be equipped with the following:

- (i) Conference table large enough to accommodate twelve people and have an area of at least 15m².
- (ii) Fifteen office chairs
- (iii) 2 x Double 80-watt fluorescent light fittings complete with ballast and tubes.

The Contractor shall also supply a toilet for the exclusive use of the Employer's Agent(s).

The Contractor must provide basic survey instruments: dumpy level, tripod stand and staff.

On completion of the Works, ownership of the buildings, furnishings and equipment shall revert to the Contractor who shall remove them from the Site.

PSAB 3.3 CARPORT

ADD THE FOLLOWING NEW CLAUSE:

The Contractor shall construct the number of carports specified in Portion 1 of the Project Specifications, for the sole use of the Employer's Agent and his staff. Each carport shall be constructed so that the vehicle parked under it is always protected against the direct rays of the sun. The carport area shall be at least 20 m² and the floor shall be covered with a layer of crushed stone to alleviate dusty and muddy conditions. The carport(s) shall be positioned so as to provide easy and convenient access to the Employer's Agent's office."

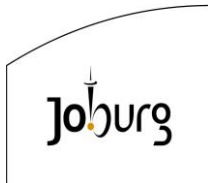
PSAB 4 TOOLS & EQUIPMENT

PSAB 4.1 TELEPHONE

REPLACE SUBCLAUSE 4.1 OF SANS 1200 AB WITH THE FOLLOWING:

"The Contractor shall arrange for the provision of a suitable approved by the Employer's Agent cellular phone and airtime and data bundles per month for the Employer's Agent's Representative. The Contractor at the tendered rates under the relevant scheduled item

Employer:		Contractor	
Witness:		Witness:	



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shall recover the associated charges and telephone calls and data bundles associates with the contract.

PSAB 4.2 COMPUTER FACILITIES

ADD THE FOLLOWING NEW CLAUSE:

The Contractor shall, for the duration of the Contract, provide the computer equipment complete with printer, modem and telephone connection including 4G connection together with the software specified hereunder, for the exclusive use of the Employer's Agent and his staff:

- a) 1 laptop
- b) 1 printer

The laptop shall comply with the following minimum specifications:
JW approved laptop Intel Core i7 17-4700MQ, 8GB, 1TB, DVD+-RW DL, 15.6FHD (1920X1080), NVIDIA 1GB, 3
WAR: 3 Year on-site Warranty upgrade
Mem: JW approved 8GB DDR3L 1600 (PC3-1280D) 50 DIMM Memory
Dock: JW approved Dock-65W-South Africa

Printers shall, unless otherwise approved by the Employer's Agent, be SamsungSCX-4600 Colour Laser Printer Series or equivalent compatible.

All computer hardware shall be provided complete with the requisite connecting cables and all interfacing devices and software necessary for its efficient operation as an integral system.

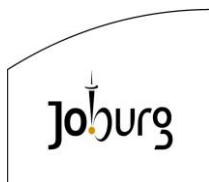
The following software shall be properly installed on the computer, and the original license agreements and disks shall be provided to the Employer's Agent for safekeeping:

- Microsoft Windows 10
- MS-Office 360
- MS Projects 2010 or Latest version

All computer equipment provided shall be kept fully serviceable at all times by the Contractor. The Contractor shall have any defective equipment repaired or replaced at his own cost within 12 hours after notification by the Employer's Agent's staff.

The Contractor shall further provide at his own cost, all paper and black ink cartridges and other consumables reasonably required by the Employer's Agent."

Employer:		Contractor	
Witness:		Witness:	



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PSC SITE CLEARANCE

PSC 3 MATERIALS

PSC 3.1 DISPOSAL OF MATERIALS

ADD THE FOLLOWING:

“The Contractor shall obtain his own dumping sites for the disposal of material and all transport costs shall be included in the rates tendered for site clearance.”

PSC 5 CONSTRUCTION

PSC 5.1 AREAS TO BE CLEARED AND GRUBBED

ADD THE FOLLOWING:

“Small diameter pipeline routes shall be cleared to a distance of 1,0m on both sides of the pipeline centre line and large diameter pipeline routes shall be cleared to a distance of 2,0m on both sides of the pipeline centre line. Route pegs or markers shall not be destroyed or damaged during clearing operations.”

PSC 5.2 CUTTING OF TREES

PSC 5.2.3 Protection of trees

PSC 5.2.3.2 Individual trees

REPLACE THE LAST SENTENCE WITH THE FOLLOWING:

“An amount of R 2000.00 will be deducted from moneys due to the Contractor as a penalty for every tree that is damaged or removed unnecessarily.”

PSC 8 MEASUREMENT AND PAYMENT

PSC 8.2 PAYMENT

PSC 8.2.1 Clear and grub

REPLACE THE FIRST LINE WITH THE FOLLOWING:

“The area designated by the Employer’s Agent to be cleared and grubbed will be measured in square metre to the nearest square metre or,” otherwise specified.

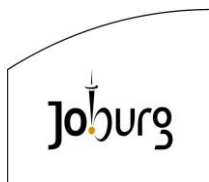
PSC 8.2.5 Take down existing fences

REPLACE ITEM 8.2.5 WITH THE FOLLOWING:

PSC 8.2.5 Take down existing fences:

(a) Description of fence Unit: m
or km

Employer:		Contractor	
Witness:		Witness:	



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(b) Etc for other items

The unit of measurement shall be the metre or kilometer of fence taken down and removed from the site.

The rate shall cover the cost of taking down the complete fence (fence height up to 2m) as scheduled and removing all fence material from the site, filling of holes, leveling ground surfaces and cleaning the site as well as providing temporary fence during construction."

PSC 8.2.8 Demolish and remove structures/buildings and dismantle steelwork, etc.

REPLACE "Unit: sum" *WITH* "Unit: sum or number of m²".

REPLACE THE LAST SENTENCE WITH:

"The rate shall cover the cost of all such separate items as scheduled in the Schedule of Quantities."

ADD THE FOLLOWING ITEMS:

PSC 8.2.11a Temporary fencing or hoarding:

(a) Indicate temporary usage, description and type Unit: m

(b) Etc for other usage and types.

The unit of measurement shall be the linear metre of fence or hoarding supplied and erected, and in the case of temporary fencing for maintaining and removing on completion of the works or part of the works.

The tendered rate shall include full compensation for the cost of supplying and erecting the complete fence as specified or scheduled and in the case of temporary fencing for taking down the fences, removing from the site, filling of holes, leveling ground surfaces and cleaning the site.

Seventy per cent (70%) of the tendered rate shall be payable on completion and approval of the temporary fences, and the remaining thirty per cent (30%) on completion of the removal of the fences.

PSC 8.2.11b Removal of man-made surfaces

The rate shall cover all plant, labour, material, saw cutting (asphalt and concrete), breaking up, lifting, loading, transportation, off-loading surfacing and storing (where applicable).

a) Footways and driveways

i) Asphalt (≤ 50 mm thickness)Unit: m²

ii) Asphalt ($\geq 50 - 100$ mm thickness) Unit: m²

iii) Interlocking concrete segmental paving blocks (all colours) Unit: m²

Employer:		Contractor	
Witness:		Witness:	



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- iv) Concrete slabs (450 x 450mm) Unit: m²
- v) Brick paving..... Unit: m²
- vi) Grassing and vegetation..... Unit: m²
- vii) Unreinforced concrete <75mm thick..... Unit: m³
- viii) Reinforced concrete <75mm thick..... Unit: m³
- ix) Kerbing (All types of kerbs) Unit: m
- x) Dump rock/Stone pitching..... Unit: m³
- xi) Steel palisade..... Unit: m
- xii) Concrete palisade..... Unit: m
- xiii) Removal of all other fences..... Unit: m
- xiv) Demolish of 115mm brick boundary wall..... Unit: m
- xv) Demolish of 230mm brick boundary wall..... Unit: m²

PSC 8.2.12 Backfilling and reinstatement of man-made surfaces

The rate shall cover the cost of all associated plant, labour, material, loading, transportation from storage, off-loading and placing (levelling and compacting where applicable) the following materials in roadways, footways and driveways in accordance with the COP:

PSC 8.2.12.1 Backfilling and reinstatement of roads

Unit:m²

a) Scenario A

- i) 150mm base – G2 Graded crushed stone to 102% Mod AASHTO density
- ii) 150mm subbase – G5 Graded crushed stone to 97% Mod AASHTO density
- iii) 150mm Fill – G7 material compacted to 95% Mod AASHTO density
- iv) 150mm selected subgrade – Insitu material compacted to 90% Mod AASHTO

b) Scenario B

- i) 150mm base – G2 material compacted to 97% Mod AASHTO density
- ii) 150mm subbase – C4 Stabilised gravel material to 95% Mod AASHTO density*
- iii) 150mm selected subgrade - Insitu material compacted to 93% Mod AASHTO

***Rate shall include stabilization agent.**

c) Scenario C (Foot paths)

- i) 150mm base – Recovered material compacted to 93% Mod AASHTO
- ii) 150mm selected subgrade – Insitu material compacted to 90% Mod AASHTO

Employer:		Contractor	
Witness:		Witness:	



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d) Surfacing

- i) 30mm Bitumen hot –mix: Fine
- ii) 70mm Bitumen hot –mix: BTB

PSC 8.2.12.2 Backfilling and reinstatement footways

- a) Using removed materials:
 - i) Interlocking concrete segmental paving blocks (all colours) Unit: m²
 - ii) Concrete slabs (450 x 450mm)..... Unit:m²
 - iii) Brick paving..... Unit:m²
 - iv) Grassing.....Unit:m²
 - v) Kerbing..... Unit: m
 - vi) Dump rock/Stone pitching..... Unit: m³
- b) Using new supplied materials:
 - i) 30mm Bitumen hot –mix: Fine
 - ii) Interlocking concrete segmental paving blocks, including a 20mm river sand bedding layer, jointing sand (plaster sand) and mortar infill between edge restraint and blocks
 - . Grey blocks
 - . Coloured blocks
 - iii) Concrete slabs (450 x 450mm) including a 20mm river sand bedding layer, jointing mortar.
 - iv) Brick paving including a 20mm river sand bedding layer, jointing sand (plaster sand) and mortar infill between edge restraint and bricks.
 - v) Unreinforced concrete ≤ 75mm thick (15MPa)
 - vi) Reinforced (395 mesh) concrete ≤ 75mm thick (15MPa)
 - vii) Grassing
 - viii) Concrete channeling, including formwork, leveling and compacting 300 x 125mm cast in situ concrete of 15MPa.
 - ix) Kerbing, including a 50mm bedding (cement and river sand), jointing mortar and 15MPa concrete haunching at all joints..... (Unit: m)
 - 1) Figure 1
 - 2) Figure 7
 - 3) Figure 8
 - 4) Figure 12
 - x) Dump rock/Stone pitching
 - xi) Steel palisade
 - xii) Concrete palisade
 - xiii) All other fences
 - xiv) 115mm brick boundary wall including plastering
 - xv) 230mm brick boundary wall including plastering

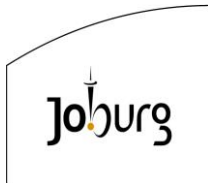
PSC 8.2.13 Reinstatement of existing masonry walls and steel palisade fences

The rate shall cover the cost of reinstating existing masonry walls, plastered or unplastered, and steel palisade fences (including any gates) including plant, labour, material, on-loading, transporting, off-loading and cleaning for the following:Unit: m²

- a) Face brick
 - i) 110mm wall
 - ii) 220mm wall
 - iii) 330mm wall

- b) Plastered

Employer:		Contractor	
Witness:		Witness:	



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- . 110mm wall
- . 220mm wall
- . 330mm wall

c) Steel palisade fences (height = 2.1m)

ADD THE FOLLOWING ITEMS:

PSC 8.2.14 Protection of trees

The rate shall cover the cost related to the protection of trees.....Unit: No

PSD EARTHWORKS

PSD 2 INTERPRETATIONS

PSD 2.1 SUPPORTING SPECIFICATIONS

REPLACE SUBCLAUSE 2.1.2 WITH THE FOLLOWING:

“PSD 2.1.2: Any of the other SANS 1200 Specifications may form part of the Contract Documents.”

PSD 2.3 DEFINITIONS

REPLACE THE WORD AND THE DEFINITION FOR “Borrow” WITH THE FOLLOWING:

“Borrow material: Material, other than material obtained from excavations required for the Works, obtained from sources such as borrow pits or the authorised widening of excavations. “Borrow” shall have a corresponding meaning.”

REPLACE THE DEFINITION FOR “Specified density” WITH THE FOLLOWING:

“Specified density: The specified dry density expressed as a percentage of modified AASHTO dry density.”

REPLACE THE DEFINITION FOR “Stockpile” WITH THE FOLLOWING:

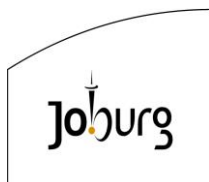
“Stockpile (verb): The process of selecting and, when necessary, loading, transporting and off-loading material in a designated area for later use for a specific purpose.”

ADD THE FOLLOWING DEFINITIONS:

“Commercial source: A source of material provided by the Contractor, not the Employer, and including any borrow pit, provided by the Contractor.

Fill: An embankment or terrace constructed of material obtained from excavations or borrow pits. In roads it includes the earthworks up to the underside of the selected subgrade level.

Employer:		Contractor	
Witness:		Witness:	



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Fill (material): Material used for the construction of an embankment or terrace.

Roadbed: The natural in situ material on which the fill, or in the absence of fill, the pavement layers, are constructed.”

PSD 3 MATERIALS

PSD 3.1 CLASSIFICATION FOR EXCAVATION PURPOSES

PSD 3.1.1 Method of classifying

ADD THE FOLLOWING:

“The classification of material other than ‘soft excavation’ shall be agreed upon before excavation may commence.

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.”

ADD THE FOLLOWING NEW SUB CLAUSES:

PSD 3.1.3 CLASSIFICATION FOR HAND EXCAVATION

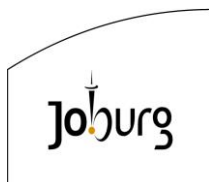
Classification of material for various types of hand excavation will be based on the results of a dynamic cone penetrometer. The category of material shall be determined by testing the material at regular intervals and at various depths along the centre line of the trench. A minimum of 5 tests shall be done at each location and the average number of blows of the tests shall be used to determine the category of material.

The interval between test locations shall be determined by the variation of material type but shall not exceed 50m. The depth of testing shall be determined by the variation of material type and can increase or decrease in hardness with increasing depth of excavation. Table PSD 3.1.3 indicates the categories:

TABLE PSD 3.1.3: Classification for Hand Excavation

Category of Material	Consistency		DCP Blows to Penetrate 100mm	
	Granular	Cohesive	Granular	Cohesive
<u>Soft</u> Soft excavation shall be excavation in material that can be efficiently removed from the trench using a pick and shovel but not requiring prior breaking using mechanical equipment such as pavement breakers	Up to medium dense	Firm to stiff	0-6	1-5

Employer:		Contractor	
Witness:		Witness:	



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<u>Intermediate</u> Intermediate excavation shall be excavation in material that require loosening with a hand spike (gwala) before being removed from the trench	Dense	Stiff to very stiff	7-15	6-8
<u>Hard</u> Hard excavation shall be excavation in material that requires prior breaking using mechanical equipment, such as pavement breakers with clay spades, before being removed from the trench.	Very dense		16-50	9-15
<u>Rock</u> Rock excavation shall be excavation in material other than described above which by nature of the material requires prior breaking using mechanical equipment, such as pavement breakers with moil points, before being removed from the trench	-	-	>50	>15

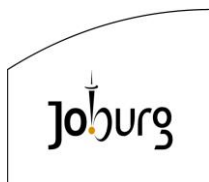
PSD 3.2.3 Material suitable for backfill or fill against structures

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

“Material used for backfilling behind structures shall generally be the material excavated, subject to the following conditions:

- (a) The material shall not contain an excessive number of stones retained on a 50 mm sieve.
- (b) The material shall not contain large clay lumps that do not break up under the action of the compaction equipment.
- (c) The liquid limit of the material shall not exceed 40, neither shall the Pi exceed 18.”

Employer:		Contractor	
Witness:		Witness:	



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PSD 3.3 SELECTION

ADD THE FOLLOWING SUBCLAUSE:

PSD 3.3.3 Selection in borrow pits and excavations

Approval of a borrow area for a certain purpose does not necessarily mean that all the material in that area is suitable for the specified purpose. What it does mean is that the borrow area contains some suitable material. The onus shall rest on the Contractor to ensure that only material that is indeed suitable is removed and used for the specified purpose.

When the Contractor has to select excavated material for a specific purpose, the above provisions relating to borrow areas shall apply *mutatis mutandis* to excavations.

The Contractor shall not waste or contaminate material that has been selected for a specific purpose."

PSD 5 CONSTRUCTION

PSD 5.1 PRECAUTIONS

PSD 5.1.1 Safety

PSD 5.1.1.1 Barricading and lighting

REPLACE "Machinery and Occupational Safety Act, 1983 (Act 6 of 1983)" *WITH* "Occupational Health and Safety Act, 1993 (Act 85 of 1993)."

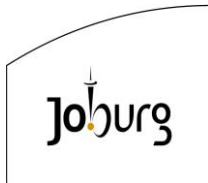
REPLACE SUB-PARAGRAPH (a) AND (b) WITH THE FOLLOWING AND ADD SUB-PARAGRAPH c):

- a) adequately protected by a barrier or fence comprising fluorescent orange plastic netting of height at least 1 000mm and as close to the excavation as practicable; and
- b) provided with notice boards marked "CLOSED – GESLUIT" at each end of closed or partially closed roads; and
- c) provided with flashing orange lights, placed at 15m intervals along the barricading at night.

ADD THE FOLLOWING TO THIS SUBCLAUSE:

Should the Contractor fail to provide adequate lighting, signing and barricading, access to properties, or leave the site in a dangerous condition, the Employer's Agent shall be entitled to suspend all work under the Contractor until in the Employer's Agent's opinion the Contractor's obligation in these respects have been fulfilled and/or arrange for any emergency work to be carried out by some other agency and to deduct the cost of this work from any monies due to the Contractor.

Employer:		Contractor	
Witness:		Witness:	



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PSD 5.1.1.2 Safeguarding of excavations

REPLACE "Machinery and Occupational Safety Act" *IN SUB-PARAGRAPH (a) WITH* "Occupational Health and Safety Act, 1993 (Act 85 of 1993)."

ADD THE FOLLOWING TO SUB PARAGRAPH (d):

Loose ground, materials, tools and appliances shall be kept clear of the edge of the excavations and a pathway at least 0,30 m shall be left clear along the edge of the excavation.

PSD 5.1.1.3 Explosives

REPLACE THE CONTENTS OF THIS SUBCLAUSE AS FOLLOWS:

Where blasting is resorted to, it shall be carried out strictly according to Explosives Act and Regulations 1956 (Act No. 26 of 1956, as amended). However, in no case will blasting be allowed if a reasonable possibility exists of injury to any foundation, wall, pipe, cable or any structure, complete or partly complete. Where the Employer's Agent considers blasting to be dangerous, the same shall not be permitted and his decision shall be final and binding.

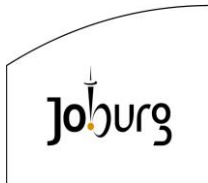
Wherever blasting is permitted and resorted to in the vicinity or within the limits of existing townships, roads, etc., it shall only be executed under the cover of sufficient earth backfill, heavy wire mesh screens or rubber matting of adequate weight and area to prevent the blasted material from being ejected from the trench. If any damage should occur, the Contractor shall carry out remedial work arising from such damage and will be held to have allowed therefore in his price.

The Contractor shall undertake such blasting so that the Peak Particle Velocity (PPV) as measured at the closest point to the existing outfall sewer and or building structure shall not exceed 25mm/s. Each blast shall be monitored and the findings recorded by an appropriately qualified explosives expert using a suitably calibrated apparatus. The Contractor shall also timeously inform the relevant inspectorate and obtain the required blasting permit from the South African Police Services, Division of Explosives before proceeding with any blasting on site. If in the opinion of the Employer's Agent, the Contractor makes careless use of explosives, he may forbid the Contractor the use of explosives.

It is a condition that should blasting result in the disturbing of material outside the trench, the Employer's Agent will require the Contractor to remove the disturbed material and backfill it to a compaction standard of the natural in-situ material. All this work for correcting areas of disturbed material will be done at the Contractor's cost.

The schedule rate for hard rock excavation shall cover all costs incurred in connection with supply, transportation, storage and handling of explosives, the related blasting costs and any remedial work should this be required.

Employer:		Contractor	
Witness:		Witness:	



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PSD 5.1.1.4 Hard rock excavation without using explosives

ADD THE FOLLOWING TO THIS CLAUSE:

It is a condition that should blasting result in the disturbing of structures outside the trench; the Employer's Agent will require the Contractor to remove the rock material by means of pneumatic or hydraulic breakers, e.g. jackhammers or wood-peckers.

The schedule rate for hard rock excavation without using explosives shall cover all costs incurred in connection with supply of specialist equipment, the transportation to and from the site as well as the removal and disposal of the hard material should this be required.

PSD 5.1.2 Existing services

PSD 5.1.2.2 Detection, location and exposure

REPLACE THE CONTENTS OF SUBCLAUSE 5.1.2.2 WITH THE FOLLOWING:

"The exposure by the Contractor of underground services, as required in terms of subclause 5.4 of SANS 1200 A (as amended) shall be carried out by careful hand excavation at such positions and to such dimensions as are agreed to by the Employer's Agent.

Unless otherwise instructed or agreed by the Employer's Agent, no service shall be left exposed after its exact position has been determined and all excavations carried out for the purposes of exposing underground services shall be promptly backfilled and compacted to the following densities:

- (a) In roadways: 93% Mod AASHTO density; and
- (b) In all other areas: 90% Mod AASHTO density.

Where hand excavations to expose underground services have to be carried out in roadways, the Contractor shall reinstate the road layerworks in accordance with the provisions of subclause 5.9 of SANS 1200 DB.

Payment in respect of exposing the services by means of hand excavation as described above, will be made in accordance with subclause PSA 8.8.4

Payment in respect of reinstating layer works in roadways will be made in accordance with subclause 8.3.6.1 of SANS 1200 DB."

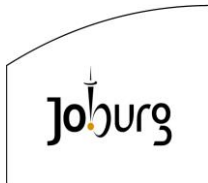
PSD 5.1.2.3 Protection of cables

REPLACE SUBCLAUSE 5.1.2.3 WITH THE FOLLOWING:

PSD 5.1.2.3 Protection during construction

Further to the requirements of subclause 5.4.2 of SANS 1200 A (as amended), major excavating equipment and other plant shall not be operated dangerously close to known services. Where necessary, excavation in close proximity to known services shall be carefully carried out with suitable hand tools, excluding picks wherever their use could damage the services. No additional payment will apply to such more difficult work.

Employer:		Contractor	
Witness:		Witness:	



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Should any service not being a known service be discovered or encountered during the course of the Contract, the Contractor shall, in addition to complying with the requirements of subclause 5.4.2 of SANS 1200 A (as amended), immediately notify the Employer's Agent thereof and implement such measures as will prevent damage of such service or, if it was damaged in the course of discovery, will prevent and minimize the occurrence of any further damage occurring."

PSD 5.1.2.4 Negligence

DELETE SUB-CLAUSE 5.1.2.4

PSD 5.1.3 Stormwater and Groundwater

ADD THE FOLLOWING TO THE SUB-CLAUSE:

"The Contractor shall, where applicable and at the earliest practicable opportunity, install the permanent drainage specified or shown on the drawings and shall at his own cost provide the temporary drainage required to protect the Works."

PSD 5.1.4 Nuisance

PSD 5.1.4.3 Excavated material not to endanger or interfere

AMEND THE CLAUSE AS FOLLOWS:

"A safe, clear path shall be kept open at all times for pedestrians. Equipment, materials and waste shall be stored, stockpiled or removed in such a manner that pedestrians are not endangered, and that the nuisance level is kept to a minimum. If construction activities occupy the whole footway and verge area so that pedestrians are forced to walk in the traffic lane, adequate protection from traffic shall be provided.

Where instructed by the Employer's Agent or where the Works impose a danger to traffic or pedestrians, the Contractor shall at his own cost remove off Site excavated material to temporary stockpiles (approved by the Employer's Agent) and the return to Site, excavated material for use as backfill or bedding."

ADD THE FOLLOWING NEW SUBCLAUSE:

PSD 5.1.4.4 Open Trenches

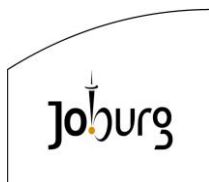
Unless otherwise permitted and where relevant, not more than the 100 m of trench in one place shall be opened ahead of the completed and backfilled pipeline."

PSD 5.1.5 Reinstatement and Maintenance of Roads

ADD THE FOLLOWING TO THE SUB-CLAUSE:

"Where crossings have been made, the roads shall be reinstated in accordance with the details specified in subclause 5.9 of SANS 1200 DB."

Employer:		Contractor	
Witness:		Witness:	



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PSD 5.1.6 Road Traffic Control

DELETE THE SECOND SENTENCE OF SUBCLAUSE 5.1.6

PSD 5.2 METHODS AND PROCEDURES

PSD 5.2.2 Excavation

PSD 5.2.2.1 Excavation for general earthworks and for structures

ADD THE FOLLOWING TO PARAGRAPH (b):

“When the nature of the material precludes the above procedure, additional excavations shall be carried out to provide working space for the erection of formwork. The rate tendered for item 8.3.5 will be deemed to include the cost of a working width of 600 mm, but the Contractor may excavate a greater working width at no additional cost to the Employer.”

REPLACE THE CONTENT OF PARAGRAPH (e) WITH THE FOLLOWING:

“Where excavations have been carried below the authorised levels, the Contractor shall backfill such excavations to the correct level with approved gravel compacted to 90% of modified AASHTO density or to the density of the surrounding material.

Where excavations have been carried out in hard material, the Employer’s Agent may direct the over-excavation to be backfilled with weak concrete if there is a danger of settlement or differential settlement of the foundations.

Where the sides of excavations against which concrete is to be cast have been over-excavated or have collapsed partially, the Contractor shall retrim the excavations if necessary and, unless other remedial measures are agreed to by the Employer’s Agent, shall cast the concrete for the structure, including the additional concrete that may be required as a result of the over-excavation or partial collapse. The cost of the additional concrete or remedial measures shall be for the Contractor’s account.”

PSD 5.2.2.3 Disposal

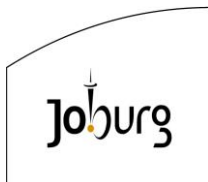
REPLACE THE SECOND SENTENCE WITH THE FOLLOWING:

“The Contractor shall provide all necessary spoil sites for the spoiling of all surplus and unsuitable materials and shall make the necessary arrangements with the owner of the site where the material is disposed of and pay all charges and levies as may be applicable for the use of such spoil sites.

Every spoil site provided by the Contractor shall be approved by the local authority in whose area it is located, and the spoiling shall comply with the applicable statutory and municipal regulations as well as the requirements of the owner of the spoil site.

Payment to the Contractor in respect of locating and making arrangements for suitable spoil sites and spoiling material at such sites will be made in accordance with the provisions of subclause PSD 8.3.14.”

Employer:		Contractor	
Witness:		Witness:	



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ADD THE FOLLOWING SUBCLAUSE IN SUBCLAUSE 5.2.2:

PSD 5.2.2.4 Selection and stockpiling

Approval or designation of the material in a particular borrow pit or excavation for a particular purpose does not imply that all the material in the borrow pit or excavation is suitable for the particular purpose to which the said approval or designation relates, nor that all material in the borrow pit or source should be used for the particular purpose. The Contractor shall select suitable material from that borrow pit or source, discard unsuitable material and reserve material for other purposes as necessary.

The Contractor shall organize and carry out his operations in such a manner as will prevent the contamination of suitable embankment and backfill material with unsuitable materials. Any excavated material which becomes, in the Employer's Agent's opinion, unsuitable for use in embankments or backfill as a result of contamination, shall be disposed of in a manner acceptable to the Employer's Agent and shall be replaced by the Contractor with materials acceptable to the Employer's Agent, all at the Contractor's cost."

PSD 5.2.5 Transport for earthworks

REPLACE THE CONTENT OF SUBCLAUSE WITH THE FOLLOWING:

"The transport of all excavated materials, irrespective of the distance and source, shall be deemed to be free haul, the cost of which is included in the Contractor's tendered rates and prices for the excavation of the materials. No separate compensation shall apply for the transportation of excavated materials."

PSD 7 TESTING

PSD 7.2 TAKING AND TESTING OF SAMPLES

REPLACE THE CONTENT OF THIS SUBCLAUSE WITH THE FOLLOWING:

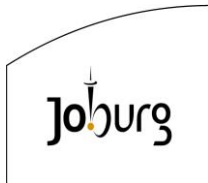
"The Contractor shall arrange with the approved independent laboratory by the Contractor to carry out sufficient tests on a regular basis as agreed between him and the Employer's Agent to determine whether the degree of compaction, and, where applicable, the quality of materials used, comply with the specifications and shall submit the results of these tests to the Employer's Agent in a form approved by him.

The compaction requirements for fills shall be deemed complied with when at least 75% of the dry-density tests on any lot show values equal to or above the specified density and when no single value is more than five percentage points below the specified value."

PSD 8 MEASUREMENT AND PAYMENT

PSD 8.3 SCHEDULED ITEMS

Employer:		Contractor	
Witness:		Witness:	



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PSD 8.3.1 Site preparation

REPLACE SUBCLAUSES 8. 3.1.1 AND 8.3.1.2 WITH THE FOLLOWING:

“Where site preparation such as clearing, grubbing, the removal of large trees or the removal and stockpiling of topsoil is required, the provisions and scheduled items of SANS 1200 C shall apply.”

PSDB EARTHWORKS (PIPE TRENCHES)

PSDB 3 MATERIALS

PSDB 3.5 BACKFILL MATERIALS

ADD THE FOLLOWING PARAGRAPHS TO SUBCLAUSE:

“(c) Cement-stabilised backfilling

Backfilling shall, where directed by the Employer's Agent, be stabilized with 5% cement. The aggregate shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed with 5% cement and shall be compacted in layers of 100 mm thick to 90% of modified AASHTO density.

(d) Soil-crete backfilling

The aggregate for soil-crete shall be mixed with 5% cement and shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed in a concrete mixer with the cement and enough water to acquire a consistency that allows the mixture to be placed with vibrators to fill all voids between the pipe and the sides of the trench. Shuttering shall be used where necessary.”

PSDB 3.7 SELECTION

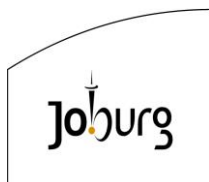
REPLACE THE WORDS “If he so wishes” IN THE FIRST LINE OF THE SECOND PARAGRAPH WITH THE WORDS “at his own cost.”

PSDB 5 CONSTRUCTION

PSDB 5.1 PRECAUTIONS

PSDB 5.1.2 Stormwater, Seepage and Dewatering of Excavation

Employer:		Contractor	
Witness:		Witness:	



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PSDB 5.1.2.3 Sloping ground

ADD THE FOLLOWING SENTENCE AT THE END OF THE PARAGRAPH:

“All trench excavations on sloping embankments shall be backfilled in accordance with 5.6.2 over the full extent of the actual trench excavation and to the original embankment ground level.”

PSDB 5.1.3 Accommodation of traffic and access to properties

REPLACE THE SEMICOLON AND THE WORD “and” AT THE END OF THE SUBCLAUSE 5.1.3 (a) WITH A FULL STOP AND REPLACE ITEM (b) WITH THE FOLLOWING:

- “(b) Where necessary to achieve compliance by the Contractor with his obligations to provide and maintain pedestrian and vehicular access to properties affected by the works, the contractor shall construct and maintain to the satisfaction of the Employer’s Agent, such temporary access roads around, and/or steel or timber bridges over excavations in roads, pavements, entrances or accesses to properties.

The Contractor shall make available on site at all times a sufficient number of steel plates at least 2.0m x 2.0m x 8mm thick to be laid across open trenches to provide access to private properties. The cost of providing, placing and removing the steel plates shall be included in the rates for trench excavation.

On completion of the work, the Contractor shall dismantle and remove all such temporary constructions and reinstate these areas to their former condition.

Except only where the Employer’s Agent has included in the Schedule of Quantities, particular payment items specifically therefore, the Contractor will not be paid directly for the construction and maintenance of temporary access roads and/or the provision and maintenance of bridges as aforementioned, and the costs thereof shall be deemed included in the Contractor’s tendered rates for excavation.”

ADD THE FOLLOWING NEW SUBCLAUSE TO SUBCLAUSE 5.1:

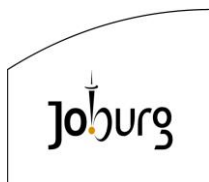
PSDB 5.1.5 Removal of existing pipelines

Where existing pipes have to be removed, they shall be carefully opened up by machine excavation to 300 mm above the pipes after which the whole pipe shall be fully exposed by means of hand excavation. The excavation width shall comply with subclause 8.2.3.

The pipes shall be removed from the trench in a manner approved by the Employer’s Agent and brought to the surface for inspection by the Employer’s Agent.

Pipes that are declared suitable for reuse and pipes declared unfit for reuse shall be dealt with in an applicable manner described in the specifications, or on the Drawings or on the Employer’s Agent’s instructions, as relevant.”

Employer:		Contractor	
Witness:		Witness:	



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PSDB 5.2 MINIMUM BASE WIDTHS

ADD THE FOLLOWING SUB PARAGRAPH TO:

- c) Should the excavated trench width exceed the specified side allowance on each side of the pipe of 300mm by a value greater than 300mm, remedial measures shall be as directed and shall be provided at the Contractor's cost unless it can be shown that such excess width is due to factors beyond the Contractor's control.

Trench widths should be as near vertical as possible in order to minimize the quantity of selected fill material to be provided."

PSDB 5.4 EXCAVATION

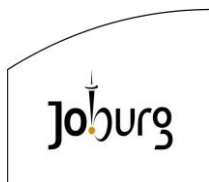
ADD THE FOLLOWING SUB CLAUSES:

PSDB 5.4.1 Principles

- "a) The cost of trimming excavations by hand or machine shall not be paid for separately but shall be included in the rates tendered for excavation.
- b) All excavated material shall be kept within defined limits and shall, wherever possible, be deposited alongside the trench. The material shall be deposited so as to leave a clear strip of at least one metre between the edge of the trench and the excavated material and shall not cause undue inconvenience to traffic and property owners. The material shall be placed and kept well clear of all manholes covers, culvert in- and outlets, fire hydrants, benchmarks, stand pegs, fences, etc.
- c) To prevent vertical trench walls from collapsing, excavated material shall, wherever possible, not be stacked on the side of any underlying strata sloping down towards the trench and in this regard, attention is specifically drawn to the shales sloping south to north in the Pretoria area.
- d) Excavations more than 1,5 m deep shall be adequately shored or braced to support the overhanging material and other loads which may occur. If the Contractor is of the opinion that shoring or bracing for an excavation of depth of more than 1,5 m is not necessary, he shall notify the Employer's Agent accordingly in writing, including a report from a Professional Engineer or a Professional Technologist competent in excavations. The report shall include the relevant laboratory tests.
- e) The Contractor shall provide all the open and close timbering, strutting and shoring required for the safety of the excavations and structures adjacent to the trenches and shall be solely and wholly responsible for ensuring the adequacy of these measures for this purpose.

Without in any way affecting or detracting from the Contractor's responsibility, the Employer's Agent shall have the right to instruct the Contractor to provide additional or improved timbering, shoring or strutting where he considers this to be necessary. The Contractor shall have no claim for additional payment on this account.

Employer:		Contractor	
Witness:		Witness:	



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The shoring method adopted shall be compatible with the soil type and the excavating, backfilling and pipe-laying methods adopted and shall not place any undue restrictions on the laying of the pipes.

Timbering and shoring shall be left in position until the Employer's Agent has authorised their removal.

- f) Shoring and bracing may not be necessary where the Contractor elects to slope the sides of the excavation to at least the maximum angle of repose measured relative to the horizontal plane, as determined by laboratory tests. Sloping of the sides could be combined with steps. The Contractor will submit the proposed excavation profile to the Employer's Agent for approval.
- g) The cost for shoring, bracing and sloping of the sides will be included in the rates tendered for excavation. The cost for the services of a Professional Engineer or a Professional Technologist, including the relevant laboratory costs, shall be included in the tendered rates.
- h) The Safety Officer, or another competent person appointed by the Contractor in writing, shall inspect every excavation, including bracing and shoring:
 - (i) daily, prior to each shift.
 - (ii) after every blasting operation.
 - (iii) after an unexpected fall of ground.
 - (iv) after substantial damage to supports; and
 - (v) after rain,in order to pronounce the safety of the excavation to ensure the safety of persons, and those results are to be recorded in a register kept on site and made available to an inspector, the Employer, Employer's Agent, Contractor or employee upon request.
- i) Each excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or whereby the safety of persons may be endangered, shall be
 - (i) adequately protected by a barrier or fence of at least one metre in height and as close to the excavation as is practicable; and
 - (ii) provided with warning illuminants or any other clearly visible boundary indicators at night or when visibility is poor."

PSDB 5.4.2 Hand Excavations

PSDB 5.4.3 Excavation of Asphalt Surfaces

The existing asphalt road surfacing shall be saw-cut prior to excavation commencing for the full width of the trench as specified on the construction drawings so as to ensure a neat finish to the reinstated surfacing.

PSDB 5.6 BACKFILLING

Employer:		Contractor	
Witness:		Witness:	



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PSDB 5.6.3 Disposal of Soft Excavation Material

DELETE THE EXISTING CLAUSE AND REPLACE WITH:

“The Contractor shall locate and negotiate for tipping sites for the disposal of surplus material and bear all costs in connection therewith. Arrangements for the consent of the owner of a property to deposit spoil and or temporary spoil thereon shall be confirmed in writing. Such arrangements shall be approved before being implemented. All spoil sites shall be neatly finished off and compacted to 90% of MOD.AASHTO density.”

PSDB 5.6.6 Completion of Backfilling

ADD THE FOLLOWING:

Backfilling should not lag more than 50m behind the laying operation.

PSDB 5.7 COMPACTION

ADD THE FOLLOWING:

“Where pipelines cross existing gravel roads, backfilling shall be carried out as specified in Subclause 5.7.2 and payment therefore will be made under sub item 8.3.3.3.”

PSDB 5.9 REINSTATEMENT OF SURFACES

ADD THE FOLLOWING TO THIS SUB CLAUSE:

PSDB 5.9.2 Private Property and Commonage

The ground and paved surface of servitudes, parks, driveways, roadways and sidewalks shall be reinstated to at least the standard and conditions as existed previously.

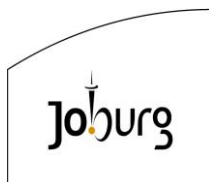
Grass sods shall be cut out from the grassed areas to be excavated and shall be set aside, preserved and kept damp until used for reinstatement. All other material to be used for reinstatement shall be suitably stored for such purpose.

The rate for reinstatement of block paved surfacing shall include all costs for the supplying and laying of the surfacing. The rate shall also cover for taking brick paving out carefully, stockpiling and replacement with new if bricks are broken or damaged. The rate must furthermore provide for all plant, labour and material costs associated with the work.

The rate for reinstatement of asphalt or concrete paved surfacing shall include all costs for the saw cutting, supplying and laying of the surfacing. The rate shall also cover for removal and spoiling of the material. The rate must furthermore provide for all plant, labour and material costs associated with the work.

The width of any trench through an area paved with bricks or precast concrete units shall be the minimum practicable width that, in the opinion of the Employer's Agent, can be removed without cutting bricks or precast units.

Employer:		Contractor	
Witness:		Witness:	



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PSDB 5.9.4 Bitumen roads: Sub-base and Base

DELETE THIS SUB CLAUSE AND REPLACE WITH THE FOLLOWING:

Johannesburg Roads Agency will reinstate all asphalt surfaces. Refer to PS 6.7.

ADD THE FOLLOWING NEW SUB CLAUSES:

PSDB 5.9.7 Construction of Layers for Footways

The reinstatement of the paving blocks shall be the responsibility of the Contractor. The reinstatement and backfilling of pavement layers shall be done in accordance with PS 6.7

ADD THE FOLLOWING NEW SUB CLAUSES:

PSDB 5.9.8 Existing Kerbs and Channels

“Where excavations have to cross existing kerbs and channels, then:

- a) In the case of a precast kerb and channel the kerbs, segmented paving blocks and channel shall be carefully removed and stored so as to avoid any damage to or theft of the kerb and channel and replaced after the excavation has been backfilled. Any damage to or theft of the kerb and channel shall be made good by the Contractor at his expense.
- b) In the case of cast insitu or extruded insitu kerb and channel the kerb and channel shall be cut with a diamond tipped saw and carefully removed so as to avoid any damage to the remaining kerbs and channels. After the excavation has been backfilled the portion of kerb and channel removed shall be replaced with a cast insitu kerb and channel of the same profile as the existing kerb and channel.”

ADD THE FOLLOWING NEW SUB-CLAUSE:

PSDB 5.11 LOCATION OF EXISTING SERVICES

Positions and details of known existing services as received from the various Departments are indicated on the Construction Drawings. Exact positions cannot be guaranteed by The Employer who will not be held responsible for any damages to any services. The Contractor shall excavate by hand to locate any such services and ensure that care is taken not to damage these services.

ADD THE FOLLOWING NEW SUB-CLAUSE:

PSDB 5.12 DEALING AND PROTECTING EXISTING SERVICES

All existing services, underground as well as above ground level, shall be protected by the Contractor in an appropriate manner, for the duration of the construction or as deemed necessary by the Employer's Agent, such that no damage to or interruption of the services shall occur.

ADD THE FOLLOWING NEW SUB-CLAUSE:

Employer:		Contractor	
Witness:		Witness:	



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PSDB 5.13 GAS MAIN, ELECTRICITY AND TELECOMMUNICATION POLES

Gas mains, electricity and telecommunication poles along the pipe route are to be stabilized and protected prior to excavation and for the duration of construction.

ADD THE FOLLOWING NEW CLAUSE:

PSDB 5.14 TREES IN CONSTRUCTION PATH

Whenever possible any trees that lie within the construction path, shall not be removed and care shall be exercised to avoid damaging them. If the Contractor considers the removal of any tree unavoidable, he/she shall obtain in writing the approval of the Employer's Agent and the Environmental Consultant prior to removal of any trees. Rates to cover removal and replacement where practical are provided in the schedule of quantities. A penalty of R2, 000.00 will be applied for any unauthorized or unnecessary damage to any tree which in the opinion of the Employer's Agent could have been avoided.

ADD THE FOLLOWING NEW SUBCLAUSE 5:

PSDB 7 TESTING

ADD THE FOLLOWING NEW SUBCLAUSE:

PSDB 7.2 Inspection at Intermediate Stages of Construction

The Contractor shall call the Employer's Agent, giving him reasonable notice, to inspect the works at the following intermediate stages of construction:

- a) After completion of the trench excavation and preparation of the trench bottom and before any pipe is laid.
- b) After the selected backfill, material has been placed around the pipe and before the remainder of the trench is backfilled.
- c) Before placing of premix on roads or any final surfacing on constructed footways. Work shall not progress through the specified stages without the approval of the Employer's Agent or his representative on site.

Failure to comply with the provision of this clause shall result in the suspension of the backfilling work until the testing has been approved by the Employer's Agent."

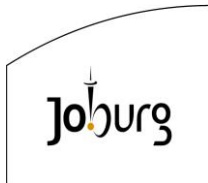
PSDB 8 MEASUREMENT AND PAYMENT

PSDB 8.1 BASIC PRINCIPLES

ADD THE FOLLOWING PRARGRAPH:

"The basic principle of measurement and payment for earthworks for a pipe trench is that the rates tendered for excavation shall also cover the cost of trimming, handling and shoring or bracing as specified in clause PSDB 5.4".

Employer:		Contractor	
Witness:		Witness:	



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PSDB 8.3 SCHEDULED ITEMS

PSDB 8.3.2 Excavation

- a) Excavate in all materials, for trenches, backfill compact and dispose of surplus material

ADD THE FOLLOWING SUB-ITEM:

The rate shall also cover the cost of excavating for trenches using labour intensive construction methods. The rate shall exclude the cost of removal of grass sods but shall include for the disposal of surplus/unsuitable material. The rate shall, in addition, cover the costs for compliance with the requirements of PSDB 5.4.1.

- i) Over 0,0m and up to 1,5m
- ii) Over 1,5m and up to 2,5m
- iii) Over 2,5m

- b) Extra over item (a) above for:

ADD THE FOLLOWING AT THE END OF THE EXISTING SUB-ITEM 2:

"No payments will be made under sub items (1) and (2) in respect of any materials measured and paid for under sub item 3 below."

- a) Intermediate excavation.
- b) Hard excavation.
- c) Rock excavation

AND ADD THE FOLLOWING NEW SUBITEMS IN 8.3.2(b):

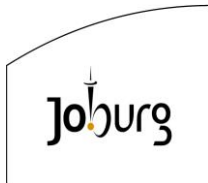
(3) Excavate by hand in all material for tie-ins, house connections, backfill and compact including disposal of surplus unsuitable material for depth:

- a) Over 0,0m and up to 1,0m
- b) Over 1,0m and up to 1,5m
- c) Over 1,5m

The unit of measurement shall be the cubic metre of material, measured in place according to the authorized dimensions, which was excavated by the hand on the specific prior written instructions of the Employer's Agent; provided always that the Employer's Agent's said instruction shall have stated that measurement and payment for such hand excavation will be in accordance with this item.

The tendered rate shall include full compensation for the additional cost, effort and time resulting from excavating in the respective materials using hand methods only.

Employer:		Contractor	
Witness:		Witness:	



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The Employer's Agent shall not be obliged to authorize payment under this item in respect of any hand excavation carried out (whether ordered in writing or otherwise), which hand excavation was in any case necessary to achieve compliance by the Contractor with his obligations under the Contract to

- (i) utilize construction appropriate to the nature of the specific parts of the works; and/or
- (ii) protect existing structures and/or services; and/or
- (iii) comply with all prevailing legislation and regulations.

(4) Cutting of premix and concrete surfaces.....Unit: m²

The cutting of premix and concrete surfaces shall be measured per square metre of cut as scheduled. Cutting of premix and concrete surfaces shall be done with a diamond tipped saw or by some other approved method. The depth of the cut shall be such that the adjoining premix and concrete surfaces are not disturbed when excavation takes place. The cutting of surfaces shall be done 100mm on either side of the trench.

PSDB 8.3.3 Excavation ancillaries

PSDB 8.3.3.3 Compaction in road reserves

REPLACE THE HEADING OF THIS SUBITEM WITH THE FOLLOWING:

“PSDB 8.3.3.3 Additional compaction to 95% mod AASHTO density in road crossings”

REPLACE THE SENTENCE, “The volume will be measured as specified in 8.2.2, 8.2.3 and 8.3.3.1”, WITH THE FOLLOWING:

“To determine the volume in the case of gravel roads, the depth will be measured from the underside of the gravel wearing course to the top of the fill blanket, and in the case of bitumen roads, from the underside of the subbase to the top of the fill blanket.

The rest of the trench shall be backfilled as specified in clauses 5.9.3, 5.9.4 and 5.9.5, as applicable, and payment will be made under item 8.3.6.1.”

PSDB 8.3.3.4 Overhaul

REPLACE THE CONTENTS OF THIS ITEM WITH THE FOLLOWING:

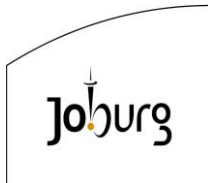
“Measurement and payment shall be in accordance with subclause PSD 5.2.5.”

PSDB 8.3.4 Particular items

PSDB 8.3.4(a) Shore trench opposite structure or service

REPLACE THE HEADING OF THIS SUBITEM WITH THE FOLLOWING:

Employer:		Contractor	
Witness:		Witness:	



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PSDB 8.3.4(a) Shore trench opposite structure or service for depths:

ADD THE FOLLOWING AFTER THE LAST SENTENCE:

“Separate items will be measured for depths of trenches in increments of 1 m. The rate for each stated category shall cover the cost of shoring from ground level up to the full depth of the stated category. Payment for this item will only be made if written instructions were issued by the Employer's Agent over and above the Standard Specifications for safety of excavations as specified in SANS 1200 DB, subclause 5.1.”

PSDB 8.3.4 Accommodation of existing flows for temporary or permanent connections or construction of new structures or pipe trenches:

- 1) (Description of item stated) Unit: Sum
- 2) Etc for other structures

The tendered sums shall include full compensation for any inconvenience suffered, for normal and exceptional risks, for unforeseen eventualities and for maintaining the accommodated flow as long as necessary and shall include for the design and construction of all necessary temporary measures such as additional clearing, grubbing, earthworks, culverts, structures, pipework, pumping, cleaning up and any other associated work that may be required as specified in Clause PS1.5. Where a temporary structure for the accommodation of an existing flow has been designed by the Employer's Agent and is to be constructed by the Contractor, payment for such structure shall, unless otherwise stated in the scheduled item, be made under the applicable sub items in this payment item.”

PSDB 8.3.5 Existing services that Intersect or Adjoin a Pipe Trench

PSDB 8.3.5 a) Services that intersect a trench

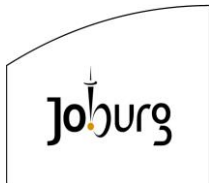
ADD TO THE FIRST SENTENCE OF THIS SUB CLAUSE AS FOLLOWS:

After “Except where water pipes are to be recovered” add “*and water leads for erf connections need to be renewed*”

Services that intersect a trench.....Unit: No

- i) Water house connections.
- ii) Sewer pipes up to 300mm Dia.
- iii) Cables.
- iv) Stormwater pipes up to 1050mm dia.
- v) Kerbs and Channels
- vi) Water pipes of any diameter
- vii) Irrigation pipes

Employer:		Contractor	
Witness:		Witness:	



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PSDB 8.3.5 b) Services that adjoin a trench

ADD TO THE FIRST SENTENCE OF THIS SUB CLAUSE AS FOLLOWS:

After "Except where water pipes are to be recovered" add "*and water leads for erf connections need to be renewed*"

Services that adjoin a trench.....Unit: m

- i) Water house connections
- ii) Sewer pipes up to 600mm Dia.
- iii) Cables.
- iv) Stormwater pipes up to 1050mm dia.
- v) Kerbs and Channels
- vi) Water pipes of any diameter
- vii) Irrigation pipes

ADD THD NEW SUBCLAUSE PSDB 8.3.5 c) TO CLAUSE 8.3.5 AS FOLLOWS

PSDB 8.3.5 c) Services that require special care

- 1) Description of service.....Unit: No

The Unit of measurement shall be the number of each service described. Electricity, telecommunication poles and water mains along the pipe route are to be stabilised and protected prior to excavation and for the duration of construction. The rate shall cover the temporary stabilization and protection of electricity and telecommunication poles.

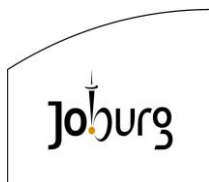
ADD THD NEW SUBCLAUSE PSDB 8.3.6.2 TO CLAUSE 8.3.6 AS FOLLOWS:

PSDB 8.3.6 Trimming of tree roots

The rate to cover the trimming of tree roots along the pipeline route within the pipe trenches where pipes are to be installed. The item will be measured as number of trees.

Trimming of tree roots.....Unit: No

Employer:		Contractor	
Witness:		Witness:	



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PSLB **BEDDING (PIPES)**

PSLB 3 **MATERIALS**

PSLB 3.1 **SELECTED GRANULAR MATERIAL**

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

“Selected granular material shall have a PI not exceeding 10 and shall be free from sharp-ended particles or particles exceeding 19 mm in size.”

“Selected fill material shall have a PI not exceeding 15 and shall be free from sharp-ended particles or particles exceeding 19 mm in size.”

PSLB 3.3 **BEDDING**

ADD THE FOLLOWING:

“uPVC and HDPE pipes are deemed to be flexible pipes for the purposes of this subclause.”

PSLB 3.4 **SELECTION**

PSLB 3.4.1 **Suitable material available from trench excavation**

REPLACE THE WORDS “(but is not required)” IN THE FIFTH LINE WITH THE WORDS “(at his own cost)”.

PSLB 7 **TESTING**

PSLB 7.1 **DENSITY**

REPLACE THE SECOND SENTENCE IN THE FIRST PARAGRAPH WITH “The test will be carried out using the Troxler method.”

ADD THE FOLLOWING SUB-CLAUSE

PSLB 7.1.1 **Submission of bedding compaction test results**

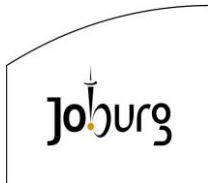
The Contractor will be required to submit to the Employer’s Agent four (4) compaction test results of bedding for every 100metres. Bedding compaction to be 90% MOD AASTHO density. The compaction tests to be performed by the Troxler method.

PSLB 8 **MEASUREMENT AND PAYMENT**

PSLB 8.1 **PRINCIPLES**

ADD THE FOLLOWING TO THIS SUB-CLAUSE

Employer:		Contractor	
Witness:		Witness:	



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PSLB 8.1.3 Volume of bedding materials

The volume of bedding material shall be measured net i.e. the volume of the pipe is to be deducted.

PSLB 8.1.5 Disposal of displaced material

DELETE THIS SUB-CLAUSE AND REFER TO CLAUSE PSDB 5.6.3:

PSLB 8.1.6 Free-haul

DELETE THE WORDS "of 0,5 km" IN THE FIRST LINE OF THIS SUBCLAUSE.

PSLB 8.2 SCHEDULED ITEMS

PSLB 8.2.1 Provision of bedding from trench excavations

DELETE THIS SUB-CLAUSE AND REPLACE WITH THE FOLLOWING:

Without the need for screening or other treatments:

a) Selected granular material.....Unit: m³

b) Selected fill material.....Unit: m³

c) Extra over item 4.1(a) and (b) for sieving where ordered by Engineer

The rates shall cover the cost of acquiring, from any point along the trench excavation as be Selected by the Employer's Agent within 5,0 km, bedding that complies with the relevant requirements of the specification, of delivering it to points alongside the trench spaced to suit the Contractor's methods of working, and of disposing of displaced material within a free haul distance 5,0 km.

Including for screening and/or other treatment:

a) Selected granular material.....Unit: m³

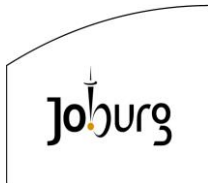
b) Selected fill material.....Unit: m³

The rates shall cover the cost of screening by means of mesh sieves or otherwise treating excavated material, at any point along the trench excavation as may be selected by the Employer's Agent, in order to produce bedding that complies with the relevant specification, delivering it to points along the trench, within 5,0 km, spaced to suit the Contractor's methods of working, of making good any backfill deficiency there may be from points where screened backfill material has been acquired, and of disposing of displace material within a free haul distance of 5,0 km.

PSLB 8.2.1.1 Sieving where ordered by EngineerUnit: m³

Where ordered by the Engineer, the contractor will be required to sieve material for backfill material. The Material containing more than 10% by mass of rock or hard fragments that are retained on a sieve of nominal aperture size 50 mm, and material

Employer:		Contractor	
Witness:		Witness:	



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containing large clay lumps that do not break up under the action of the compaction equipment being used, will be regarded as unsuitable for use in backfilling.

PSLB 8.2.2 Supply only of bedding by importation

PSLB 8.2.2.3 From commercial sources (Provisional)

ADD THE FOLLOWING SUB-SUBITEM TO THIS CLAUSE:

“(c) Special bedding material

- 1) Description of material..... Unit: m²
or m³
 - a) Selected granular material
 - b) Selected fill material
 - c) 19mm Crushed stones bedding
- 2) Etc for other items

The unit of measurement shall be the square metre or cubic metre of material as specified.

The rate shall cover the cost as specified for (a) and (b).” The rate shall include the cost of acquiring from commercial sources, transporting regardless of distance, off-loading and placing in the trench bottom clean where ordered by the Employer’s Agent.

PSLB 8.2.3 Concrete Thrust Blocks

Concrete thrust block as per provided details.....Unit: m³

Rate to include all required formwork and concrete strength tests

PSL MEDIUM-PRESSURE PIPELINES

PSL 2 INTERPRETATIONS

PSL 2.4 ABBREVIATIONS

ADD THE FOLLOWING:

HDPE: High density polyethylene

mPVC: Modified Polyvinyl chloride

PSL 3 MATERIALS

PSL 3.1 GENERAL

Employer:		Contractor	
Witness:		Witness:	



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ADD THE FOLLOWING TO CLAUSE:

The contract specifications for materials and construction activities will conform to SANS 1200, SANS 1914-5 and Johannesburg Water requirements. The project specifications will include specific items to ensure proper implementation, control reporting on labour based construction and methods as included in the specifications.

Materials for this contract should preferably be obtained from manufacturers who operate an effective quality management system such as that described in SANS 0157 or ISO 9000.

PSL 3.4 STEEL PIPES, FITTINGS, AND SPECIALS

PSL 3.4.3 Pipes of nominal bore over 150mm

OMIT PARAGRAPH (C) AND INSERT THE FOLLOWING:

“Steel pipes and fittings shall be manufactured in accordance with SANS 719 and SANS 1476 for a minimum Grade x 421 300WA dual certified (yield strength of 289MPa). The wall thickness of the pipes and fittings shall be 8 mm. All pipes and specials shall be supplied complete with couplings and jointing material.

Straight joints and bends to be fillet welded on site.

Pipes and fitting to be externally coated with fusion bonded medium density polyethylene (sintakote) or polyclad 777 and lined internally with solvent-free epoxy lining or similar approved. Thickness of lining shall not be less than 250 micron and test certificates of the lining thickness must be furnished to the Employer's Agent for his approval. E128 external corrosion protection at joints.

Cathodic protection design will be done by a specialist and will be procured separately, and construction will be as directed by the specialist.

The pipe manufacturer shall submit to the Employer's Agent the steel maker's certificates covering all steel used. These certificates shall indicate the process of manufacture, the chemical analysis and the physical properties of the steel except that, at the option of the pipe manufacturer, the physical properties of the steel may be determined from specimens taken from finished pipe.”

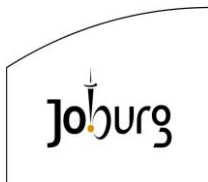
PSL 3.7 OTHER TYPES OF PIPES

PSL 3.7.1 PVC Pipes

ADD THE FOLLOWING TO THE SUB CLAUSE

“uPVC Pipe's systems shall conform to SANS 966-1998Part1/ SANS 966-1998Part2 or II as applicable and have integral pipe end sockets of the rubber ring joint type. All uPVC - pipes shall be in 6m lengths. Fittings and specials for PVC pipes shall be manufactured in Grade 14 cast iron, rated to at least 1600kPa working pressure. Unless otherwise specified fittings and specials shall be bitumen dipped.

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Witness:		Witness:	



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PSL 3.7.2 Polyethylene Pipes

REPLACE THE SUBCLASE WITH THE FOLLOWING

“HDPE pipes of diameter up to and including 63 mm shall conform with SANS 4427 Part 2 for Type IV pipes. HDPE pipes greater than 63 mm shall conform with SANS 4427 Part 3 for Type V pipes. Unless otherwise specified, pipes shall be Class 16 and plain ended for butt welding”.

ADD THE FOLLOWING NEW SUBCLAUSE:

PSL 3.7.3 PVC Pipes

Class 16 uPVC/mPVC high impact pipes shall conform to SANS 1283 (alternatively ISO 4422) shall be used unless otherwise indicated. Jointing shall be effected by means of approved “press-on” shouldered ends and cast iron and steel victaulic clamps. Unless otherwise specified, pipes shall be Class 16.

Where the cutting of any pipe is necessary, shouldered ends shall be fixed to the pipe by means of an approved machine capable of clamping the pipe without causing any damage to the pipe and pressing on the shouldered end by means of a hydraulic operated jack applying a uniform axial force to locate the shouldered end truly in position. The use of impact force to either the pipe or shouldered end will not be permitted. No on-site fixing of shouldered ends shall be permitted.”

ADD THE FOLLOWING NEW SUBCLAUSE:

PSL 3.7.4 mPVC Pipes

High impact mPVC Class 16 and shall conform to SANS 1283 for diameter up to and including 315mm with a fully end load restraint coupling system approved by Johannesburg Water.

PSL 3.8 JOINTING MATERIAL

ADD THE FOLLOWING NEW SUBCLAUSE:

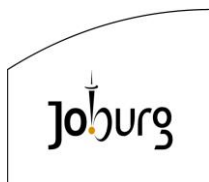
PSL 3.8.2 Flexible couplings

OMIT THE EXISTING CLAUSE AND INSERT THE FOLLOWING:

“All flexible couplings shall be “Viking Johnson” couplings without centre register or approved similar.

Rubber rings shall be of the wedge-type and shall be manufactured from natural or synthetic rubber only. Reclaimed rubber shall not be used in the manufacture of the rubber rings.”

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Witness:		Witness:	



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PSL 3.8.3 Flanges and accessories

ADD THE FOLLOWING TO THE EXISTING CLAUSE:

“The dimensions and drilling of standard flanges shall comply with the requirements of SANS 1123 and SANS 1476 for a working pressure of 2500 kPa. Flanges shall be machined flat, i.e. without a raised joint face. Puddle flanges shall have the same dimensions as standard flanges but shall be undrilled. Flanges to be drilled according to Table 16.

Faces of flanges which will be in contact with jointing gaskets shall receive a protective coating of such thickness and consistence as will not impair the air/gas/water tightness of the joint.”

ADD THE FOLLOWING NEW SUBCLAUSE:

PSL 3.8.8 Victaulic joints

Joints for PVC and medium steel pipelines shall conform to SANS 815: Standard specifications for shouldered end pipes, fittings and couplings.

ADD THE FOLLOWING NEW SUBCLAUSE:

PSL 3.8.9 HDPE Pipe joints

Joints for HDPE pipe shall be by means of welding, welded flanges or approved external compression type fittings (Plasson or similar approved).”

ADD THE FOLLOWING NEW SUBCLAUSE:

PSL 3.8.10 HDPE Pipe Welding

Only SAPPMA or ISO approved welders shall be used for welding HDPE pipes.

ADD THE FOLLOWING NEW SUBCLAUSE:

PSL 3.9 CORROSION PROTECTION

PSL 3.9.2 Steel pipe

ADD THE FOLLOWING TO THE EXISTING CLAUSE:

“All coating and linings shall be completed strictly to the publication “Corrosion Protection for Civil, Mechanical and Electrical Employer’s Agent 2000 Edition.

Pipes and fitting shall be externally coated with fusion bonded medium density polyethylene (sintakote) or polyclad 777 and internally with liquid epoxy lining or similar approved.

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The thickness of the lining material shall not be less than 250 micron and test certificates of the lining thickness must be furnished to the Employer's Agent for his approval."

PSL 3.9.2.3 Repairs to epoxy coatings

ADD THE FOLLOWING TO THE EXISTING CLAUSE:

PSL 3.9.2.3.1 General

- (a) Where the damage is extensive the remedial procedures shall be agreed in writing with the Employer's Agent.
- (b) All repairs shall comply with the requirements of the repair-product manufacturer's data sheet. The Employer's Agent may at his discretion request that repaired coating areas undergo adhesion tests.
- (c) The Contractor shall repair any damage occurring during transport, on site during handling, assembly, storage, and erection.
- (d) The repaired area shall be tested in accordance with Sub-Clauses 8.4 and 8.12 of SANS 1217 for compliance with the relevant requirements for thickness and electrical insulation defects respectively.
- (e) Any item showing electrical insulation defects exceeding an average of five per square metre (a cluster of pinholes within a radius of 25 mm being regarded as a single defective area), or flaking or other signs of loss of adhesion, shall not be repaired. The item shall be blast cleaned and re-coated in accordance with the relevant requirements of the Clause PSL 3.9.2.3.3.

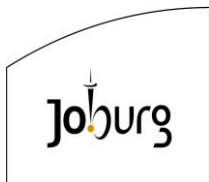
PSL 3.9.2.3.2 Repair Methods for Minor Defects

The repair of areas showing electrical insulation defects or low film thickness shall, if approved by the Employer's Agent, be carried out as follows:

- (a) Degrease in accordance with Clause PSL 3.9.2.3.4.
- (b) Thoroughly abrade the damaged area, including an adjacent surrounding area of at least 25 mm wide, with a medium grade 220 abrasive paper.
- (c) Vacuum-clean the surface to remove dust and debris in accordance with SANS 5769.
- (d) Wipe the abraded paint surface with methyl ethyl ketone and allow to dry, and
- (e) Apply as many coats of the following repair material as necessary to achieve the specified thickness and finish.
 - (i) Solvent free epoxy; or
 - (ii) Fusion-bonded epoxy powder repair kit.

NOTE: Apply a final topcoat over the repaired area to achieve a pleasing, uniform finish of the item.

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PSL 3.9.2.3.3 Repair Methods for Major Defects

The total un-coated areas for renovation by the applicator shall not exceed 0.5% of the total surface area of a component. Each un-coated area for renovation shall not exceed 2 500 mm². If damaged areas are larger, the items containing such areas shall be re-coated.

The repair of areas showing damage down to the steel surface shall, if approved by the Employer's Agent, be carried out as follows:

- (a) Degrease in accordance with Clause PSL 3.9.2.3.4
- (b) Blast-clean all damaged areas to Sa 3 (ISO 8501-1).
- (c) Feather the surrounding paint for a distance of 25 mm beyond the damaged areas with a medium grade 220 abrasive paper.
- (d) Vacuum-clean the surface to remove dust and debris in accordance with SANS 5769.
- (e) Wipe only the abraded paint surface with methyl ethyl ketone and allow drying.
- (f) Apply as many coats of the following repair material as necessary to achieve the specified thickness and finish.
 - Solvent free epoxy or
 - Fusion-bonded epoxy powder repair kit.

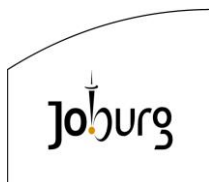
NOTE: Apply a final topcoat over the repaired area to achieve a pleasing, uniform finish of the item.

PSL 3.9.2.3.4 Degreasing

- (a) All surfaces to be coated shall be tested for oil and grease contamination by the water break free test.
- (b) Oil and grease contamination shall be removed by:
 - Steam-cleaning.
 - An emulsifiable or aqueous detergent applied in accordance with SANS 1344; and
 - An alkaline cleaning solution.
- (b) Allow to react, and then rinse off with clean, potable water to remove all residues prior to surface preparation, all in accordance with Clauses 3.3 and 3.4 of SANS 10064.
- (c) The surfaces shall be tested after degreasing and show no oil, grease and chemical contamination after degreasing.
- (d) Care shall be taken to avoid entrapment of cleaning agents in recesses or other retention areas.

ADD THE FOLLOWING NEW SUBCLAUSE:

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PSL 3.9.2.4 REPAIR OF DAMAGED SINTAKOTE

PSL 3.9.2.4.1 General

Damaged Sintakote or similar approved shall be repaired in accordance with the procedures detailed in the Tyco or similar approved Handling and Installation Manual for steel pipeline systems for the repair of Sintakote or in accordance with clause 3.2 or clause 3.3

PSL 3.9.2.4.2 REPAIR OF SMALL PINHOLE TYPE DEFECTS

PSL 3.9.2.4.2.1 Surface Preparation

- Clean and dry the area to be repaired including the removal of dirt, dust and other contaminants. Slightly roughen the area around the repair for a minimum distance of 50 millimetres using a coarse file or abrasive paper.
- Wipe the surface with a clean dry rag.

PSL 3.9.2.4.2.2 Priming

- Stir the primer to ensure complete mixing prior to application. Apply a thin even coat of Densopol Primer D or similar approved around the area of repair using a paint brush or roller
- Allow the primer to tack dry (approximately 10 to 20 minutes)

PSL 3.9.2.4.2.3 Tape Wrapping

- Apply Deponsole 60 or similar approved tape to the repair area ensuring a minimum of 50 mm overlap onto sound coating around the defect area.
- Apply Denso MP/HD P.V.C self-adhesive or similar approved over wrap tape around the full pipe circumference to completely cover the repaired patch.

PSL 3.9.2.4.3 REPAIR OF LARGE AREA OF DAMAGE WHERE STEEL IS EXPOSED

PSL 3.9.2.4.3.1 Surface preparation

Cut out the area of Sinkakote or similar approved and clean the steel surface in accordance with AS1627.2. Clean and dry the area to be repaired. Slightly roughen the area around the repaired using a coarse file or abrasive paper. Wipe the surface clean with a dry clean rag.

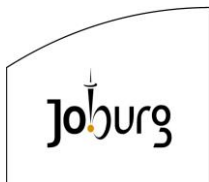
PSL 3.9.2.4.3.2 Priming

- Stir the primer to ensure complete mixing prior to application. Apply a thin, even coat of Densopol Primer D or similar approved onto the steel surface and around the periphery of the Sintakote or similar approved.
- Allow the primer to track dry (Approximately 10 to 20 minutes)

PSL 3.9.2.4.3.3 Filling/Priming

- Cut out a piece of Bitumen Mastic Strip to fit into the bare steel area prior to applying the primer.

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- Insert the cut out piece of Bitumen Mastic Strip into the repair area.
- Re-apply a thin even coat of Densopol Primer D or similar approved over the patch and adjacent area of Sintakote or similar approved.
- Allow the primer to track dry (Approximately 10 to 20 minutes)

PSL 3.9.2.4.3.4 Tape Wrapping

- Apply Densopol 60 or similar approved tape to the repair area ensuring a 50mm overlap over the fitted patch.
- Apply Denso MP/HD P.V.C self-adhesive or similar approved over wrap tape around the full pipe circumference to completely cover the repaired patch.

PSL 3.9.2.4.4 SURFACE PREPARATION

All joints shall be fully welded and sealed and all sharp edges and corners ground off to a radius of not less than 1.5 mm. All weld spatter and irregularities shall be removed. Any unsound or damaged edges of sintakote or similar approved shall be cut back into the sound coating and the edges chamfered.

The surface shall be cleaned by means of power tools to achieve a minimum surface preparation in accordance with AS1627.2 TO CLASS St. 2. All dust, dirt, moisture and grease shall be removed. Slightly roughen the sintakote or similar approved 100 millimeters both sides of the joint, using a coarse file or abrasive paper. Wipe the surface clean with a dry rag.

PSL 3.9.2.4.5 PRIMING

- Stir the primer to ensure complete mixing prior to application, apply a thin even coat of Densopol Primer D or similar approved to the steel and roughened sintakote or similar approved surfaces using a paintbrush or roller.
- Allow the primer to touch dry (approximately 10 to 20 minutes)

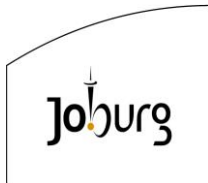
PSL 3.9.2.4.6 MASTIC FILLING

To improve the contours for wrapping the tape, fillet welds, sharp edges of sintakote or similar approved, test plugs or welding lid holes shall be filled and profiled with Bitumen Mastic Strip. The mastic filling shall be molded such that the Densopol 60 or similar approved tape can be applied with no sharp edges protruding or air entrapment.

PSL 3.9.2.4.7 TAPE WRAPPING

Commencing at least 100 milliliters back onto the primed sintakote or similar approved one complete turn of 150 milliliter wide Densopol 60 or similar approved tapes shall be applied. Release film shall be removed before application. While holding the tape under tension, the pipe shall be spirally wrapped using a 55 percent overlap and finished 100 mm onto the primed sintakote or similar approved with one complete circumferential wrap around the pipe. The tape shall be cut off in the downward direction of wrapping. New roles of tape shall have the ends overlapped at least 75 mm.

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During wrapping the tape shall be smoothed out by hand to exclude any air bubbles or wrinkles and to seal overlaps.

Care shall be taken to prevent any folds or misplacement of the tape, especially under the pipe, and to prevent the tape becoming contaminated during wrapping.

The butt-welds in segmental (lobster bends) are to have the tape applied partial layer by partial layer with a 55 percent overlap until a full spiral wrap can be made (refer sketch in appendix A) continue wrapping onto the primed sintakote or similar approved for at least 100mm with one complete circumferential wrap around the pipe.

Straight steel pipes shall also be wrapped with Densopol 60 or similar approved with a 55 percent overlap in accordance with the above clauses.

PSL 3.9.2.4.8 STEEL FITTINGS AND FLANGES

PSL 3.9.2.4.8.1 GENERAL

Procedures for the protection of steel fittings applies to both main pipeline fittings and branch pipe work. Fittings manufactured and coated by Tyco shall be factory coated with Sintakote or similar approved. Difficult fittings such as valves may be protected using a more conformable petrolatum system in accordance with TS29 only with the approval of an SA Water representative.

PSL 3.9.2.4.8.2 SURFACE PREPARATION

Still surfaces shall be prepared in accordance with clause 4.1.

PSL 3.9.2.4.8.3 TAPE WRAPPING

Prepare and wrap all straight sections leading up to the fitting and flange in accordance with section 4.

PSL 3.9.2.4.8.4 PRIMING

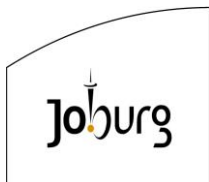
- Stir the primer to ensure complete mixing prior to application. Apply a thin even coat of Densopol Primer D to the prepared steel surfaces and a minimum of 50mm onto the Densopol 60 wrapped areas using a paint brush.
- Allow the primer to touch dry (approximately 10 to 20 minutes).

PSL 3.9.2.4.8.5 MASTIC WRAPPING

Unavoidable sharp edges such as bolts, nuts and collars shall have mastic strip molded over the positions or edges. Strip with a 55 percent overlap onto itself and minimum 50mm overlap onto the Densopol 60 or Sintatoke or similar approved coated pipe work. Press the Bitumen Mastic Strip firmly into place ensuring no air voids are beneath the Bitumen Mastic Strip.

Note: The Bitumen Mastic Strip provides corrosion protection to the steel work and is similar in composition to Densopol 60 or similar approved, but it does not have a woven carrier.

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PSL 3.9.2.8.6 OVER WRAPPING

150 or 100mm wide Denso MP/HD tape (self-adhesive PVC) shall be spirally wrapped over the Bitumen Mastic Strip with a 55percent overlap. While wrapping, the Denso MP/HD tape shall be pulled firmly and the lapse properly sealed.

PSL 3.9.2.8.7 TESTING

All repairs and wrapping shall be tested using a high voltage “spark” tester in accordance with AS3894.1 at an operating voltage of 15 KV.

PSL 3.9.3 Protection against electrolytic corrosion

OMIT THE EXISTING CLAUSE AND INSERT THE FOLLOWING:

“All joints and fittings shall be fully wrapped with approved protective tapes. Protective tape shall comply with either Specification A or Specification B as ordered by the Employer’s Agent.

Specification A

This tape shall be made up of pre-bonded components to form a composite single wrap tape. The adhesive inner protective tape must provide complete protection to steel piping against electrolytic corrosion. It shall be impermeable to water, chemically inert and physically stable and must provide a perfect seal at the overlap on a spiral-winding pattern.

The adhesive outer protective tapes shall be tough and impact resistant, providing suitable protection of the inner protective tape against mechanical damage. It shall be stable and not crack or deteriorate when buried. The tapes shall be chemically resistant to all common acids and alkalis normally encountered in the soils at the construction site.

The tapes shall be suitable for both machine and hand application.

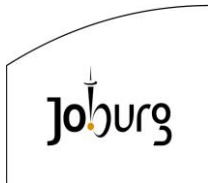
The Combination electrical characteristics of the inner and outer wrap together must exceed:

Dielectric strength = 25kV/mm
Insulation = 10 Ohm metre

The following minimum criteria shall be satisfied:

	Inner Tape	Outer Wrap
Thickness (mm)	0,3	0,3
Tensile strength (kg/cm width)	3,3	5,0
Elongation at break (%)	200%	50%
Adhesion to primed steel (gm/cm width)	220	220

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Specification B

This tape shall be made up of a non-woven synthetic fibre carrier impregnated and coated on both sides with a compound incorporating high melting point bitumen (Densotherm or similar approval). During application the tape shall be correctly heated, and laps adequately sealed all in accordance with the instructions and recommendations of the supplier.

Before the application of any protective material, the surface of the pipe shall be thoroughly cleaned and all loose or damaged pipe coating removed. All ridges, depressions and steps in the surface shall be filled with an approved filler so as to present a smooth uniform surface. After the filler has hardened, the entire surface to be wrapped shall be primed with a primer or otherwise treated as recommended by the supplier of the tape.

The protective tape shall be applied as a spiral wrap with not less than 50% overlap. The width of the tape shall be appropriate for the section to be wrapped."

PSL 3.9.5 Joints, nuts, bolts and washers

DELETE AND REPLACE WITH THE FOLLOWING:

"All bolts and nuts shall comply with the requirements of the relevant sections of SANS 1700 and shall be of Grade 4.6 steel. Washers shall be provided at each nut and shall be of the same material (or coating where applicable to match the bolt and nut. Nuts and bolts subject to vibration shall be machined finished fitted with plain washers and treated with "Loctite" or equivalent.

Bolts other than jacking bolts shall project not less than 3mm and not more than 10mm from the heads of the nuts after tightening.

All bolts to be built into concrete work as well as bolts to be installed above ground level (outside buildings), directly above and under water shall all be of stainless steel grade 304. Bolts for flexible couplings and flanges for underground installation shall be hot dip galvanized. Bolts to be installed inside buildings shall be hot dip galvanized. Galvanizing shall be in accordance with the Standard Corrosion Protection Specification (Heavy coating).

Suitable plastic sleeves and/or washers shall be used for protection against corrosion by bi-metallic action".

PSL 3.9.6 Corrosive soil

ADD THE FOLLOWING TO THE EXISTING CLAUSE:

"Steel pipes, pipe fittings and steel flanges in contact with soil shall over and above the protection as described above be protected as specified in Clause 3.9.3 with "DENSO" tape and/or mastic or approved similar. Application shall be strictly in accordance with the manufacturer's instructions. A polyethylene tape of 300 microns minimum shall be spirally wrapped over the petrolatum tape and fixed to the clean pipe ends with pressure sensitive tape."

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Witness:		Witness:	



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PSL 5 CONSTRUCTION

PSL 5.1 LAYING

PSL 5.1.4 Depth and Cover

PSL 5.1.4.2 Cover

ADD THE FOLLOWING TO THIS SUBCLAUSE:

“The minimum cover to finished surface over water mains shall be at least 1000 mm in trafficked areas and at least 800 mm elsewhere. At valves the depth of the pipeline shall be increased if necessary to ensure a minimum cover of 100mm over the valve cap. The cover shall be maintained as close as possible to the minimum without local sags or humps and shall not be increased above the minimum by more than 200mm without the approval of the Employer’s Agent.”

PSL 5.2 JOINTING METHODS

PSL 5.2.3 Welding

DELETE THE EXISTING CLAUSE AND REPLACE WITH THE FOLLOWING:

a) General

“Field welding of pipes which have been lined will be permitted only for pipes of DN600 and larger where a man is able to enter the pipe to make good the lining after welding and testing in accordance with Clause 7.2 of SANS 1200L has been completed. Pipes of lesser diameter may be field welded where concrete linings will be made after the pipeline has been laid and all welds have been tested and approved.

At the discretion of the Employer’s Agent, roll welding will be permitted, provided pipe alignment is maintained by use of skids or of structural framework to accommodate two or more lengths of pipe with an adequate number of roller dollies to prevent sag in the pipe. The entire root bead, however, shall be made with the pipe in a stationary position.

All pipes welded in the trench shall be properly laid and aligned before welding commences. Bell holes shall be excavated at all field welds. The Contractor shall not lift the pipe to provide adequate access for the welders to enable them to stovepipe weld the joint.

The alignment of abutting ends shall be such that the offset will not exceed 1.7 mm. Line up clamps shall be used for joint “fit ups”. The use of “bridges and wedges” or any method that may induce unnecessary stresses is forbidden.

Both ends of coated and lined pipes shall be wrapped for a distance of at least 800 mm on either side of the weld by means of an asbestos mat or other approved material to ensure that weld spatter or other damage is not caused to the coating and lining during the welding process. The pipe trench shall be kept free of all dirt and water in the vicinity of the weld until after all corrosion protection measures have been completed and approved. “

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Witness:		Witness:	



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b) Welding procedure and qualification of welders

Steel Pipes

Welding shall be done by only qualified welders who satisfy the requirements of API 1104, Clause 3.0. Before any welding of pipeline materials commences, the qualification of welders shall have been approved, all detailed welding procedure specifications with weld diagrams required for their completion shall have been submitted for approval in a neat form and the welding procedure qualification tests shall have been successfully concluded all in accordance with the relevant standard specifications. Each welder shall mark the pipe adjacent to the weld with the figure assigned to him.

Sufficient records shall be kept by the Contractor to ensure that all field welds can be subsequently identified with the welder concerned.

As far as practicable all out of trench welding shall preferably be done by an automatic submerged process and the Contractor shall provide all necessary plant to carry out this process. MSEAP welding may be used where in-trench welding is done.

Heat treatment for welding shall be in accordance with API 1104 if required by same and the Contractor shall provide an approved shield to protect the pipe joint from wind and weather during heat treatment and welding.

c) Line up

Pipes shall be lined up in such a manner as to prevent damage thereto. If the pipe to be used has a longitudinal seam, these seams shall be staggered by not less than twenty degrees and welded sections, or single lengths, shall be assembled in such a manner that this seam shall remain in the top quadrant of the pipe during coating operations and after lowering into the trench.

d) Cleaning of pipe ends Before welding; all foreign matter shall be removed from the beveled ends. If any of the ends of the pipe joints are damaged to the extent that satisfactory welding contact cannot be obtained, the damaged pipe ends shall be cut and beveled with an approved beveling machine. These field bevels of pipe ends shall be made to the satisfaction of the Employer's Agent. Should laminations, split ends, or other defects in the pipe be discovered, the joints of pipes containing such defects shall be cropped, repaired, or removed from the line as designated by the Employer's Agent.

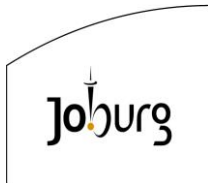
e) Inclement Weather

No welding shall be carried out during rain or high wind unless the welder and joint are adequately protected and sheltered, to ensure that the welding is not impaired.

f) Protection of coatings and linings

Before welding commences, a suitable apron at least 800 mm wide shall be wrapped around both sides of the area to be welded to ensure that weld spatter does not damage the coating and lining.

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g) Butt-welding

Pipes and specials to be joined by field welding shall be supplied with ends beveled for welding. All welding of joints shall comply with API 1104 and only approved type welding rods shall be used. If backing rings are permitted, they shall be placed in position and wedged up or adjusted so that the pipe ends are completely circular and properly mated. The space between abutting pipe ends, when aligned for welding, shall be such as to ensure complete penetration without burn-through. For pipes having the same dimensions, the spacing shall be approximately 1.5 mm. The alignment of the abutting pipe ends shall be such as to minimize the offset between pipe surfaces. For pipes of the same nominal wall thickness, the offset shall not exceed 1.5 mm. Internal line-up clamps shall be used wherever practicable and may be removed after the root bead is 50% completed, provided that the completed part of the root bead is in segments of approximately equal lengths, spaced about the circumference of the pipe. If conditions make it difficult to prevent movement of the pipe, or if the weld will be unduly stressed, the root bead shall be completed before releasing clamp tension.

External line-up clamps shall be used where it is impracticable to use internal line-up clamps. Partial root beads made when using external clamps shall be uniformly spaced about the circumference of the pipe and shall have an accumulative length of not less than 50% of the pipe circumference before the clamps are removed.

Tack welding shall be carried out to maintain the root gap and position of the pipe ends during the welding proper. The number of tack-welds shall be kept to a minimum but shall not be less than four around the circumference of the pipe.

After proper preparation and tack welding, the root bead shall be carried out followed by successive filler passes, and capper pass in accordance with the approved welding procedure.

The filler and finish beads shall be deposited by an acceptable method and each filler bead shall be approximately 3 mm in thickness. Completed welds shall have a reinforcing of not less than 0.8 mm and not more than 1.5 mm above the pipe surface around the entire perimeter of the weld, and the width of the finish or cover shall be not more than 3 mm greater than the original groove. The number of beads required shall be governed by the wall thickness of the pipe, so that the completed weld will have the reinforcement previously specified; provided, however, that each weld shall consist of at least three beads. No two beads shall be started at the same point. No mitre welds will be permitted, and all welds are to be at ninety degrees ($\pm 5^\circ$) to the axis of the pipe. All slag and scale shall be removed from each bead for visual inspection immediately after each bead is run.

In all field butt-welds where it is possible to work inside the pipe, the inside weld shall be done first.

The chemical composition of weld metal and parent metal shall be similar, and the inner weld metal or reinforcement shall not extend more than 1 mm above the inside metal surface of a pipe or special, and any excess shall be removed by grinding.

Defects caused by stray welding arc flashes shall be removed by grinding, provided that the pipe wall thickness is not reduced to less than the specified minimum thickness, otherwise the portion shall be cut out and repaired.

Employer:		Contractor	
Witness:		Witness:	



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h) Fillet welding

Welding shall be as for butt-welding as applicable. All pipes of 600 mm ND and over shall be welded on both the outside and the inside.

i) Repair of welds

Rectification of defective welds shall be in accordance with API 1104 and to the satisfaction of the Employer's Agent. All costs related to the repair of defective welds shall be borne by the Contractor. Defective welds shall be repaired immediately they are found to be so. The Employer's Agent has the right to stop the Contractor proceeding with further pipe laying in the event of the Contractor delaying the rectification of defective welds. Furthermore, no consideration will be given to any claims arising from delays in construction resulting from such action.

All welded joints which have been repaired shall be 100% radiographed or otherwise tested to the Employer's Agent's satisfaction at the Contractor's own expense.

PSL 5.8 BRICKWORK IN CHAMBERS AND MANHOLES

ADD THE FOLLOWING TO THIS SUBCLAUSE:

"The joints of exposed faces shall be flush-trowelled, hard and smooth and shall be rubbed for the full width of the joint as the work proceeds to give a hard polished finish."

ADD THE FOLLOWING NEW SUBCLAUSE

PSL 5.11 WORK ON EXISTING MAINS

Where connections are to be made to existing mains, the Contractor shall excavate back along the existing main only as far as is necessary to complete the connection satisfactorily and shall ensure that the existing mains are disturbed as little as possible. Backfilling shall be carefully placed and properly compacted beneath existing and new work to ensure that the mains, specials, etc. are properly bedded.

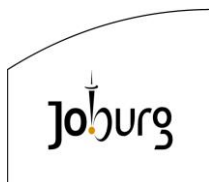
Work on existing mains and components of the reticulation system shall be carefully planned in consultation with the Employer's Agent. The work shall be carried out expeditiously to ensure that the disruption of services and inconvenience to the local residents is kept to a minimum. All tie-ins shall be completed within a maximum of 10 hours.

The Contractor under strict supervision by the Employer's Agent or The Employer will do all these connections.

Hand excavation must be used to expose the existing mains and erf connections where required. While every effort has been made to ensure that the information relating to these connections is correct the Employer's Agent or The Employer takes no responsibility for the accuracy, or for the completeness of the information"

ADD THE FOLLOWING NEW SUBCLAUSE:

Employer:		Contractor	
Witness:		Witness:	



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PSL 5.12 CONNECTION TO THE EXISTING MAINS

The Contractor shall supply all necessary fittings / materials for under pressure connections suitable for all pipe sizes.

The Contractor shall confirm all measurement on site prior to ordering any pipe fittings.”

ADD THE FOLLOWING NEW SUBCLAUSE:

PSL 5.13 PIPELINE RENEWAL WORK

All material recovered as a result of the repairs or replacement of the components shall be returned to the Contractors store where they shall be cleaned, sorted and listed. A list of the recovered material shall be handed to the Employer’s Agent on a monthly basis. All recovered material shall be delivered to the relevant Depot on a regular basis or at the end of the Contract.

ADD THE FOLLOWING NEW CLAUSE:

PSL 5.14 STERILISING OF WATER MAINS

All new water mains shall be sterilised at 10mg/l free chlorine for 12 hours and will then be thoroughly flushed.

PSL 7 TESTING

PSL 7.2 INITIAL TESTS ON WELDED STEEL PIPES

PSL 7.2.2 Radiographic Examination

Fifteen percent of all welded joints, or when ordered by the Employer’s Agent, shall be examined radiographically.

ADD THE FOLLOWING NEW CLAUSE:

PSL 7.2.3 Hydrostatic Test

- (a) All pipes and fittings shall be subject to an approved hydrostatic test and to a test pressure determined as follows:

$$P = \frac{2000 \, t \, f}{D}$$

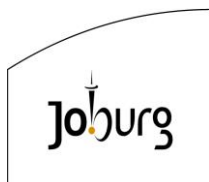
Where

P = test pressure in kPa

F = 85 percent of the guaranteed minimum yield strength in MPa for steel plate

D = outside diameter of the pipe in mm

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T = wall thickness in mm.

- (b) Hydrostatic testing shall not be carried out until all aspects of fabrication have been completed.
- (c) The pressure shall be applied steadily by approved means and maintained without variation sufficiently long for proof and inspection.
- (d) Should water sweat or ooze from any part or any defects of any nature be discovered the pipe shall be emptied and the defects made good. The pipe shall then be tested again. Should a pipe, after repair, fail to pass the second hydraulic test the Employer's Agent may order its rejection.
- (e) The fact that any pipe may have passed the hydraulic test at the works shall not exempt the Contractor from his liability under Clause 7 of the General Conditions of Contract 2015.
- (f) If a pipe fails to pass any of the above tests in Clauses PSL 7.2.1, PSL 7.2.2 or PSL 7.2.3, it shall be rejected, but the Employer's Agent may permit repairs or alterations to be made to enable the pipe to pass the test.
- (g) The Employer's Agent may require one or more pipes to be tested to destruction. If practicable the Employer's Agent may require the Contractor to repair the pipes and retest them. The cost of repairs will be paid by the Employer as an extra to the Contract."

ADD THE FOLLOWING NEW CLAUSE:

PSL 7.2.4 Testing of HDPE pipes

Sample of the welded joints shall be taken, and the following test shall be carried out by an approved laboratory selected by the Employer:

1. Tensile strength on seam weld
2. Elongation at break
3. OIT (Oxidation Induction Time)
4. MFR (Melt Flow Rate)
5. Carbon black content
6. Carbon black dispersion

PSL 8 MEASUREMENT AND PAYMENT

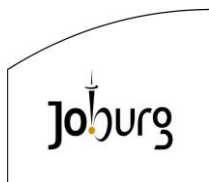
PSL 8.2 SCHEDULED ITEMS

ADD THE FOLLOWING NEW SUBCLAUSE:

PSL 8.2.1 Pressure testing of existing pipes Unit: m

On instruction from the Engineer, the contractor will be required to conduct pressure testing on existing pipelines. The test to be conducted in accordance with PSL 7.2.3. The rate to include locating of the water pipelines, the supply of water for testing, testing

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equipment and end caps where necessary to isolate a pipeline testing section. The pipe diameters range between 110mm to 250mm diameter in size.

PSL 8.2.2 Commissioning of existing water pipesUnit: m

On instruction from the Engineer, the contractor will be required to commission existing water pipelines after conducting pressure testing. The rate to include locating, disinfecting, and commissioning of existing water pipes for diameters ranging between 110mm to 250mm.

PSL 8.2.3 Decommissioning existing pipelines..... Unit: Prov. Sum

On instruction from the Engineer, the contractor will be required to decommission existing pipelines that are located on the road reserve and in the midblock.

PSL 8.2.4 River Crossings Unit: Prov. Sum

On instruction from the Engineer, the contractor will be required to complete pipe river crossing. The contractor will be required to provide a methodology for the pipe crossing over the river or stream for approval.

PSL 8.2.16 c) Demolish Structure

- a) Description of connection, types and diameters involved.....Unit:
No
- b) Etc for the other items

The unit of measurement shall be sum for various types of connection into existing line mains

The rate shall cover the cost of excavation, plant and labour required, demolishing the existing chambers, safeguarding the existing valves and specials from damage and safely disposing of the rubble material.

ADD THE FOLLOWING NEW SUBCLAUSE:

PSL 8.2.17 Connect to Existing Mains

- a) Description of connection, types and diameters involved.....Unit:
No
- b) Etc for the other items

The rate shall cover the cost of isolating, cutting, excavation (up to 4 m deep), bedding, dewatering and exposing the existing main at the connection point, supply necessary fittings for under pressure connections for the section of the mains as required, temporary support, safety precaution backfilling and the removal of surplus and unsuitable material.

ADD THE FOLLOWING NEW SUBCLAUSES:

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Witness:		Witness:	



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PSL 8.2.18 Recover valves, fittings, specials, etc

a) Description of item.....Unit: No.

b) Etc for other items

The unit of measurement shall be number of described item to be recovered

The rate for the recovery of the above shall cover the cost of the excavation, breaking out existing brick or precast concrete, and removal of the valves, fittings and specials removal of debris and spoil to Contractor's dump site and importing suitable backfill material, the plugging with concrete of the open ends of the abandoned water mains, the removal of the surface boxes, backfilling to required density, the handling and transporting of the recovered materials to the Relevant Depot, the listing of the salvaged materials and the backfilling and compaction of the chambers and reinstatement of surface covering.

PSL 8.2.19 Supply and install Valves.....Unit: No

a) Gate Valves

All gate valves shall be flanged wedge type isolation valves to SABS 664, Class 16, anticlockwise closing. All valves 400 mm and bigger are to be supplied with an approved **open gear box assembly** as follows:

1. For the 600mm Valve:

Multi-Stage Spur gearing with 6:1 minimum ratio, having operating spindles on the input spindle and at a stage where the valve can be stroked without exceeding the maximum input torque of 275Nm if no differential pressure is applied to the valve.

1.1 For the 450mm Valve:

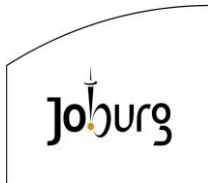
Single-Stage spur gearing with 4:1 ratio having one spindle to operate with a 1:1 ratio and a second spindle to operate with a 4:1 ratio. A maximum input torque of 240Nm is recommended.

2. The gears shall be robust, and machine cut, and their mounting shall be of substantial design.

3. Each pinion gear spindle shall be supported between two bearings or alternatively one bearing of sufficient depth to prevent misalignment of the opinion gear and spindle. The bearings shall be fitted with bronze bushes and shall be provided with grease nipple lubricating points and shall be lubricated prior to delivery. All points to be lubricated shall be fitted with 1/8-inch BSP straight nipples for grease-gun lubrication. Adequate lubrication shall be provided for all gear and indicator bushes.

4. All valves shall open by anticlockwise rotation of the main spindle and gearboxes shall be fitted with an intermediate idler where necessary.

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Witness:		Witness:	



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5. In the case of Type A and Type B gearing a shear pin or other safety device shall be incorporated between the high and low gears to prevent damage to the valve if excessive force is applied. Two spare pins shall be attached to each valve.

6. Shear pins shall be easily replaced in the field. Hard-driven pins will not be accepted as shear pins.

b) Air Valves

Air valves must be double acting air valves of compact single chamber design with both small and large air release orifices inside the chamber. The valve must also act as a vacuum breaker, with intake capacities of 60 % of discharge rates given.

The unit measurement for valves shall be number of each described assembly.

The rate shall include supply installation and testing including for all corrosion protection, bolts, gaskets, and any other contingency work.

a) Valve Boxes for Valve not exceeding 350mm.

Sterling Concrete CC or similar approved precast concrete valve (hydrant) box stacked segments shall be used. A Type 5 standard Polymer cover shall be used with Johannesburg Water inscription on it.

PSL 8.2.19.1 Supply and install Fire Hydrants.....Unit: No

Supply, fixing and bedding of above ground fire hydrants with fittings and galvanised pipe for connection to the main line as per detail provided. Rate to include all fittings required to connect to main line e.g. tees, bends, distance piece, approved coating on the fire hydrant etc.

PSL 8.2.20 Cathodic Protection.....Unit: Sum

The rate shall include investigation, design, supply and commission system as per specified and/ or instructed by the Employer's Agent (Provisional Sum)

PSL 8.2.21 Supply and install fittings assembly.....Unit: No

The unit of measurement shall be number of a described item to be installed. The applicable particular specification contained herein on various clauses will apply to the various pieces, for example **PSL 8.2.19** will be applicable to any valve and air valve in the assembly.

The rate shall include supply installation and testing including for all corrosion protection, bolts, gaskets, and any other contingency work to enable the proper operation of the fittings assembly.

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Witness:		Witness:	

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VOLUME 2 CONTRACT PART 3: SCOPE OF WORK

PSL 8.2.22 Laboratory testing of HDPE joins.....Unit: Prov Sum

The Employer's Agent shall set aside an amount as Provisional Sum for laboratory testing of HDPE welding joints. The amount shall cover the cutting, transportation and laboratory test of the sample joints.

PSL 8.2.23 Removal of damaged pipes.....Unit: m

All pipes that have been removed from the excavations are spoiled within 48 hours of excavation failing which the Employer's Agent shall be entitled to suspend work under the Contract.

The rate shall include the complete (labour, plant and equipment) cost for the removal of such material.

PSL 8.2.24 Trenchless technology

PSL 8.2.24.1 Supply and Installation of pipe through pipe cracking Unit: m

The rate shall include the complete (labour, qualified operators, material, plant and equipment) cost for the successful pipe cracking of the pipe, installation and supply of pipes of various diameters, jointing of pipe, launching and reception pits. The rate shall also include the provision and operation of all equipment and accessories, provision and application of all materials, safety equipment (including that required for the Employer's Agent or his duly authorized representative's sole use), traffic accommodation and testing and reporting.

PSL 8.2.24.2 Supply and Installation of pipe through Horizontal Direction Drilling (HDD) Unit: m

The rate shall include the complete (labour, qualified operators, material, plant and equipment) cost for the successful drilling of the pipe, installation and supply of pipes of various diameters, jointing of pipe, launching and reception pits. The rate shall also include the provision and operation of all equipment and accessories, provision and application of all materials, safety equipment (including that required for the Employer's Agent or his duly authorized representative's sole use), traffic accommodation and testing and reporting.

SANS1200 LF: ERF CONNECTIONS (WATER) (1983)

The following variations and additions to the standardised specifications

PSLF 2 INTERPRETATION

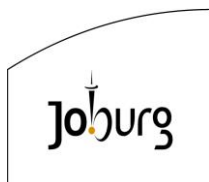
PSLF 2.3 DEFINITIONS

ADD THE FOLLOWING:

The following definitions to be read in conjunction to the project specification.

Pre-pay Consumer Meter, device used for the measurement of flow over a period of time, commonly installed on residential properties.

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Witness:		Witness:	



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PSLF 3 MATERIALS

PSLF 3.2 STOP TAPS AND METERS

REPLACE SUB CLAUSES 3.2.1 WITH THE FOLLOWING:

PSLF 3.2.1 Stop Tap

PSLF 3.2.1.1 Stop Tap Type-1

“15mm up to 25mm Stop Tap shall be closed by means of a plastic ball valve and shall be SANS 16135 approved and listed as an JASWIC approved valve.

PSLF 3.2.2 Meter

PSLF 3.2.2.2 Contractor to source meter

“15mm diameter STS Pre-payment water meter as per the JW Metering Guidelines”

Meter Supplier to be approved by JW prior to sourcing of meters and Supplier meters to be tested by JW prior to installation.

PSLF 3.5 VALVE AND METER CHAMBER

DELETE SUB CLAUSES 3.5.1 to 3.5.3 AND REPLACE WITH THE FOLLOWING:

PSLF 3.5.1 Meter Chamber

“Contractor to source STS Pre-pay water domestic water meters.”

PSLF 3.5.2 Stop Tap Chamber

“Stop Tap Chamber shall be installed below ground with the lid level with the natural ground leve and UV Stable classified.

Stop Tap chamber characteristics:

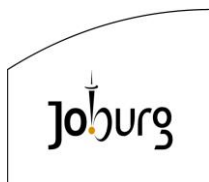
Body : Black Polypropylene (PP)
Lid : Blue Polypropylene (PP)
Size : 150mmDN, Height ±160mm

PSLF 5 CONSTRUCTION

PSLF 5.5 INSTALLATION OF METER AND STOP TAPS

REPLACE SUB CLAUSES 5.5.1 WITH THE FOLLOWING:

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Witness:		Witness:	



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PSLF 5.5.1 “Pre-pay consumer meter and installation”

The Contractor shall supply pre-pay water meter, which shall include meter box and cover, meter and all couplings to connect to yard and/or erf connections all preassembled and shall be deemed as free issue.

Water meter boxes shall be collected from an approved meter Supplier and tested prior to installation.

All new meter details such type, size, serial number and coordinated location shall be noted and presented to the Engineer in a single report.”

PSLF 5.5.2 Stop Taps

REPLACE SUB CLAUSES 5.5.2 WITH THE FOLLOWING:

“Provision and installation of stop tap on existing and new yard connections. The Contractor shall provide and install consumer valve boxes, complete with stop tap and couplings. The stop tap shall be provided in a box to be installed below ground with lid level with the natural ground level and no more than 500 mm on the outside next to the property boundary, unless otherwise instructed by the Engineer.”

ADD THE FOLLOWING SUB-CLAUSE:

PSLF5.8 “LABOUR-INTENSIVE CONSTRUCTION METHODS

Where any portion of works is to be executed by means of labour-intensive construction methods, the Contractor shall not utilise any mechanical equipment, plant or vehicles. Only hand-held or hand-powered equipment such as picks, shovels, crowbars, wheelbarrows, tampers and the like shall be utilised in all excavation, compaction and transport operations. Where intermediate material is encountered during the excavation process, this shall be removed using hand-held and hand operated pneumatic drilling and breaking equipment.

PSLF 7 TESTING

PSLF 7.3 METER TESTING

PSLF 7.3.2 Site Testing

REPLACE SUB CLAUSES 7.3.2 WITH THE FOLLOWING:

PSLF 7.3.2.1 “Pre-pay Consumer Meter Testing

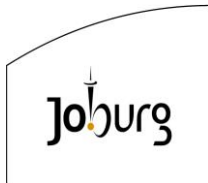
The Contractor to test the pre-payment consumer meter unit after installation and provide a signed customer “Happy Letter” after testing and commissioning of the meter.

PSLF 8 MEASUREMENT AND PAYMENT

PSLF8.2 SCHEDULED ITEMS

ADD THE FOLLOWING NEW SUBCLAUSE:

Employer:		Contractor	
Witness:		Witness:	



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PSLF 8.2.9 Illegal erf connection locating & removalUnit: No

Rate to include all costs associated with the locating and disconnecting of illegal erf connections. This includes the material required to disconnect the illegal erf connection

PSLF 8.2.10 Erf Connection provision & Installation.....Unit: No

Rate to include the costs of supplying and installing erf connections as per description provided. The material for the erf connections to be HDPE PE 100.

All erf connections HDPE

- a) Single short erf connections
- b) Double short erf connections
- c) Single long erf connections
- d) Double long erf connections

PSLF 8.2.11 Horizontal Drilling Long Erf Connections.....Unit: m

The rate shall include the complete (labour, qualified operators, material, plant and equipment) cost for the successful drilling of the long erf connections, installation and supply of pipes of various diameters, jointing of pipe, launching and reception pits. The rate shall also include the provision and operation of all equipment and accessories, provision and application of all materials, safety equipment (including that required for the Employer's Agent or his duly authorized representative's sole use), traffic accommodation and testing and reporting.

Supply and installation of pipe through horizontal drilling

- a) 20 mm diameter HDPE pipes
- b) 25 mm diameter HDPE pipes
- c) 32 mm diameter HDPE pipes
- d) 40 mm diameter HDPE pipes

PSLF 8.2.12 Ball Valves.....Unit: No

- a) Provision and installation of ball valves on existing and new erf connections less than 500mm deep.

The rate shall cover the supply and installation of ball valves to fit HDPE PE100 pipes for depths not greater than 500mm.

- b) Provision and installation of ball valves on existing and new erf connections more than 500mm.

The rate shall cover the supply and installation of ball valves to fit HDPE PE100 pipes for depths greater than 500mm.

Employer:		Contractor	
Witness:		Witness:	



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PORTION 3: PARTICULAR SPECIFICATIONS

PA : SMALL DIAMETER PIPEWORK WITHIN ERVEN
PD : EMPLOYMENT AND TRAINING OF LABOUR
PO : EXTRA OVER FOR OCCUPATIONAL HEALTH & SAFETY
PF : JOHANNESBURG WATER METER SPECIFICATIONS AND METER TECHNICAL SUPPORT

PORTION 3: PARTICULAR SPECIFICATIONS

PA SMALL DIAMETER PIPEWORK AND ANCILLARY WORK WITHIN ERVEN

PA 1 SCOPE

This specification covers the installation of small diameter pipework and plumbing fittings from the boundary of an erf to and includes ancillary work associated with the retrofitting within.

PA 2 INTERPRETATIONS

PA 2.1 DEFINITIONS AND ABBREVIATIONS

PA 2.1.1 Fitting: A special or any item which connects two or more pipes and/or specials together and which may perform some other function.

PA 2.1.2 Special: Any pipe other than a straight pipe including all sizes and types of specials such as bends, tees and reducers.

PA 2.1.3 Meter unit or meter box: A pre-assembled unit comprising a water meter (or an allowance therefor) and a stop tap on the inlet side with inlet and outlet connections to fit HDPE piping, all contained in a plastic surface box.

PA 2.1.4 Holderbat: A nylon or polypropylene pipe support clip with a fixing plug and screw complete with closure hood or a malleable cast iron pipe support with a metallic strap screwed to the pipe support.

PA 2.1.5 Compression pipe fitting: A pipe fitting which may be jointed to pipes by the compression of a ring or sleeve on the wall of a pipe, with or without additional elements.

PA 2.1.6 Push Fit fitting: A pipe fitting which may be jointed to pipes by simply pushing the pipe into the fitting.

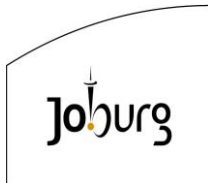
PA 2.1.8 Pipe joint assembly: Compression, threaded or socked welded fittings or a combination thereof jointed to each other and/or to segments of pipes.

PA 3 MATERIALS

PA 3.1 PIPES, FITTINGS AND TAPS

All Materials, pipes, fittings, components and fixtures used in the replacement must meet SANS (when applicable the supplier must be able to provide proof that the component

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Witness:		Witness:	



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complies to the relevant SANS standard) and must be listed on the JASWIC acceptance list.

PA 3.1.1 PIPE MATERIAL FITTINGS

PA 3.1.1.1 Malleable Cast Iron Pipe and Fittings

Malleable cast iron pipes and fittings threaded and shall comply with the relevant requirements SANS 62 and SANS 14

PA 4 CONSTRUCTION

PA 4.1 Pipe Laying for Yard Connections

All Trenches for yard connections shall have a nominal width of 300 mm and shall be 450 mm deep.

Backfill material shall be selected so that the bedding material and the backfill material to 100 mm above the pipe is free of stone particles larger than 20 mm in size.

All compactions shall be undertaken with hand stampers. The backfill material shall be watered and well rammed to the approval of the Engineer. Portions of the trench containing pipe fittings may not be backfilled before the pipe installation is tested and approved by the Engineer.

PA 4.1.1 Pipe laying in trenches

Pipes in trenches shall be laid to straight lines and as far as possible. HDPE piping may deviate in direction to suite site conditions, no pipe shall be bent / flexed more than 30deg.

HDPE pipes shall be cut square only with an approved pair of pipe cutters. Care must be taken to ensure that no sand, sediment or foreign matter enters the pipe whilst it is being installed.

In order to minimise pipe wastage, any off cuts longer than 5,0 m may be reused on appropriate sections.

The Contractor shall at all times minimise the need to join several sections of pipe, this is to minimize the risk of future leaks on joints.

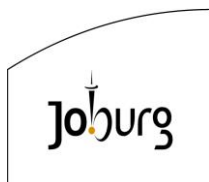
PA 4.1.2 Pipes above ground

Pipes supplied from straight lengths (as opposed to coils) shall be laid to straight horizontal and vertical lines and securely fixed to walls by means of holderbats located at the positions shown on the drawings or as directed.

PA 4.1.3 Shutting off water to erven

The Contractor will be permitted to shut off water to erven only between 08:30 and 16:00 on weekdays and shall give the owner, or occupier, a minimum of 48 hours' notice of his intention to temporarily disconnect the water supply. The Contractor shall use a printed notice approved by the Engineer for this purpose.

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Witness:		Witness:	



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PA 4.2 Re-instatement of Paved Areas and Gardens

PA 4.2.1 General

Where paved areas are affected by pipe laying operations, the affected paving must be removed and, after the trenches have been backfilled, reinstated. The Contractor shall remove paving with care so as to preserve the materials for re-use. In the case of tarmac paving, the edges shall be neatly cut and trimmed to straight lines.

PA 4.2.2 Concrete paving

Where pipes are to be laid beneath cast in-situ concrete paving, the Engineer shall examine the paving together with the Contractor and determine whether the concrete is to be cut by hand or by machine.

If the concrete is to be cut by machine, the Contractor shall make neat saw cuts in the concrete, not less than 75 mm deep. Generally, two parallel saw cuts, 300 mm apart and centred on the pipe route will be required. Near structures, only one saw cut, approximately 300 mm from the structure, may be provided. The Contractor shall carefully break out the concrete, without damaging the edges of the remaining concrete.

Where the concrete is to be cut by hand, the edges shall be neatly cut and trimmed to straight lines.

PA 4.2.3 Gardens

If for reasons as agreed by the Engineer, damage to gardens (lawns and vegetation) is unavoidable, the Contractor shall make good for damages caused. The lawn shall be replaced with instant lawn patches and shrubs shall be replaced with the same type that has been removed.

If a resident request that a certain TOOLS & EQUIPMENT be preserved, then the Contractor shall remove and reinstated as soon as possible.

PA 4.3 Installation of Valves and Taps

Valves shall be installed with the arrow on the body of the tap or valve pointing in the direction of flow. A new tap will be installed only if the existing tap is unrepairable.

PA 4.4 Installation of Holderbats

Holderbats shall be either set and screwed into close tolerance holes drilled into the bricks with an approved masonry bit or caulked with a sand/cement mixture in oversized holes, as appropriate. Holes in masonry bed joints will not be permitted.

PA 4.5 Threaded Pipes and Fittings

Male threads of threaded pipes and fittings shall be covered with an approved PTFE jointing tape.

PA 4.6 Connection of Water Supply to Erven Plumbing

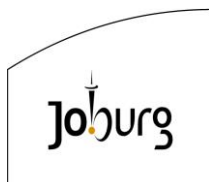
PA 4.6.1 General

The pipework between the existing pipes serving the erven from the road reserve shall be executed in accordance with the drawings.

PA 4.6.2 Connection at house or outbuilding

After closing off the supply, the galvanised steel piping below the ground where the connection is to be made shall be cut and removed. Thereafter, HDPE piping and

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Witness:		Witness:	



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compression fittings shall be installed as detailed on the drawings or as directed by the Engineer.

PA 4.6.3 Connection at tap

After closing off the supply, the above-ground galvanised steel piping leading to the tap shall be removed. HDPE piping and compression fittings shall be installed underground as detailed on the drawings or as directed by the Engineer. HDPE shall not be used above ground. Thereafter the pipework leading to the tap which was removed shall be installed.

PA 4.6.4 Commissioning of plumbing

After the abovementioned connections have been completed to the satisfaction of the Engineer, the Contractor may prepare to turn the road reserve supply on. He shall open the taps on the erf to bleed the system of air and thereafter turn the new supply on permanently.

PA 4.6.5 Illegal erf/yard connections and/or bypasses locating and removal

The Contractor shall while executing the Works, identify and indicate to the Engineer all illegal erf/yard connections. Only on instruction from the Engineer the Contractor shall disconnect and plug or repair all the identified illegal yard connections.

PA 4.6.6 Yard connection provision and installation

Yard connection shall be defined as the section of pipe from the erf boundary to the first on-property draw-off connection or building, whichever is the shortest. Yard connections will be defined by pre-set length increments for the provision and installation of 20, 25 and 32mm diameter HDPE yard connections for:

- a) 0 – 10 m,
- b) 0 – 20 m, and
- c) exceeding 20 m.

PA 4.7 Locating and Exposing of Meter Bypass on Existing Yard Connections

The Contractor shall locate, expose and assess all the bypassing of meters on existing yard connections if any. Replacement, and thus payment, shall only be executed with the prior approval of the Engineer. Where no such approval was obtained the Contractor shall not be reimbursed by the Employer nor allowed to remove such connection and shall re-instate such site to its original status at the cost.

PA 4.8 Locating and Assessment of Existing Yard Connections

The Contractor shall locate, expose and assess the condition of all existing yard connections. Depending on the extent of the damage or deterioration, connections shall either be repaired or completely replaced. Replacement, and thus payment, shall only be executed with the prior approval of the Engineer. Where no such approval was obtained the Contractor shall not be reimbursed by the Employer nor allowed to remove such connection and shall re-instate such site to its original status at the cost.

PA 4.9 Locating and Disconnecting of Existing Water Supply

The Contractor shall in some circumstances be required, on instruction of the Engineer, to disconnect existing customers by locating and securely disconnecting the joint between the erf and yard connection within the road reserve. Such activity shall be required for pipes of various materials and for diameters up to and including 25mm.

PA 4.10 Locating and Re-Instatement of Existing Yard Connection Where Disconnected

The Contractor shall in some circumstances be required, on instruction of the Engineer, reinstate existing customers by locating and connecting the joint between the erf and yard

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Witness:		Witness:	



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connection within the road reserve. Such activity shall be required for pipes of various materials and for diameters up to and including 25 mm.

PA 4.11 Leak Free Test

Leakage detection tests shall be performed for a minimum duration of 5 minutes, utilizing the best suited or combination of approved methods available, by the Contractor

PA 3.1.1.2 High Density Polyethylene Pipes

HDPE pipes shall be SANS ISO 4427 Class PN16, PE100 SD11 and fittings shall comply be compression fittings as per SANS 14236

PA 3.1.1.3 Plain-Ended Solid Drawn Copper Tubes for potable water

Pipes shall comply with SANS 460 and be Class 1B and fittings shall comply SANS 1067-1

PA 4.12 SUPPLY OF TOOLS & EQUIPMENT

PA 4.12.1 GENERAL

The Contractor shall provide all tools and equipment required to install pipework in accordance with this specification. The Contractor shall only use tools that are approved by the Engineer. Any materials that are damaged by the use of non-approved implements or tools will be rejected and the replacement cost shall be borne by the Contractor.

PA 4.12.2 Compaction equipment

All compactions shall be carried out with hand stampers.

PA 4.12.3 Specialised tools and equipment

The Contractor shall supply all specialised tools and equipment which, in the opinion of the Engineer, are required to machine cut concrete and reinstate paved areas.

PA8 MEASUREMENT AND PAYMENT

PA8.2 Scheduled items

PA8.2.1 *Yard Connection excavation and rehabilitation as per SABS 1200PSLF*

PA8.2.2 Pipework

Pipe work between the house and the meter will be dealt with as described below.

Intervention criteria:

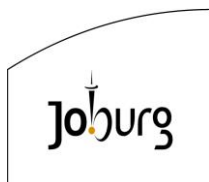
- a) Damaged or corroded pipework that does not facilitate the connection of plumbing fittings and could result in water wastage, shall be replaced. No wrapping shall be required for underground installations (unless otherwise directed by the Engineer).
- b) Pipes shall be fixed to masonry walls with suitable brackets (dissimilar metals shall not be in contact with each other).
- c) At joints white tape shall be used with all fittings.

Specification

The Contractor shall cut or remove and dispose of defective section of pipe as per above replacement criteria and provide, install and test new pipe sections for diameters up to 25 mm of various materials.

Measurement and payment..... Unit: m.

Employer:		Contractor	
Witness:		Witness:	



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The rate shall include the cost to supply, transport, handle, removal of existing (if any) and disposal, installation and testing of pipe up to and including 25mm diameter and cleaning of work area for:

- a) High Density Polyethylene Pipes SANS ISO 4427 Class PN16, PE100,SD11) HDPE, and

PA8.2.3 *Extra-over items 8.2.2 for specials and fittings* Unit: No
 Additional fittings required not scheduled for use prior to conducting the work with the approval of the engineer.

PA8.2.4 *Installation of Downstream Gate Valve*
 The rate shall cover the cost for supply and installation of a 15mm gate valve after the meter..... **Unit No.**

PA8.2.7 *Make good and replacing all types all of tiles and removing*.....Unit: m²
 The rates shall cover the cost of replacing all types of tiles to the satisfaction of the Engineer.

PA8.2.8 *Make good and replacing for breaking up and removing all types of brickwork and plaster*Unit: m²
 The rates shall cover the cost of replacing all types of brickwork including plaster to the satisfaction of the Engineer.

PA8.2.9 *Provision and installation of a standpipe (LOS2) complete as per applicable drawing*.....Unit: Prime Cost
 Rates will be requested to cover provision and installation of standpipes.

PA8.2.10 *Installation of standpipe (LOS2) from temporary storage complete*.....Unit: Prime Cost
 Rates will be requested to cover provision of standpipes from temporary storage.

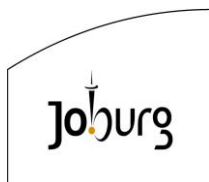
PA8.2.11 *Standpipe (LOS2) removal and storage*.....Unit: Prime Cost
 Rates will be requested for removal of standpipes and storage.

PA 8.2.12 *Illegal erf/yard connections and/or bypasses locating and removal*. Unit: No
 The rate shall include the cost for locating, exposing, disconnecting, plugging of illegal connections, including excavation in all materials, cutting into pipes of all material and size (up to 25 mm diameter), backfilling and compaction.

PA 8.2.14 *Locating and expose meter bypass on existing yard connections*. Unit: m
 The rate shall include the cost for locating, exposing through excavation in all materials, assessing the condition of the pipe by visual inspection, backfilling, compaction to 90 % Mod AASHTO density and reporting on findings to the Engineer.

PA 8.2.15 *Locating and assessment of existing yard connections*. Unit: No
 The Contractor shall locate, expose and assess the condition of all existing yard connections. Depending on the extent of the damage or deterioration, connections shall either be repaired or completely replaced as per the scope of works. Replacement, and thus payment, shall only be executed with the prior approval of the Engineer. Where no such approval was obtained the Contractor shall not be reimbursed by the Employer nor allowed to remove such connection and shall re-instate such site to its original status at the cost.

Employer:		Contractor	
Witness:		Witness:	



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The rate shall include the cost for locating, exposing through excavation in all materials, assessing the condition of the pipe by visual inspection, backfilling, compaction to 90 % Mod AASHTO density and reporting on findings to the Engineer.

PA 8.2.16 Locating and disconnecting of existing water supply. Unit: No
The Contractor shall in some circumstances be required, on instruction of the Engineer, to disconnect existing customers by locating and securely disconnecting the joint between the erf and yard connection within the road reserve. Such activity shall be required for pipes of various materials and for diameters up to and including 25mm.

The rate shall include the cost for all resources and materials, preparation work (locating and excavation) and the execution of the activity as described above and the re-instatement of the excavation through backfilling, compaction, levelling and cleaning.

PA 8.2.17 Provision and installation of Yard Connections..... Unit: Prov Sum
The Contractor shall in some circumstances be required, on instruction of the Engineer, reinstate existing customers by locating and connecting the joint between the erf and yard connection within the road reserve. Such activity shall be required for pipes of various materials and for diameters up to and including 25 mm.

The rate shall include the cost for all resources and materials, preparation work (locating and excavation) and the execution of the activity as described above and the re-instatement of the excavation through backfilling, compaction, levelling and cleaning.

PA 8.2.19 Leak free test. Unit: No
Leakage detection tests shall be performed for a minimum duration of 5 minutes, utilizing the best suited or combination of approved methods available, by the Contractor.
The rate shall include the cost for all resources and materials, preparation work (locating and excavation) and the execution of the activity as described above and the re-instatement of the excavation through backfilling, compaction, levelling and cleaning.

PA 8.2.20 Preparation and delivery of notice to owner. Unit: No
The Contractor shall prepare and deliver notices to property owners and residents.

PA 8.2.21 100% pre-intervention survey on customer properties Unit: No
The Contractor shall carryout a pre-intervention survey on customer properties and the results shall be presented to the Engineer before any work is carried out on property plumbing. A list of all items to be fixed on each property shall be presented.

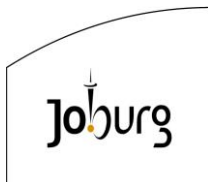
PA 8.2.22 Provision and installation of on-property plumbing retrofitting Unit: Prov Sum
The Contractor will be required to subcontract Local SMMEs to carry out all the retrofitting work.

PD EMPLOYMENT AND TRAINING OF LABOUR

PD 1 SCOPE

This specification covers the requirements for the employment and training of workers on the Contract.

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Witness:		Witness:	



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PD 2 COMMUNITY LIAISON OFFICER (CLO)

The Project Steering Committee will identify a Community Liaison Officer (CLO) to facilitate liaison between the Contractor and the community and amongst other things to ensure that the employment of local labour proceeds smoothly.

All decisions regarding identification and hiring of labour, relieving labour of their duties, local problems and any other matter of local importance related to the Contract, will be made in consultation with the CLO.

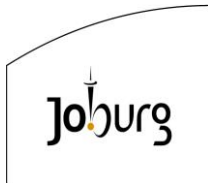
PD 2.1 APPOINTMENT, OFFICE AND REPLACEMENT OF CLO

- The CLO will be appointed for the duration of the construction phase of this Contract.
- The CLO will occupy his own office in the Contractor's camp from where he will fulfil his duties to identify, screen and nominate labour from the community in accordance with the Contractor's requirements.
- The CLO will communicate with the Contractor daily regarding labour requirements.
- Should it become apparent that the appointed CLO fails to meet his duties, he may be relieved from his duties and replaced by a new CLO in consultation and approval with the Project Steering Committee.
- One CLO will be appointed per ward from the time that work starts in that ward until all work in that ward has been completed.

PD 2.2 DUTIES OF THE CLO

- He/she will attend all meetings of the committee pertaining to this Contract.
- He/she will be available on site daily between the hours of 07:30 and 18:30, and at other times as the need arises.
- He/she will consult with the Contractor and the Engineer daily to determine the labour requirements regarding amount and skills, to identify possible labour disputes, and to inform local labourers timeously when they will be relieved.
- He/she is responsible to screen candidates, to inform them of their conditions of temporary employment and to ensure their timeously availability.
- He/she will ensure that all workers who are involved in activities where productivity rates have been agreed, are fully informed regarding the expected level of productivity for the given tasks to be assigned as part of this Contract.
- He/she will attend disciplinary proceedings to ascertain that hearings are fair and reasonable.
- In consultation with the Contractor, he/she will determine the needs of the local labour for relevant technical training. Again he/she will be responsible for the identification of suitable trainees. He/she will also be required to attend some of the training sessions.
- He will keep a daily written record of his interviews and community liaison.
- He/she will attend the first part of the monthly Contractual site meetings to report about the local community labour involvement as well as any other relevant problem that needs attention.
- He/she will liaise regularly with the Project Steering Committee to ensure that their co-operation is obtained, and their decisions accommodated. He/she will thus act as a liaison officer between the Contractors on site and the local community through the project committee.
- He/she will be involved in all SMME related matters (Contracts, terminations etc)

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Witness:		Witness:	



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PD 2.3 SUMS STATED PROVISIONALLY

The sum shall be guided by PSA 8.5 Sums Stated Provisionally by Employer's Agent.

PO 1 EXTRA OVER FOR OCCUPATIONAL HEALTH & SAFETY

PO 1.1 SUPPLY OF ALL ITEMS OF PERSONAL PROTECTIVE CLOTHING/EQUIPMENT & ENSURE USE THEREOF FOR FULL COMPLIANCE

This item shall cover only the items pertaining to the provision of the following items for local SMME staff only:

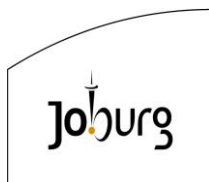
- a) Steel toe capped safety boots..... Unit: No
 - b) Appropriate protective clothing..... Unit: No
 - c) Safety Gloves..... Unit: No
 - d) Colour coded hardhats..... Unit: No
 - e) Induction tags /cards..... Unit: No
 - f) Luminous high visibility safety vests..... Unit: No
 - g) Additional items: Contractor to specify..... Unit: No
- (To be approved by the Engineer)

BARRICADING

-) Supply & install Proper Safety Nets, including removal upon completion to ensure full compliance to legislation
-) Rigid type barricading
-) Additional items: As specified by the Engineer

The rate to include the total costs of supply, delivery and handling of the protective clothing and equipment. Compliance with the OHS Act and the JW OHS approved specification to be ensured in the procurement of the above-mentioned items.

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Witness:		Witness:	



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PF: JOHANNESBURG WATER PREPAID METER SPECIFICATIONS AND TECHNICAL SUPPORT

PF 1 METROLOGY ACT

All prepayment water meters manufactures/suppliers must comply with SANS 1529 (various parts) and must be approved in terms of Section 18 of the Legal Metrology Act No. 9 of 2014 and Regulation 80 of Part II of the Trade Metrology Regulations, unless exempted.

PF 2 METER SUPPLIER CERTIFICATES

The contractor to submit the following certification from their selected Meter Supplier to JW 's Employer's Agent for approval prior to supply of meters for installation:

- National Regulation for Compulsory Specifications (NCRS) Type Approval certificate
- South African National Accreditation System (SANAS) accreditation certification, schedule of accreditation with SANS 1529-9
- NRCS certificate of Designation for Manufacturers Laboratory
- NRCS certification for Laboratory Officer(s)

PF 3 Scope

This section covers specifications for the STS prepayment water meter, Meter communication, Training, meter demonstration and required meter Technical Support during project implementation.

The contractor is required to source and supply meters from an approved supplier by JW. Only one meter type (supplier) will be used for the Contract. The Supplier's meters must conform to the specifications and requirements below.

PF 4 INTERPRETATION

PF 4.1 DEFINITION AND ABBREVIATIONS

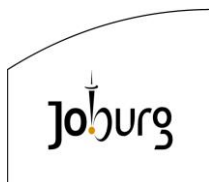
CIU	: Customer Interface Unit
IOT	: Internet of Things
FBW	: Free Basic Water
ESP	: Expanded Social Package
KPI	: Key Performance Indicators
MBU	: Meter Box Unit
AMI	: Advanced Metering Infrastructure

PF 4.2 METER SPECIFICATIONS

Water meters must comply with SANS 1529 (various parts) and must be approved in terms of Section 18 of the Legal Metrology Act No. 9 of 2014 and Regulation 80 of Part II of the Trade Metrology Regulations, unless exempted.

- a) All meters must be tested in a SANAS accredited laboratory in compliance with the SANS 10378. This test laboratory must be owned by the manufacturer and be situated within the borders of South Africa.

Employer:		Contractor	
Witness:		Witness:	

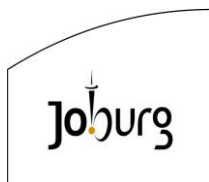


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- b) Operate in varying modes that include prepayment, open and dispense modes
- c) The meter must be fitted with Non return valve, Shut off Valve and strainer.
- d) All water meters offered and accepted must be accompanied by a calibration or verification certificate as applicable when delivered. The calibrations or verification certificates must show at least the following relevant details
- o Date and validity of calibration or verification
 - o Test procedure number
 - o Accrediting authority and accreditation number
 - o Meter make & model
 - o Meter number
 - o Meter nominal bore and permanent flow rate
 - o Pressure test
 - o Test results in the case of calibrations
 - o Traceability
 - o Uncertainty of measurement.
- e) Each water meter shall be clearly and indelibly marked with the following information
- o Manufactures name or trade name or registered trademark and model of the meter
 - o Permanent flow rate, in cubic meters per hour
 - o Unique serial number
 - o Direction of flow, applied to the body of the meter and indicated for example by an arrow
 - o An indication of the orientation of mounting (horizontal or otherwise)
 - o Metrological class C
 - o Nominal working pressure in kPa
 - o Pressure loss (either the group, or in kilopascals)
 - o Nominal bore of the meter in mm
- The hinged cover of the water meter dial shall not be used for this purpose, nor shall these markings be on any material that can degrade with time and cannot withstand harsh environmental conditions.
- The meter serial number should be readable from the same position as the dial.
- Additionally, all meters that shall become part of the JW meter stock must have a "JW" mark on the meter which shall be clear and indelible.
- f) the meter can either be of a volumetric type or ultrasonic type in nature fitted with non-return valve a, shut off valve and strainer.
- g) SANS standards SANS1529-9:2008 tested and approved
- h) Automatic disconnection of flow when a temper event is recorded

Employer:		Contractor	
Witness:		Witness:	



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- i) The meter must be STS approved and certified
- j) Meter minimum battery life span of 5 years life expectancy and minimum of 2 years warranty by the Supplier.
- k) CIUs and/or the STS meter that communicates through the internet of things (IOT) network
- l) Meter to have a remote communication functionality through AMI system, please see PF24 below.
- m) Housing options: Pillar box, above ground unit as well as a wall mount box all with the necessary plumbing for easy replacement of existing meters.
- n) Prepayment tokens to use numeric tokens compatible to IEC 62055-41, IEC 62055-51
- o) Meters must be STS edition 2 ready as per STS Association TID roll over.
- p) The meter must have the ability to switch remotely by JW from conventional mode to prepayment mode.
- q) Meter must have a Bar Code that can be scanned to read the meter serial number, and the Contractor will be required to supply the Scanners.
- r) The meter must have Internet of Things (IOT) Capability
- s) The meters should be programmed to KRN2.

PF4.2.1

FUNCTIONALITY

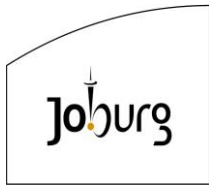
- Operate in prepayment, open and dispense modes
- Capability to switch to prepayment mode remotely
- Two –way communication between the meter and vending platform
- Full calendar clock
- Remote reading of all meter alarms including battery and tamper alarm
- It must be able to alert if they is a possible by-pass
- Tamper alarm shall be time stamped
- Consumption and available credit readings
- CIU control and keyboard input

PF4.2.2

CONSTRUCTION

- Robust construction
- Preferably no brass should be used
- Physical tamper protection
- Magnetic tamper proof

Employer:		Contractor	
Witness:		Witness:	



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- Entry pipe 15-25mm
- Environmentally sealed
- Field replaceable battery with at 5 years lifespan

PF4.2.3

DATA STORAGE/COLLECTION

- Consumption registers
- Hourly consumption profile
- Tamper log (time tagged)
- Prepayment token log
- Alarms e.g. battery, leaks detected
- Used water dispensed
- Remaining water

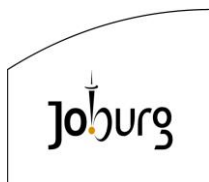
PF 4.3

CIU (CUSTOMER / USER INTERFACE UNIT)

Every supply point shall be equipped with a customer interface unit as a communication device. This unit shall be mounted in the customer residence and shall have the following capabilities:

- Display consumption volumes in KL for the relevant customer's meter
- Display remaining water credit
- Keypad to enter numeric credit token
- have a waterproof and dustproof keypad.
- be user friendly with simple uncomplicated start up and shut down procedures
- have a built in battery with charge level indicators
- be rechargeable not less than 3.0V, using the supplied adapter
- once fully charged, have a battery life of minimum 24 hours on continuous operation
- Tamper Icon
- Meter Totalizer
- Battery low icon
- Valve open or closed icon
- Free Water available in KL
- Free Water Used in KL
- Meter Lock (close valve)
- Messages from the utility
- Water leak indicator

Employer:		Contractor	
Witness:		Witness:	



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PF 4.4

SHUT OFF VALVE

- A shut off valve will be fitted on every meter.
- Remote control from meter or concentrator
- Cleanable filter element
- Valve should be protected against tampering.
- Valve should shut off in tampering, remote shutoff, as well as prepayment credit depleted cases.

PF 5

GENERAL CONDITIONS AND APPLICABLE STANDARDS

PF 5.1

GENERAL CONDITIONS

The “Special Condition of Contract” to be read in conjunction with the “General Conditions for Construction Works 2015 Third Edition (GCC 2015).

PF 5.1.1

Applicable National and International Standards

- a) SANS 1529-1: Water meters for cold potable water Part 1: Metrological characteristics of mechanical water meters of nominal bore not exceeding 100mm. Of particular importance to note:
 - 1) The meters and associated equipment shall be manufactured in accordance with such requirements.
 - 2) Meter accuracy shall be preferred to be in compliance with a Class C meter, but approved (in accordance with SANS approvals) Class B meters shall not be accepted.
- b) SANS 1529-9: Water meters for cold potable water Part 9: Requirements for electronic indicators used with mechanical water meters, electronic water meters and electronic prepayment water measuring systems.
- c) IEC 62055-41 and IEC 62055-51 in terms of prepayment tokens

PF 6

SPECIFIC REQUIREMENTS

PF 6.1

FREE BASIC WATER

The meter shall accommodate a daily (example: 200 litres/day) and a monthly (example: 6,000 litres/month) free basic water dispensing option. National Legislation governs this free basic water, and the meter shall accommodate the likely event of changes to the amount of free basic daily or monthly.

PF 6.2

INDIGENT WATER/EXPANDED SOCIAL PACKAGE (ESP)

The STS meter shall accommodate the:

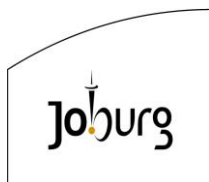
- a) dispensement of a variable Indigent Water (example: 1,000 litres), in terms of the CoJ By-laws.
- b) allocation of a specific expiry date; and
- c) likely event of changes to the amount or volume allocated.

PF 6.3

METER KPI

The Meter shall have a KPI monitoring capability that allows for tracking of:

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Witness:		Witness:	



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- a) software issues (tampering, information transfer time);
- b) operational issues (including wrong CIU, inlet blocked, no credit, retrofitting problem, did not roll-over and type error);
- c) pipe work issues (isolation valve leaks, possible user plumbing leaks, and compression fittings); and
- d) meter issues (not opening, not closing, flat battery, choking, not displaying, liquid crystal display defect, chattering, pick-up, CIU contact, and leak).

KPI tracking and reporting shall commence within 1 month from date of installation of first Contract supplied meter and shall be updated on a monthly basis until the end of the Contract Period of Performance.

PF 6.4 TRANSGRESSOR IDENTIFICATION

The meter shall have the intrinsic ability to indicate a potential transgressor, based on a percentage deviation from previous record data, such as consumption and purchase profile. The administrator shall be able to adjust such percentage (degree of deviation) as-and-when required.

PF 6.5 ENVIRONMENTAL SPECIFICATIONS

- Operating temperature range: minus 20 and plus 55°C.
- IP 67 compliant

PF 7 METER AND METER BOX UNIT (MBU)

PF 7.1 METER BOX UNIT

The MBU shall include plumbing fittings (including all pipe sections and an isolation valve, etc), connectors, the meter and the meter box.

NB: THIS MUST INCLUDE ALL PIPING AND BRACING REQUIRED FOR WALL MOUNTED INSTALLATIONS.

PF 7.1.1 Meter drawings

The Contractor's Supplier shall provide detailed drawing(s) of the MBU inclusive of any special drainage requirement. The designed and approved meter installation position shall be clearly indicated on such drawing. Drawing(s) shall:

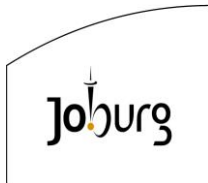
- a) have a scale and be drawn to such scale.
- b) clearly indicate all the components of the MBU supplied by the Supplier.
- c) be provided for above ground installation. The Supplier shall specify the minimum or maximum height above ground, if critical.
- d) be provided for a wall mounted installation, combined MBU and display or separate display and MBU. The Supplier shall specify the minimum and maximum:
 - 1) mounting height above ground, in addition to the fixing or securing detail, if critical.
 - 2) distance that the display unit and the MBU can be apart where such is separate, if critical.

PF 7.1.2 Fittings and Connections

The Contractor's Supplier shall ensure that:

- a) the meter shall be complete with push-fit type inlet and outlet fittings for 15-25mm HDPE pipes for domestic connections.

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Witness:		Witness:	



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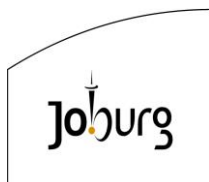
- b) all fittings and connections inside and outside the MBU are free from leaks, pressure tested and passed to a minimum of 20Bar.
- c) a SABS approved strainer, and a ball type isolation valve are included in the fittings. The valve shall be:
- 1) ergonomically and accessible; and
 - 2) robust yet easy to open or close.
- Should the valve be found not to comply with these requirements the Employer shall have the right to request the immediate replacement of the valve at the complete cost (labour, transport and material) of the Supplier. The replacement process shall not inconvenience the Employer's customers, and the Supplier shall reimburse any income lost as a result of the non-complying valve, including the replacement process.
- d) all push-fit connectors, valve and strainer shall be supplied preassembled with the meter in the MBU.

PF 7.1.3 Meter Unit Encasing

The Contractor's Supplier shall ensure that:

- a) the meter box design, fittings and connections are suitable to accommodate the meter design. There shall be no movement of meter on the horizontal and vertical planes outside a tolerance 1.5mm. Where movement in excess of the maximum is found the Employer shall require the immediate replacement of such MBUs at the expense of the Supplier. The replacement process shall not inconvenience the Employer's customers, and the Supplier shall reimburse any income lost as a result of the non-compliance, including the replacement process.
- b) the meter box lid shall:
-) be lockable by means of customer individual lock.
 -) be securely attached to the rest of the meter box at the hinges. Meter box lids shall be deemed defective where the lid is easily separated from the rest of the meter box, in the opinion of the Employer, and the complete unit shall be returned to the Supplier for rectification at his cost.
 -) allow for easy removal of the meter by the operational and maintenance staff of the Employer.
 -) be either completely constructed of a reflective material or have a reflective feature which will facilitate locating the meter in the dark and poor lighting conditions.
- c) the meter box material is robust when considering strength requirements, in light of the potential of vandalism.
- d) drainage of meter box is appropriately accommodated in accordance with the IP rating of the associated meter
- e) he shall fully disclose where the design, manufacturer and assembly of the meter box, fittings and connectors be sub-contracted by the Supplier. The Employer reserves the right to inspect such sub-Suppliers/'s facilities. The Supplier shall remain fully responsible for any quality assurance issues or delays that may arise from such sub-supplier/s.

Employer:		Contractor	
Witness:		Witness:	



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PF 7.2 METER

PF 7.2.1 General

The Employer requires a meter:

- 1) of a non-keypad-operated type, to ensure automatic two-way transfer of data.
- 2) housing designed and constructed to effectively and efficiently house and protect all electronic components.
- 3) electronic components shall be water resistant to minimum an IP67 rating.

PF 7.2.2 Branding and Labelling

The Employer requires a meter labelling that is:

- 1) durable, for example by means of a meter serial number engraved onto an aluminium plate securely fixed onto the meter body. The Supplier shall further provide other important information as required by SANS 1529-9 to be provided on the label.
- 2) contains the Employer's logo. A sample must be submitted to the Employer for approval within 10 days after Contract commencement.

PF 7.2.3 Meter Battery

The Employer requires a meter:

- 1) with have a battery with a warranted life of **no less than 5 years** powering the meter.
- 2) that can incorporate alternative power sources, which are more environmentally friendly, as additional power supply.
- 3) that can actively monitor the battery voltage level.
- 4) with easy battery replacement, in particular without the need to break the verification seal.

PF 7.2.4 Meter Error Messages Display

The Employer requires meters that incorporate features that shall display signals through operational layout.

PF 7.2.4.1 Meter display (Liquid Crystal Display (LCD))

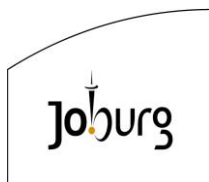
The Employer requires a meter with a LCD:

- 1) General:
 - i) The correct sequence of displayed information shall be decided in conjunction with the Employer.
 - ii) The information shall preferably be preceded by a short description.
- iii) A scroll-down cycle time of 70 seconds shall be provided, however, if this cannot be complied with then an incremental time of minimum 10 seconds shall be accepted. The final scroll-down cycle time shall be agreed with the Employer before the first batch of meters is delivered to the Employer.
- iv) ICONS are preferred instead of lengthy description.

PF 7.2.4.2 capable of presenting important values or text on the LCD that change in relation to consumption in flickering/flashing style.

PF 7.2.4.3 capable of displaying the following information, but not limited to and not necessarily in the same sequence, when the meter is activated:

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Witness:		Witness:	



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- i). Poor CIU contact error messages, wrong CIU error message, and wrong operational area error message.
- ii). Low battery or flat battery error message.
- iii). The current and previous month-end meter reading.
- iv). Meter's locking status shall be displayed when the CIU is introduced to the meter.
- v). Total credit currently on meter in Rand and cents value.
- vi). Rand and cent value of new (or fresh) credit transferred to the meter by the CIU.
- vii). Total Volume of purchased water available in litres for the equivalent Total Credit on the meter in Rand value relative to the applicable tariff level that the customer is on at a particular time of the month. This value shall change in relation to the transgression of consumption and progression on the tariff table.
- viii). The cost in Rand value per 1,000litre (or 1 Kilolitre) of water for a particular tariff step the customer may be at. (R/Kilolitre).
- ix). A possible or probable leak message displayed to the customer for minimum the last 6 months
- x). All meter errors or faults shall be displayed as descriptive messages and not error codes. The errors messages proposed by the Employer are included in the table below.

Table 1: Error Messages and ICONS

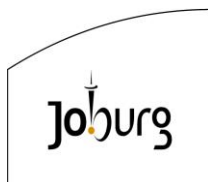
NO.	ERROR MESSAGE/WARNINGS ON DISPLAY	Description/Action/ICON
1	MEASURING TRANSDUCER	Transducer problem
2	LOW BATTERY	Low power battery warning
3	FLAT BATTERY	Flat battery warning
4	MAGNETIC TAMPER	Magnetic interference
5	PHYSICAL TAMPER	Meter penetrated
6	BAD CIU	Corrupt CIU
7	INCORRECT METER	Wrong CIU to meter
8	INCORRECT AREA	Wrong area CIU
11	POSSIBLE INTERNAL PROPERTY LEAK	Property Leak
12	PURCHASED CREDIT UTILISED	Credit Already Allocated
13	VALVE CLOSED	
14	SPECIAL CASE CUSTOMER IDENTIFIER	Indigent customer to be identified by the meter and at Point of Sale
15	MISTRANSACTION CODE	Any transactions not transferred to the meter
16	DEACTIVATED CIU	This is for a blacklisted CIU

PF 7.2.5

Defective Meter

If a defective meter is replaced for whatever reasons, the Employer shall require the following:

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Witness:		Witness:	



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- a) The new meter be paired with the CIU
- b) The customer information be collected for uploading onto the vending platform

PF 7.2.6
PF 7.2.6.1

Tampering
Meter tampering

The Employer requires a meter unit with:

- a) hardware and software components that are completely protected or sealed to prevent any access or tampering to the meter.
- b) anti-tamper features, which shall prevent the illegal removal of the meter cover (or housing) or meter unit, illegal bypassing or vandalism of the meter. Where screws or bolts are used, these shall not be able to be extracted using standard commonly available screwdrivers, allen-keys and spanners.
- c) software capable of indicating, whether such meter has been tampered.

PF 7.2.7

Special Anti-Tampering Features

have a bar coded The Employer further requires that the Supplier provides additional visual tampering features that will allow the Employer's staff to immediately determine whether the meter or MBU had been tampered. Such features shall:

- a) serial number.
- b) not be easily removed; and
- c) when removed not be able to be reinstated to its original and proper installation state.

PF 7.2.8

Meter Tampering Recording and Reporting

The Employer requires that tampering be recorded and reported in the following sequence:

- a) Meter:
 - 1) software and hardware shall be capable of sensing and recording (including the date, time, and the type of tampering) all tampering activities; and
 - 2) software and hardware shall be capable of transferring tampering recordings to the customer CIU/UIU each time such is introduced to the meter.
- b) customer CIU/UIU:
 - 1) software and hardware shall be capable of downloading and storing all tampering activities from the meter; and
 - 2) software and hardware shall be capable of transferring tampering recordings to the vending platform each time the customer CIU is use.

PF 7.3

WATER DISPENSING SEQUENCE

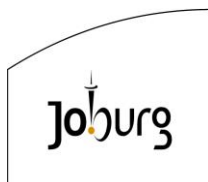
The Employer requires that water be dispensed to the customer as follows on a monthly basis:

PF 7.3.1

Indigent Water

- a) The amended CoJ by-laws require that certain customers with prepayment water meters be provided with an indigent status water allowance – that shall **ONLY** be pre-authorisable by the Employer, be a QTY that can be varied from time-to-time by the Employer and have an expiry date. Regarding the latter:
 - . If no expiry date is stated, such indigent status mode shall not be able to be transferred or activated on any meter.
 - . Immediately upon reaching the said expiry date the meter should revert to normal customer status, i.e. have all authorized water allowance with the exception of Indigent Water.
- b) Indigent Water shall not be automatically available, but only be dispensed once the customer has:
 - . applied for Indigent Water and his application therefore has been approved.
 - . been issued with an Indigent Water credit voucher or similar.

Employer:		Contractor	
Witness:		Witness:	



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- . obtained the special credits from **ONLY** CoJ or JW vendors; and
- . downloaded the special credits onto his meter.
- c) Indigent Water shall be issued on the principal as purchased free basic water, and thus not be related to any monetary-allocated tariff step.
- d) The dispensing of the total allocated 'Indigent Water' per customer shall not be compromised in any way, by the:
 - . 'roll-over', re-initialisation of the monthly free-basic.
 - . any inherent limitation of any component of the meter, e.g. Negative Credit shall not hinder access to Indigent Water.

All the meter component software shall accommodate the likely event of changes to the QTY value of Indigent Water.

PF 7.4 METER COMPATIBILITY

Meters shall be compatible to JW STS vending platform and the Supplier shall make available their unique encryption code (SGC) available to the vending platform developer to enable a two-way communication between the Supplier's device and the platform.

PF 8 STS METER USER GUIDE

The Contractor's Supplier shall provide a comprehensive meter user guide per component (limited to the vending platform, CIU and MBU) in the following three official languages: English, and two local languages (e.g. Zulu, Sesotho, Xhosa, Afrikaans, etc). Such guide shall be updated during the Contract Period of Performance, as the meter is changed, and a final version copy (in hard and soft (PDF) format) shall be made available to the Employer on issue of the Contract Completion Certificate.

The Contractor's Supplier, in consultation with the Employer, shall develop and present guides to the Employer for final acceptance within **20 days** from the Contract Commencement Date. The guides shall explain the installation, operating and maintenance requirement for each meter components in addition to any error messages and any associated customer action required.

PF 8.1 Information holders

The Contractor's Supplier shall provide professionally printed information holders to hold all manuals, guides and leaflets to be handed to customers, trainees and others. Such holder shall:

- a) be of a A4 plastic pocket type.
- b) be capable of holding at least 20 A4 pages, be of high quality and durable material.
- c) be transparent.
- d) contain on the:
 - 1) front the Employer's name and logo, JW & CoJ name and logo; and
 - 2) back Employer's customer centre contact details.

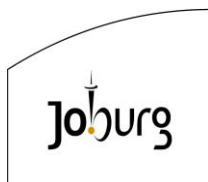
No details of the Supplier shall be provided on the holder, and the Employer shall approve the final layout of the holder.

PF 9 DELIVERY

The Contractor's Supplier must ensure that a minimum stock of 1,000 meters per day is kept. Thus, the Supplier shall be expected to adjust his resources accordingly and note that:

- a) Delivery of all goods shall be within the boundaries of the Employer's area of jurisdiction and in accordance with a phased schedule that shall be agreed between the Employer and the Supplier.
- b) No meters or MBUs that do not meet the National standards or the Employer's requirements shall be delivered to the Employer's designated Depot stores.

Employer:		Contractor	
Witness:		Witness:	



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- c) Approved illustrative 'user manuals' shall be included in the packaging with each MBU or meter. The operating instructions are to be in English, and two local Contract Area languages (e.g. Zulu and Sesotho). Details and finalisation of such manuals shall be agreed with the Supplier; however, such finalisation of the content and layout shall be concluded, with the Employer, at least one week before the first meter is replaced under this Contract.
- d) During deliveries, concise delivery records and/or notes shall be required so that batch differentiation is possible to assist in the location of all such components in case of faults/problems and the correct determination of penalty amounts. The delivery note from the Supplier shall include an electronic inventory list of all accompanying meters. This electronic file shall be:
 - . compliant to a common standard prescribed by the Employer; and
 - . able to be imported into the vending platform and/or any software program used by the Employer to record his assets.
- e) He shall provide all labour and equipment for the off-loading of goods, as the Employer's staff shall not be responsible to assist the Supplier with this activity.
- f) Prior to the delivery of the goods, arrangements shall be made by the Supplier for Employer representative to be present to receive the relevant documentation that is necessary for invoicing purposes.
- g) Deliveries of goods shall be made by road transport to the relevant sites. It shall be the Supplier's responsibility to familiarize him with the Contract area to establish the suitability of his vehicles and travel routes.
- h) He shall be held responsible for any damage caused to the Employer's property i.e. roads, kerbs, gates, etc. during delivery goods. Any repairs to damaged property shall be carried out within seven days after notification by telephone or facsimile by the Employer.

PF 10
PF 10.1

METER REPAIRS
Locality of Meter Repairs

It is noted that for reasons of security, concealment and quality control **NO PHYSICAL REPAIRS ON THE METERS AND/OR MBUs SHALL BE EXECUTED AT THE EMPLOYER'S DESIGNATED STORES OR ON A CUSTOMER'S PREMISES WHERE MBUs ARE CURRENTLY ALREADY INSTALLED AND OPERATIONAL**, specifically where such IS deemed defective after installation/use, such a meter shall be returned to the Supplier warehouse and a defective meter replaced with an approved meter.

PF 11

METER QUALITY REPORT

The Contractor's Supplier shall provide a quality report for each meter with the deliver note provided in respect to this Contract. Should such report be omitted for any component, the Employer shall return such component at the expense of the Supplier.

The report shall contain 100% of meter delivered verification certificate upon delivery of every order placed, soft copies of the certificates shall be made available upon delivery to the Employer.

PF 12

FORMAT OF COMMUNICATIONS

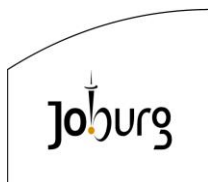
All Contract communication shall be in English and in writing.

PF 12.1
PF 12.1.1

FORMS FOR CONTRACT ADMINISTRATION
Use of Reasonable Skill and Care

The Contractor's Supplier shall exercise reasonable skill and care in respect of the services required as per the Extent of Supplies section.

Employer:		Contractor	
Witness:		Witness:	



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PF 10.1.1.1 Key Personnel

The Contractor's Supplier shall be required to allocate sufficiently experienced and dedicated personnel, including:

- f) Supervisor.
- g) Team leaders for management and coordination for meter or MBU supply, delivery and technical support.
- h) Meter support Technicians.
- i) Training of designated JW project stake holders
- j) Meter demonstrations to customers

PF 13
PF 13.1 PLANNING AND PROGRAMMING
Planning

The Contractor's Supplier shall ensure that he:

- a) is well informed with regard to the Employer's overall implementation programme for the implementation of its prepayment programme and avail resources as required to efficiently complete this Contract; and
- b) delivers good and services timeously as not to unnecessarily delay the other Supplier, service providers and Implementation Agents.

PF 13.1.1 Programming

The Contractor's Supplier shall for the Contract Period of Performance provide and regularly (maximum monthly) update a Contract Programme per area of supply of goods and services. The programme shall at minimum contain:

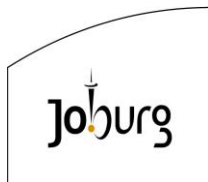
- a) **Time Scale (minimum):**
 - 1) *Days*, where the period does not exceed three months. Weeks, where the project period exceeds three months.
 - 2) *Months*, where the period does not exceed one year.
 - 3) *Years*, where the project period exceeds one year.
- b) **Tasks:** Delivery of goods, presentations and demonstrations, training and support shall be presented per active area. Where phases or stages are anticipated, this shall be the highest level of division, and all tasks related to the successful accomplishment of that phase of the area shall be grouped. Resources allocation and task dependency shall be indicated.
- c) **Multiple Area Programming:** For multiple areas of supply of goods and service the Supplier shall provide a programme per area. However, where interdependency exists the programmes shall be integrated, but divided on the highest level per area followed subsequently by further divisions per phase or stage.
- d) **Start and Finish Dates:** All tasks shall have specific start and finish dates.
- e) **Critical Path:** All tasks forming the programme line that will establish any delays in the overall Contract Period of Performance shall be clearly indicated and an indication of their sensitivity characteristics shall be provided.
- f) **Progress Tracking:** The Supplier shall be required to periodically indicate progress per task graphically and on a percentage basis.
- g) **Non-working Time:** All South African public holidays, weekends and the local traditional annual builder's break shall be incorporated in the programme.

PF 13.1.2 Resource Management

The Contractor shall.

- a) ensure proper effective and efficient management and co-ordination of support, training, demonstrations and presentations; and

Employer:		Contractor	
Witness:		Witness:	



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- b) provide a duty rooster as an indication of co-coordinated meter on-site and off-site support, which shall be accompanied by the monthly meter intervention report in this regard as item below.

PF 14

REPORTING

The Contractor shall provide a meter installation report on a monthly basis including but not limited to the following listed below:

The report shall cover the following but is not limited:

- The date and number of meters approved or rejected meters by JW Flow Lab
- Meter & CIU serial numbers per stand of meters installed per JW template
- List of stands where meter demonstration was conducted with the customer's signature
- Complaints handled for the month, template to be provided
- Attendance register of personnel trained

Failure to submit such report shall result in Employer's non-payment of the monthly invoice until all documentation has been provided.

PF 15

CONTINGENCY PLANNING

The Contractor's Supplier shall:

- a) within **14 days** after Contract commencement provide a detailed contingency plan to demonstrate contingency resources and procedures to troubleshoot during installations.
- b) be able to attend to all problems that may arise, but not limited to:
- 1) no free basic and purchased water.
 - 2) measuring transducer failure.
 - 3) depleted power sources, i.e. depleted batteries or other.
 - 4) leaking meters or meter box fittings.
 - 5) non-recording of negative credit.
 - 6) solenoid valve malfunctioning; and
 - 7) Meter and CIU failures or non-recognition of meter installation capabilities.
- c) ensure that resources in terms of people, material and testing equipment are available on-site or at the Employer's Designated store in Orange Farm.

PF 16

CONTRACT RECORD

The Contractor shall maintain a file per area of meters supplied, which shall contain:

- a) a comprehensive list detailing all the problems and corrective actions per TPS component.
- b) training and demonstration executed.
- c) penalties imposed.
- d) claims lodged and outcome.
- e) disputes and resolutions.
- f) payments and variations.

At the end of the Contract Period of Performance the Supplier shall hand-over such file(s) in hard and electronic copy format to the Employer.

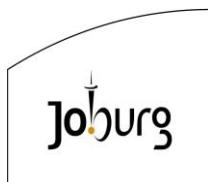
PF 17

MEETINGS

The Contractor's Supplier shall.

- a) attend a once-off Contract orientation meeting with the Employer in order for introductions to other role players and reiteration of communication channels, deliverables, and the Contract environment.
- b) during the meter installation period attend progress and quality meetings, normally held fortnightly.

Employer:		Contractor	
Witness:		Witness:	



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c) compile the minutes of the meeting with the Employer and present such minutes to the Employer within maximum 2 days from date of meeting for review, comment and acceptance.

NOTA BENE: Senior management's non-attendance of such meetings, and substitution by junior management or representation, shall not be accepted as reasons for non-performance. The Employer shall assume that senior management is well versed on the Contract activities and apply penalties with such understanding.

PF 18
PF 18.1

QUALITY PLANS AND CONTROL

Quality control

The Contractor shall ensure proper quality control of components of the meter in respect to this Contract, in the case of malfunctioning/returned meters.

PF 18.2

Record of Meter Replacements

As all repairs of meters shall only be executed at the Supplier's factory premises, this shall necessitate that the Contractor's Supplier keep an accurate and auditable record of meters and/or MBU collected from the Employer's stores and retrieved from the various customer installation sites, including:

- a) the date.
- b) the area and street name.
- c) customer stand number.
- d) whether only the meter or the complete MBU was collected or retrieved, and in instances where the complete MBU is retrieved from a customer installation the reason for such retrieval.
- e) details of technician that collected and/or retrieved the meter and/or MBU.
- f) the meter serial number; and
- g) the generation of meter, based on electronic hardware and software features, BUT approach must be consistently applied for the entire Contract.
- h) details of replacement meter and/or MBU, generation and serial number.
- i) confirmation that all customer data was successfully transferred from the current to the replacement meter, and where such was unsuccessful the reason for this, and the corrective actions taken.
- j) confirmation that the customer's CIU/UIUs operated with the replacement meter and where such was unsuccessful the reason for this, and the corrective actions taken; and
- k) confirmation that the replacement meter was demonstrated to the customer and a new information pack issued.

PF 18.3

Meter Quality Report

The Contractor's Supplier shall provide meter test report approval letter from JW Flow Lab from each order of meters provided (batch of meters tested) in respect to this Contract. Should such report be omitted, the Employer shall return such meters at the expense of the Supplier.

The report shall indicate all checks and tests performed on the component and the results of such tests.

PF 19
PF 19.1

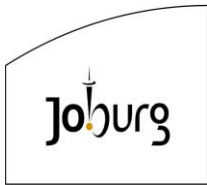
METER INSTALLATION TECHNICAL SUPPORT

On-site support

The Contractor's shall provide through their Supplier a minimum of 5-meter Technicians and one Supervisor to provide on-site support services to the Contractor and SMMEs installing STS meters and attend to all meter related queries during and after implementation of the project. Support to the construction team shall include the following but not limited:

- Managing meter errors

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- Ensure that installed meters dispense water prior to hand over to the customer
- Pairing of meters to the CIU
- Support the Contractor to compile a report of all meters installed for submission to JW's Employer's Representative for uploading on the vending platform
- Link the meter to the stand number
- Conduct Advanced Meter Infrastructure (AMI) for meters installed
- Meter demonstration to the customer

The support team must be empowered with transport, equipment, communication tools to attend to queries should be included on the rate.

This section of the specifications is to be read in conjunction with the Contract Health and Safety specifications, included as Volume 2. The following requirements shall be deemed minimum compliance requirements to ensure the health and safety of the public and workers during the execution of the Contract:

PF 19.2 After hours Support/Stand-by Support

The Contractor's Supplier shall allocate 2 technicians for stand-by to attend to meter related queries reported by customers after hours, weekends and public holidays for the duration of the Contract.

Support to the construction team shall include the following but not limited:

- Credit loading challenges
- Unlocking the meters LCD etc

PF 20 STAFF IDENTIFICATION

The Employer requires that all support staff, when on duty, at all times wear identification badges clearly identifying such staff members or as an employee of the Supplier and a contractor to the Employer.

PF 21 TRAINING

The Contractor's Supplier shall provide a well detailed and documented training course to JW project site team, the contractor, JW s Revenue and Operations departments. The training will cover the following listed below:

The course must cover the Supplier's STS meter functionality but not limited to the topics listed below:

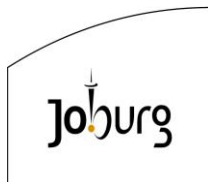
- o Meter/ valve and CIU installation/ testing
- o Fault location and repair
- o Meter errors and rectification
- o Credit loading & checking and leakages

PF 22 MEASUREMENT AND PAYMENT

PF 22.1 Scheduled items

PF 22.1.1 *Technical Support by the Contractor's Supplier*

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Witness:		Witness:	



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PF 22.2 TRAINING

The rate shall include the complete cost for provision of training per session, including other requirements as per the Scope of Works section: preparation work, communications, travelling, training equipment, presentation documentation and record keeping and presentation of certificates of competence to the trainees. A single session shall allow for minimum 20 trainees. Should the trainees be less than 20, the rate will be prorated. The unit shall be number of sessions.

PF 22.2.1 Training for Employer's staff (Site project Team, Facilitators, QCOs, QCF, CLOs) **Unit No.**

PF 22.2.2 Training for Prepayment and Revenue Departments Employees..... **Unit No.**

PF 22.2.3 Meter demonstration per stand by the Supplier's technicians)..... **Unit No.**

PF 22.3 TECHNICAL SUPPORT

PF 22.3.1 On- Site Support during construction

The rate shall include the complete cost for provision of Technicians and Supervisor to ensure meter functionality during installations of meters by SMMEs. The Supplier to provide a minimum of five (5) Technicians and one Supervisor for the Meter Supply Contract. Please refer to Clause PS 1.3 C for Technical persons qualifications.

The rate shall cover the cost of all technical persons provided Month

PF 22.3.2 After hours On- Site Support

PF 22.3.2.1 The rate shall include the complete cost for provision of two Technicians to attend to meter queries from customers after hours, weekends and public holidays. Please refer to Clause PS 1.3 C for Technical persons qualifications.

The rate shall be per meter attended to during this period.....No

PF 22.3.3 Switching of meters from Conventional to Prepaid Mode

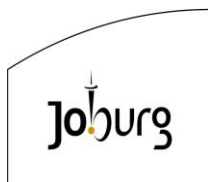
PF 22.3.3.1 The rate shall include the complete cost for switching all installed meters from conventional mode to prepayment mode remotely or individual conversion..... Rate Only

PF 22.3.4 On- Site Support after Project Completion

The rate shall include the complete cost for provision of Technicians and Supervisor to ensure meter functionality after project completion. The Supplier to provide a minimum of two (2) Technicians and one Supervisor for the Meter Supply Contract. Please refer to Clause P5.1.3 C for Technical persons qualifications.

Rate shall be per meter attended to during this period.....Unit: No

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PF 22.4 Removal of existing meters

The rate shall include the complete cost for the removal of the existing water meters, handling and delivery to the respective JW Depot.

Removal of existing meters..... Unit: No

PF 22.5 Installation of bulk water meters

The rate shall cover the provision and installation of bulk Meinecke WPD meters complete with logging facilities, specials and fittings including the construction of chamber.

Rate shall cover the supply, installation and testing of the bulk water meter..... Unit: Prov Sum

PF 22.6 Notice and warning to consumersUnit: No

The sum shall cover the full compensation and cost of supply and delivery of the notices to customers prior to meter installations.

PF 22.7 “Supply of Meter complete with couplings supplied by Contractor (Meter-IOT)
.....Unit: No

The rate shall include the cost for the supply, transportation, handling of the 15mm diameter STS Pre-payment water meter as per JW Metering Guidelines complete inclusive of couplings and Meter Box Unit (MBU).

PF 22.8 “Installation of meter per stand complete with couplings supplied by Contractor (Meter-IOT)Unit: No

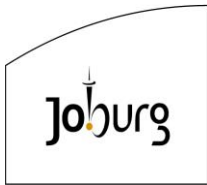
The rate shall include the cost for installation complete including minor excavations in all materials (no extra over item shall be allowed for intermediate, hard or rock materials), backfilling, compaction (minimum 90% Mod AASHTO density), cutting of existing pipe in two places, disposal of cut-off pipe, installation of water meter boxes, commissioning, listing and submitting a co-ordinated location and meter detail record to the Engineer.

The meter shall include the complete meter box unit (MBU), couplings: meter hardware, compression and/or plumbing fittings and meter box. The rate shall also include the complete cost for maintenance and operation of the meter and the CIU for the duration of not less than 2 years from date of installation.

PF 22.9 STS Customer Interface Unit (CIU)
STS Customer Interface Unit (CIU-IOT) (Supply and pairing of STS meter & Switching of meters from Conventional to Prepaid Mode).....Unit: No\

PF 22.10 ANNUAL DATA MANAGEMENT
Annual Data Management Fee IOT Network Hosting for 3 years after completion of the contract. (To cover cost for meter reading, meter performance audit and reporting) Please refer to Schedule A and B in the specifications.....Unit: No\

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REPLACE SUB CLAUSES 8.2.6 WITH THE FOLLOWING:

PF 22.11 “Supply and install Upstream Stop Tap complete with fittings on new or existing erf connectionUnit: No

The rate shall include the cost for the provision, installation of stop tap type, surface removals, excavation in all materials, cutting into pipes of all material and sizes (up to 25 mm diameter), installation of the valve, backfilling, compaction and surface reinstatements.

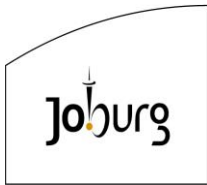
The Contractor shall provide and install consumer valve boxes, complete with valves and couplings. At most properties the existing house connections are located close to the surface, therefore the ball valve shall be provided in a box to be installed at a depth less than 400 mm into the ground and no more than 500 mm on the outside next to the property boundary, unless otherwise instructed by the Engineer.

REPLACE SUB CLAUSES 8.2.7 WITH THE FOLLOWING

PF 22.12 “Supply and install Surface Boxes complete.Unit: No

The rate shall include the cost for the provision and installation of surface box, complete as per the applicable detail drawing.

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PF 23: METERING DEVICE SOFTWARE

Employer:		Contractor	
Witness:		Witness:	



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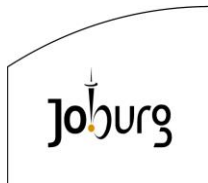


ACRONYMS AND ABBREVIATIONS

3G	Third Generation
4G	Fourth Generation
5G	Fifth Generation
AMI	Advanced Metering Infrastructure
CSV	Comma Separated Values
FTP	File Transfer Protocol
GSM	Global System for Mobile Communications
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communications Technology
ILAC	International Laboratory Accreditation Cooperation
ISO	International Organisation for Standardisation
IT	Information Technology
JW	Johannesburg Water
LDAP	Lightweight Directory Access Protocol
MDMS	Meter Device Management System
NRCS	The National Regulator for Compulsory Specifications
ODBC	Open Database Connectivity
OEM	Original Equipment Manufacturer
PC	Personal Computer
SABS	The South African Bureau of Standards
SANAS	The South African National Accreditation System
SIM	Subscriber Identity Module
SQL	Structured Query Language
UV	Ultraviolet
XLS	Microsoft Excel file extension
XML	eXtensible Markup Language
PQT	Procedural Qualification Trial
QCP	Quality Control Plan
QAQC	Quality Assurance and Quality Control
VRE	Vandal Resistant Enclosure
FBE	Fusion Bonded Epoxy
DFT	Dry Film Thickne



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1. PROJECT SPECIFICATION - SOFTWARE

DESCRIPTION OF THE WORKS

1.1 Employer's Objectives

The Employer's objective, as the water and sanitation service provider for the CoJ, is to ensure the effective and efficient metering of water being supplied to customers within his area of jurisdiction.

In accordance with the Employer's metering policy, all water consumers non-domestic or domestic on a LOS 3 must be metered. Further, all consumer meters within the jurisdiction of the Employer must at all times be in operational condition to allow for accurate consumer consumption monitoring and billing. In conjunction, meter installation and maintenance allow the Employer to record water flow data and improve the quality of his water demand and conservation strategy.

1.2 Overview of the Works

To provide an Advanced Metering Infrastructure (AMI) Solution, which uses accurate battery powered electromagnetic flow (EMF) meters with built-in data logging and transmission functionality that seamlessly interfaces with a Metering Device Management System (MDMS) that transmits meter data at predefined transmission intervals and or when pre-set events occur in the field that require timeous reporting.

The AMI solution must also provide an option to use remote battery-operated data GSM loggers that can connect to Ultrasonic flow meter for size 40mm and smaller or Electromagnetic flow meters (EMF) for size 50mm and bigger using the same MDMS by way of the original equipment manufacturer (OEM) reed switch or flow optic sensor or converter pulse output.

1.3 Document Structure

Please note that this document consists of four key areas covered under section four namely,

Schedule A – Meter Device Management System (MDMS)

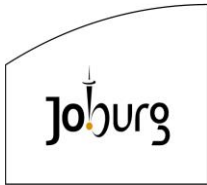
Schedule B – Supplementary Information

1.4 General Conditions

- 1.4.1 The MDMS offered must be to the specification of Johannesburg Water.
- 1.4.2 The Service Provider will be required to provide a live demonstration to the Johannesburg Water team.
- 1.4.3 The Service Provider is to provide reference letters from the equipment and software manufacturers, if they are not the Original Equipment Manufacturer themselves, that they are authorised to act as the principal supplier and or agent in South Africa.
- 1.4.4 The Original Equipment Manufacturer or the principal supplier / agent must confirm in writing that they have the experience and capacity for the supply and on-going support of such a project.



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- 1.4.5 The solution must run as a Software as a Service (SaaS) and be installed in a cloud platform in order to reduce the need for Johannesburg Water to procure and support additional hardware. Refer to Section C in the tender for further details on pricing structure, security, data storage and reporting requirements.
- 1.4.6 For security purposes and ownership of data, all raw data coming from flow meters and data loggers must be copied to an alternate cloud or local server as stipulated by Johannesburg Water (ICT Department). This data must not be encrypted, where the performance of the application will be compromised and be fully accessible to JW during and post the contract period. In the event, encryption does not affect the performance of the application, and then data must be encrypted. The supplier shall send daily incremental database updates to Johannesburg Water.
- 1.4.7 Any customer data that is collected and identified as personal data, must be secured and protected in compliance with the Protection of Personal Information Act (POPIA).

1.5 Location of the Works

The works are located within various suburbs within the boundaries of the CoJ, and within the Employer's supply and operational area. The exact locations of the works shall be included on the issued job cards.

1.6 Temporary Works

Temporary works shall:

- a) Include the works required to locate, verify and protect existing services within the works area.
- b) Be such to ensure no or limited interruption to vehicular and pedestrian traffic.

The Contractor shall further note that stockpiling of materials, plant, excavated material or any other construction related infrastructure shall NOT be allowed in locations that may interfere with the operations of the Employer and the public in general.



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2. SCHEDULE A – METERING DEVICE MANAGEMENT SOLUTION

1 Meter Device Management System (MDMS)

#	Description
1	The solution must accommodate the following: • Meter device management • On demand and scheduled meter reading • Demand side management¹ • Tampering, event and log management • Full audit history and activity log (including for transactions and system configurations) • System interoperability interface (interface protocols) • Remote tariff programming • Remote firmware upgrading In the context of the solution, Demand Side Management speaks to having visibility of water utilisation across different areas and regions and differentiating between customers, e.g. residential, business
2	The solution must cater (minimum) for the following meter device data: • Location of meter (approximation using GSM network as and when required) • Battery status
	• Device brand and model • Device firmware version • Device volumetric flow rate logged at minimum, hourly. • Device leak detection (continuous flow over 24 hours period and customisable to specific customer) • Device fault reporting • Device diagnostics • Device real-time clock • Device tampering • Device reading NB: Leak detection, tampering and meter fault to have an immediate escalation protocol.



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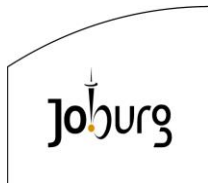


2 Software as a Service (SaaS)

Software as a Service is a software licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted.

#	Description
1	The solution must be supplied and provisioned as Software as a Service and hosted by the service provider. The annual service must include: • Secure hosting facilities (e.g. access) • Data centre management (e.g. backup power) • Hardware maintenance • Disaster recovery • Software infrastructure and maintenance (e.g. operating system, database) • Application hosting (Meter Device and Data Management application) • Application access (remote access to the application) • Application maintenance (incl. application upgrades, patches/service packs).
2	The subscription model must be based on total number of active meter devices. (pilot estimate is 1500 but the solution must scalable)
3	The solution must accommodate the following estimated user base: • Administrators x2 • Approximately 25 application users (concurrent) and scalable to 100 users
4	Data Centre Facilities and Security • Secure access to data centre site and data centre room • Guaranteed application uptime of 99.999% • Emergency power • Alternate power supply • Emergency backup • Performance scalability: ability to scale-up and scale-out. • Network performance scalability
5	Upon termination of the contract, all data stored in the database, i.e. meter device, meter data, transactional data; must be transferred to Johannesburg Water. Data format.

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Witness:		Witness:	



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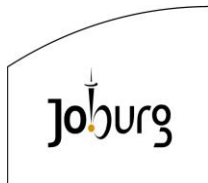
3 Automated Meter Network Infrastructure

#	Description
1	The Service Provider is responsible for the Automated Meter Network Infrastructure: hardware, equipment and connectivity, data concentrators, and head-end systems.
2	The Automated Meter Network Infrastructure must be fully compliant with the ICASA approved GSM carrier frequencies in South Africa.
3	The Automated Meter Network Infrastructure must support minimum 3G and future 4G/5G GSM carrier frequency bands.
4	The service provider will supply the Subscriber Identity Module (SIM) cards for the meter devices and administer the SIM cards, e.g. maintain a register of the SIM cards.
5	The service provider is responsible for all SIM card management and costs, e.g. subscription and data usage.
6	The GSM carrier must guarantee coverage across the City of Johannesburg Regions (Region A – Region G)

4 System Information Services and Reporting

#	Description
1	The solution has an embedded reporting engine for statistical and business reporting.
2	The solution includes a central Dashboard to access and run reports.
3	The solution includes reports on meter devices, e.g. number of meter devices, physical location, active meters, etc.
4	The solution includes reports on meter device operations, e.g. total consumption, active meters, events, etc.
5	External software can access the MDMS database to build custom reports, e.g. Microsoft SQL Reporting Services.
6	Customised reports, different views, fields, etc.

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Witness:		Witness:	



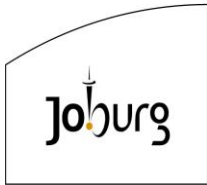
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MDMS System Administration

#	Description
1	The solution must support the ability to configure and assign user roles and profiles in the application, including the ability to create custom profiles.
2	The solution must have embedded an Administrator type role to configure and maintain the solution.
3	The solution must support the following Internet browsers: Google Chrome, Mozilla Firefox, Microsoft Edge
4	The solution must be able to export data from reports and support minimum the following file formats: XML, CSV and XLS.
5	The solution must fully support the Lightweight Directory Access (LDAP) protocol for Microsoft Active Directory Services. In addition, the service provider must interface to Johannesburg Water's Microsoft Active Directory for user access and authentication.
6	All meter device data and transactional data must be stored in a database.
7	The solution database must be Open Data Base Connectivity (ODBC) and Structured Query Language (SQL) compliant.

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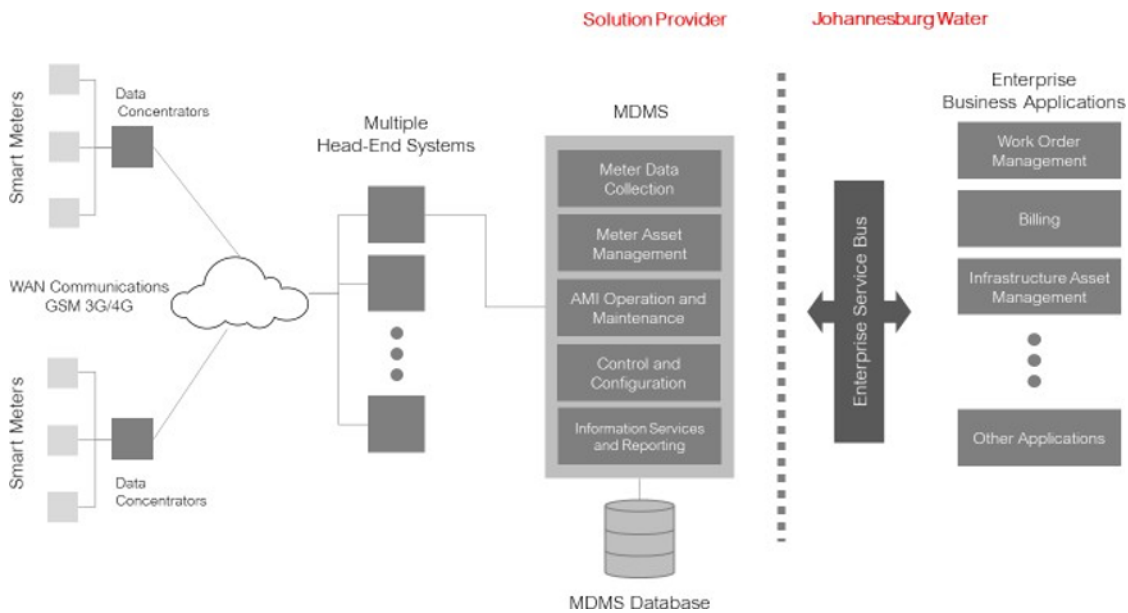


3. SCHEDULE B – SUPPLEMENTARY INFORMATION

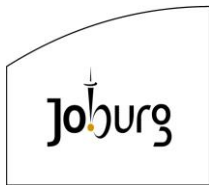
1 Solution Architecture

The entire system must operate under the SaaS agreement, except for the physical IoT flow smart devices (future).

DIAGRAM A:



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Johannesburg Water (SOC) Ltd



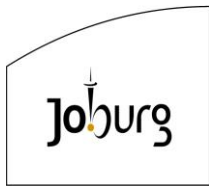
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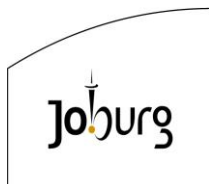
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C4 SITE INFORMATION

C4.1 GENERAL

This section describes the site at the time of tender to enable the tenderer to price his tender and to decide upon his method of working and programming and risks.

C4.2 SITE LOCATION

Soweto Orlando East and Orlando West

C4.3 ACCESS TO SITE AND RESTRICTIONS

Any permission as may become necessary shall be the responsibility of the Contractor to obtain.

Having been granted access to works areas by the Employer, and other service authorities, the Contractor shall adhere to any agreed conditions of access and ensure the works area is left in a condition similar to when it was first accessed.

The Contractor shall provide temporary access to the works as may be required by him and to the approval of the Employer's Agent.

The Contractor's staff shall be identified by either clothing bearing the contracting companies name or an identification tag, which shall be displayed when entering the site of works.

Access is to be made available to Johannesburg Water's employees to any portion of the Site whenever required.

C4.4 EXISTING SERVICES, SERVITUDES AND WAYLEAVES

The positions of known services cannot be guaranteed. On establishing on Site, the Contractor must determine the positions of all existing services in the various areas of work. The Contractor must take precautions to prevent any damage to existing services and infrastructure. Damages which might occur will be repaired at the cost of the Contractor.

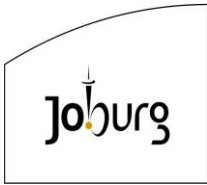
It is envisaged that wayleaves will be required.

For detailed specification the Contractor shall refer to clauses PS 1.5 (Temporary Works), PS 4.9 (Existing services), and PS 4.10 (Permits and wayleaves), Contract Part 3: Scope of Work.

C4.5 SECURITY

The Contractor shall be responsible for the security of his personnel, materials, equipment and construction plant on and around the site of the Works and for the security of his camp (if applicable). The Employer in this regard will consider no claims.

Employer:		Contractor	
Witness:		Witness:	



CONTRACT JW14506
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Refer to clause PS 18.1 (Security)

C4.6 NATURE OF GROUND AND SUBSOIL CONDITIONS

It shall be the Contractor's responsibility to acquaint himself with the conditions of the site. A geotechnical study has not been done.

C4.7 GEOTECHNICAL REPORT

A geotechnical study has not been done.

Employer:		Contractor	
Witness:		Witness:	