

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF JOHANNESBURG WATER

BID NUMBER: JW OPS 072/26: CLOSING DATE 22 July 2026 CLOSING TIME: 10:30 AM

DESCRIPTION: SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT EQUIPMENT AND MONITORING SYSTEM ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

BRIEFING SESSION	COMPULSORY :NO
BRIEFING DETAILS	DATE AND TIME: 07 JULY 2026 AT 11:00 ADDRESS : TURBINE HALL, 65 NTEMI PILISO STREET, NEWTOWN, JOHANNESBURG, 2001 VENUE : AUDITORIUM <i>Notes:</i> <i>For offsite briefings attendees are to ensure that transportation used is capable to access the gravel road for site viewing.</i>
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 THE JOHANNESBURG WATER OFFICE IN TURBINE HALL AND DEPOSIT YOUR TENDER DOCUMENT IN THE JOHANNESBURG WATER TENDER BOX SITUATED AT RECEPTION BEFORE THE TENDER CLOSING DATE AND TIME. TIMES: THE BUILDING WILL OPEN 7 DAYS A WEEK FROM 06:00AM UNTIL 18:00PM

BIDDER INFORMATION				
NAME OF BIDDER				
NO. OF DOCUMENTS				
PHYSICAL ADDRESS				
TELEPHONE NUMBER				
CELLPHONE NUMBER				
E-MAIL ADDRESS				
VAT REGISTRATION NUMBER				
TAX COMPLIANCE STATUS	TCS PIN		MAAA No	
OTHER STATUS	COIDA No.	N/A	CIDB No	N/A

EMPLOYER INFORMATION			
DEPARTMENT	Operations	DEPARTMENT	SCM
CONTACT PERSON	Patrick Lebotsa	CONTACT PERSON	Gcina Ndela
TELEPHONE NUMBER	011 386 1015	TELEPHONE NUMBER	011 688 1796
E-MAIL ADDRESS	patrick.lebotsa@jwater.co.za	E-MAIL ADDRESS	gcina.ndela@jwater.co.za

NOTE: DOCUMENTS MAY BE DOWNLOADED FROM THE JOHANNESBURG WATER WEBSITE AND ETENDER PORTAL 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 TENDER OFFERS DELIVERED TO A LOCATION OTHER THAN THE TENDER BOX AS PER THE TENDER SUBMISSION DETAILS STATED IN THE TENDER DOCUMENT. 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 TENDER BOX BEFORE TENDER CLOSURE.

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

PLEASE ENSURE YOU SUBMIT 1 x ORIGINAL TENDER HARD DOCUMENT
(ALSO PROVIDE AN ELECTRONIC COPY IN A MEMORY STICK/USB).

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:

NO	DESCRIPTION	PAGE
1.	Tender Notice and Invitation to Tender	1
2.	Checklist of documents and information that will form part of contract	5
3.	Johannesburg Water POPIA Privacy Statement	10
4.	Certificate of Authority	15
5.	Acknowledgement of Bid Conditions	20
6.	Invitation to Bid	26
7.	Pricing Schedule – Firm Prices MBD 3.1	28
8.	Declaration of Interest MBD 4	29
9.	Declaration For Procurement Above R10 Million (VAT included) MBD 5	32
10.	Preference Points Claim Form in Terms of The Preferential Procurement Regulations 2022 - 80/20.....	34
11.	Declaration of bidder's Past Supply Chain Management Practices MBD 8	39
12.	Certificate of Independent Bid Determination MBD 9	41
13.	Proof of Good Standing With Regards to Municipal Account	44
14.	Record of Addenda	46
15.	Scope of work	47
16.	Evaluation.....	53
17.	Pricing Instructions.....	64
18.	General Conditions of Contract	87
19.	Banking Details for Electronic Funds Transfer	99

1. Tender Notice and Invitation to Tender

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

SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT EQUIPMENT AND MONITORING SYSTEM ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

The tender document will be available in the form of a download from the Johannesburg Water website ([www.johannesburgwater.co.za /supply chain/tenders](http://www.johannesburgwater.co.za/supply_chain/tenders)) starting from 19 June 2026.

The Employer is Johannesburg Water.

All tenders and supporting documents must be sealed and be placed in the Tender box on the ground floor of the Johannesburg Water by no later than 10:30 am on 22 July 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 Letter of Award which together with the submitted tender document will form the contract.

CHECKLIST OF DOCUMENTS AND INFORMATION THAT WILL FORM PART OF CONTRACT

Documents and Information That will Form Part of The Contract

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. 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.

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

CHECKLIST OF DOCUMENTS AND INFORMATION THAT WILL FORM PART OF CONTRACT

TABLE 1

No	Description of Returnable/s or Documentation or Information 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	•	•		
	Tax SARS PIN No.	•	•		
	MAAA No. for Tax Compliant Status		•		
2.	Mandatory Documents at Particular Stage:				
	Completed and Signed Pricing Schedule	•			
3.	Administrative Documentation:				
	Signed Certificate of Authority to Sign or Board Resolution granting authority to sign.	•			
	Signed Acknowledgement of Tender Conditions	•	•		
	MBD 1 - Invitation to Bid - Completed and signed	•	•		
	MBD 3.1 - Pricing Schedule – Firm Prices (Purchases) completed and signed (Acknowledgement that rates will be fixed for duration of contract).	•	•		
	MBD 4 - Declaration of interest - Completed and signed	•	•		
	MBD 5- Declaration for procurement above R10 Million (all applicable taxes included) per line item if applicable.	•	•		
	MBD 6.1 - Preference Points Schedule – Specific Goals and Price Points - Completed and signed.	•			
	MBD 8 - Bidder's past supply chain management practices – Completed and signed.	•	•		
	MBD 9 - Certificate of Independent Bid Determination – Completed and signed.	•	•		

CHECKLIST OF DOCUMENTS AND INFORMATION THAT WILL FORM PART OF CONTRACT

No	Description of Returnable/s or Documentation or Information 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)
	Municipal Rates and Taxes for the Tenderer - Current municipal rates for the entity 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 where the submitted municipal statement or lease agreement is not in the name of the tenderer. Please refer to Proof of Good Standing with Municipality Accounts document in the tender document for cases when the affidavit would be accepted.	•	•		
	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 where the submitted municipal statement or lease agreement is not in the name of the director. Please refer to Proof of Good Standing with Municipality Accounts document in the tender document for cases when the affidavit would be accepted.	•	•		
	3-year financial statements (audited where applicable) if MBD 5 is applicable	•	•		

CHECKLIST OF DOCUMENTS AND INFORMATION THAT WILL FORM PART OF CONTRACT

No	Description of Returnable/s or Documentation or Information 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)
	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.	•			
	Occupational Health and Safety Declaration form – if applicable	•	•		
	Joint Venture, consortium or equivalent agreement – if applicable	•	•		
	SCADA Integrated	•			
4.	Functionality Documentation:				
	Documentary Evidence Required for Criteria 1- Contactable Reference letters	•			
	Documentary Evidence Required for Criteria 2- (CV , Qualifications)	•			
5.	Specific Goals:				
	• Valid BBBEE Certificate issued by SANAS accredited verification agency or DTI /CIPC BBBEE Certificate for Exempted Micro Enterprises or Affidavit sworn under oath.	•			
6.	Scope of Work:				
	Scope of Work and or Specifications	•			
7.	Pricing Schedule:				
	Pricing Schedule completed in accordance with the award strategy	•			
	Alterations authenticated – Refer to Acknowledgment of Tender Conditions	•			
8.	Terms and Conditions:				

CHECKLIST OF DOCUMENTS AND INFORMATION THAT WILL FORM PART OF CONTRACT

No	Description of Returnable/s or Documentation or Information 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)
	General Conditions of Contract	•			
	Special Conditions of Contract	•			
9.	Other Documents				
	Form of Acceptance (do not complete Form of Acceptance it will be completed by JW official)			•	
	Comprehensive Health and Safety Plan (compliance with OHSE Specification - if applicable)			•	
	Valid Registration with Compensation for Occupation Injuries and Diseases Act			•	
	Bank Details Form			•	
	Insurance of Works			•	
	Public Liability Insurance			•	
	Performance Guarantee			•	
	Common Law Liability Insurance			•	

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, points for specific

goals and MBD6.2 Local Production and Content. 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.

5. 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.

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:.....

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.



JOHANNESBURG WATER POPIA PRIVACY STATEMENT

Signed at this day of20.....

.....
Signature of data subject/designated person

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

.....
Signature

.....
Date

DATA SUBJECT CONSENT WITHDRAWAL FORM
IN TERMS OF THE PROTECTION OF PERSONAL INFORMATION ACT, NO. 4 OF
2013 (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.

CERTIFICATE OF AUTHORITY

4. 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 taken on, Mr/Ms, acting in the capacity of, was authorized to sign all documents in connection with tender JW..... and any contract resulting from it on behalf of the company.

Chairman:

As Witnesses: 1.....

2.....

Date:

CERTIFICATE OF AUTHORITY

(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.

CERTIFICATE OF AUTHORITY

(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.

CERTIFICATE OF AUTHORITY

(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 authorize Mr./Ms.
 , authorized signatory of the company
 , acting in the capacity of lead partner, to sign
 all documents in connection with the tender offer and any contract resulting from it on our behalf.

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

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.



a world class African city

CERTIFICATE OF AUTHORITY

(IV) Certificate For Sole Proprietor



I,, hereby confirm that I am the sole owner of the Business
trading as and the person authorized hereunder
is duly authorized to sign all documents related to tender JW.....
and contract resulting therefrom.

Signature of Sole owner:

As Witnesses:

1.....

2.

Date:

ACKNOWLEDGEMENT OF BID CONDITIONS

5. Acknowledgement of Bid Conditions

- 1 I/We hereby bid to supply all or any of the supplies and/or to render all or any of the services described in the attached documents to Johannesburg Water (SOC) Ltd on the terms and conditions and in accordance with the specifications stipulated in the bid documents (and which shall be taken as part of, and incorporated into, this bid) at the prices and on the terms regarding time for delivery and/or execution inserted therein.

- 2 I/We agree that -
 - (a) the offer herein shall remain binding upon me/us and open for acceptance by Johannesburg Water (SOC) Ltd during the validity period indicated and calculated from the closing time of the bid or agreed validity period;

 - (b) this bid and its acceptance shall be subject to the terms and conditions embodied herein with which I am/we are fully acquainted;

 - (c) if I/we withdraw my/our bid within the period for which I/we have agreed that the bid shall remain open for acceptance, or fail to fulfil the contract when called upon to do so, Johannesburg Water (SOC) Ltd, without prejudice to its other rights, agree to the withdrawal of my/our bid or cancel the contract that may have been entered into between me/us and Johannesburg Water (SOC) Ltd and I/we will then pay to Johannesburg Water (SOC) Ltd any additional expense incurred by having either to accept any less favourable bid or, if fresh bids have to be invited, the additional expenditure incurred by the invitation of fresh bids and by the subsequent acceptance of any less favourable bid; Johannesburg Water (SOC) Ltd shall also have the right to recover such additional expenditure by set-off against moneys which may be due or become due to me/us under this or any other bid or contract or against any guarantee or deposit that may have been furnished by me/us or on my/our behalf for the due fulfilment of this or any other bid or contract and pending the ascertainment of the amount of such additional expenditure to retain such moneys, guarantee or deposit as security for any loss Johannesburg Water (SOC) Ltd may sustain by reason of my/our default;

 - (d) if my/our bid is accepted the acceptance may be communicated to me/us by electronic mail (e-mail), faxed letter or by order by ordinary post or registered post and that SA Post Office Ltd shall be regarded as my/our agent, and delivery of such acceptance to SA Post Office Ltd shall be treated as delivery to me/us.

(e) the law of the Republic of South Africa shall govern the contract created by the acceptance of my/our bid.

- 3 I/We furthermore confirm that I/we have satisfied myself/ourselves as to the correctness and validity of my/our bid; that the price(s) and rate(s) quoted cover all the work/item(s) specified in the bid documents and that the price(s) and rate(s) cover all my/our obligations under a resulting contract and that I/we accept that any mistakes regarding price(s) and calculations will be at my/our risk.
- 4 I/We hereby accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me/us under this agreement as the principal(s) liable for the due fulfilment of this contract.
- 5 I/We agree that any action arising from this contract may in all respects be instituted against me/us and I/we hereby undertake to satisfy fully any sentence or judgement which may be pronounced against me/us as a result of such action.

Details of my / our offer are / are as follows:

- 6 We undertake, if our Tender is accepted, to execute the contract in accordance with the requirements as specified.
- 7 Until a formal Contract is prepared and executed, this Tender, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.
- 8 We understand that Johannesburg Water is not bound to accept the lowest or any tender it may receive, and that the contract may be awarded in whole or in part and to more than one tenderer.
- 9 Should my/our tender be successful, it be understood that a contract will come into existence for the duration of contract stated in the tender document which will commence from the date indicated in the letter of acceptance.

ACKNOWLEDGEMENT OF BID CONDITIONS

INSTRUCTIONS TO BIDDERS

NB: Each bid must be submitted in a separate, sealed envelope on which the NAME AND ADDRESS OF THE BIDDER, THE BID NUMBER, DESCRIPTION OF BID AND THE CLOSING DATE must be clearly endorsed. The bid must be addressed to Supply Chain Management Unit, Johannesburg Water (SOC) (SOC) Ltd and deposited in the BID BOX situated at the entrance: Turbine Hall, 65 Ntengi Piliso Street, Newtown, Johannesburg.

It is the responsibility of the bidder to ensure that their /his / her bid document is submitted in a sealed envelope and placed in the Bid Box in good time so as not to miss the official deadline of 10:30 am on the closing date.

Bid documents submitted via courier services will be acceptable provided that the bidder instructs such courier company or its representative to deposit the documents in the bid box. Documents should under no circumstances be handed to an employee of Johannesburg Water as it may not be held accountable in the event of any loss thereafter.

Bid documents may not be submitted via the South African Post Office as only bid documents received in the Bid Box at the time of closing will be taken into account.

Bid documents received from non-attended bidders of a compulsory briefing session will not be disqualified.

Tenderers are to allow for sufficient time to access Johannesburg Water offices in Turbine Hall and deposit their bid document in the Johannesburg Water tender box situated at reception before tender closing time. Tenderers are to note that the Johannesburg Water offices are open during 06:00am and 18:00pm seven (7) days a week.

IMPORTANT CONDITIONS

- 1 Bid documents must be completed using non-erasable black ink. Bids that are received contrary to this requirement will be disqualified. This condition applies to bid documents purchased as well as bid documents downloaded from the e-tender portal. Correction fluid (tippex) will not be allowed when completing the document and if used tenderers will be disqualified.
- 2 Bids should be submitted on the official forms provided. Should any conditions of the bid be qualified by the bidder, Johannesburg Water may disqualify the bid.
- 3 If any of the conditions on this bid form are in conflict with any special conditions, stipulations or provisions incorporated in the bid, such special conditions, stipulations or provisions shall apply.
- 4 Bids received after the closing time and date will not be accepted and will be returned to the bidder unopened.
- 5 All bid documents must be in sealed envelopes and deposited in the **Official Bid Box situated at Turbine Hall, 65 Ntemi Piliso Street, Newtown.**
- 6 Bids should as far as possible be submitted in their entirety. Such bid documents should also comply with submission requirements as described therein and should be bound in such a way that pages will not go missing.
- 7 Tender documents may be completed electronically without altering or tampering with any of the terms, conditions, specifications, pricing schedule etc. in the tender documents. Tender documents received contrary to this requirement will be disqualified.
- 8 It is an absolute requirement that the bidders tax matters are in order. To this effect, the bidder must furnish their Tax Compliance Status Pin or CSD MAAA number for bids as requested elsewhere in the bid document.
- 9 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, and MBD6.2 Local Production and Content. In cases where locality is a specific goal and the bidder did not submit the required documentation, the tenderer upon submitting the municipal statement,

ACKNOWLEDGEMENT OF BID CONDITIONS

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 required for administrative compliance was not submitted with the tender submission.

- 10 Pricing schedule must be completed and signed in accordance with award strategy. Bids that are received contrary to this requirement will be disqualified.
- 11 Tenderer's authorized signatory to sign or initial next to the price alteration.
- 12 The evaluation on price alteration will be conducted as follows:

12.1. Where the tender award strategy is to evaluate and award per item or category, the following must apply:

- (i) 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.
- (ii) 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.

12.2. Where the tender award strategy is to evaluate and award total bid offer, the following must apply:

- (i) 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.
- (ii) 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.
- (iii) 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.

12.3. Where the tender pricing schedule or bill of quantities is requesting rates/price from bidder/s without providing a total, the following will apply:

- (i) If there is an unauthenticated alteration on the unit rate/price the bidder must be disqualified.

- 13 The price will mean an amount tendered for goods or services and included all applicable taxes less all unconditional discounts.
- 14 The tender may be rejected if the tenderer does not correct or accept the correction of the arithmetical error communicated to the tenderer by Johannesburg Water. Acceptance of the correction to the arithmetic error must be in writing.

- 15 Tenderers are allowed to offer selective items (not all items as per BOQ) where applicable. Items that are left blank will be regarded as non-offered items.
- 16 Johannesburg Water reserves the right to enter into mandated negotiations to achieve cost effectiveness with any one or more selected tenderers in accordance with Johannesburg Water's approved SCM procurement policy. In such a situation, Objective Criteria of Cost Effectives in conjunction with section 2 (1) (f) of the PPPFA) is applicable to this tender.
- 17 Objective Criteria: Notwithstanding compliance regarding any requirements of the tender, JW will perform a risk analysis in respect of the following:
 - a) reasonableness of the financial offer
 - b) reasonableness of unit rates and prices
 - c) the tenderer's ability or financial capacity to fulfil its obligations. The financial statements will be analysed in accordance with the uniform financial ratios and industry norms. The following ratios will be used to determine the financial stability of the company: current ratio, solvency ratio, operating profit margin and cost coverage will be assessed.

The conclusions drawn from this risk analysis will be used by JW in determining whether to accept the bid offer or to reject the bid offer. In such a case Objective Criteria of Risk Management based on the risk assessment will be used in conjunction with section 2 (1) (f) of the PPPFA).

18 JW Reservations:

JW reserves the right to award contracts and tenders at its discretion on the basis of the following

- 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.

SIGNATURE(S) OF AUTHORIZED PERSON

DATE:.....

Name of bidder/ Company name

Name of authorized person (in block letters)

INVITATION TO BID

6. Invitation to Bid

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS FOR JOHANNESBURG WATER									
BID NUMBER:		JW OPS 072/26		CLOSING DATE:		22 July 2026		CLOSING TIME: 10:30 AM	
DESCRIPTION		SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT EQUIPMENT AND MONITORING SYSTEM ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS							
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)									
JOHANNESBURG WATER									
TURBINE HALL, 65 NTEMI PILISO STREET, NEWTOWN									
JOHANNESBURG, 2001									
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO					TECHNICAL ENQUIRIES MAY BE DIRECTED TO:				
SUPPLIER INFORMATION									
NAME OF BIDDER									
POSTAL ADDRESS									
STREET ADDRESS									
TELEPHONE NUMBER		CODE				NUMBER			
CELLPHONE NUMBER									
E-MAIL ADDRESS									
VAT REGISTRATION NUMBER									
SUPPLIER COMPLIANCE STATUS		TAX COMPLIANCE SYSTEM PIN:		OR		CENTRAL SUPPLIER DATABASE No:		MAAA	
B-BBEE CERTIFICATE		TICK APPLICABLE BOX] ☐ Yes ☐ No		B-BBEE SWORN AFFIDAVIT		TICK APPLICABLE BOX] ☐ Yes ☐ No			
PLEASE REFER TO EVALUATION SECTION FOR SPECIFIC GOALS VERIFICATION DOCUMENTATION REQUIRED TO QUALIFY FOR POINTS FOR SPECIFIC GOALS									
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?		☐ Yes ☐ No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?		☐ Yes ☐ No [IF YES, ANSWER THE QUESTIONNAIRE BELOW]			
QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS									
IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?						☐ YES ☐ NO			
DOES THE ENTITY HAVE A BRANCH IN THE RSA?						☐ YES ☐ NO			
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?						☐ YES ☐ NO			
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?						☐ YES ☐ NO			
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									

INVITATION TO BID

MBD 1

BELOW.

PART B TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:	
1.1.	BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
1.2.	ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.
1.3.	THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 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 VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
2.3	APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
2.4	BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
2.5	IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
2.6	WHERE NO TCS PIN IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
2.7	NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:
(Proof of authority must be submitted e.g., company resolution)

DATE:

7. Pricing Schedule – Firm Prices MBD 3.1

NOTE: ONLY FIRM PRICES WILL BE ACCEPTED. NON-FIRM PRICES (INCLUDING PRICES SUBJECT TO RATES OF EXCHANGE VARIATIONS) WILL NOT BE CONSIDERED

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

Name of Bidder..... Bid Number.....
Closing Time Closing Date

OFFER TO BE VALID FOR 90 DAYS FROM THE CLOSING DATE OF BID.

ITEM NO. INCLUDED)	QUANTITY	DESCRIPTION	BID PRICE IN RSA CURRENCY **(ALL APPLICABLE TAXES
-----------------------	----------	-------------	--

- Required by:
- At:
.....
- Brand and Model
- Country of Origin
- Does the offer comply with the specification(s)? *YES/NO
- If not to specification, indicate deviation(s)
- Period required for delivery *Delivery: Firm/Not firm
- Delivery basis

Note: All delivery costs must be included in the bid price, for delivery at the prescribed destination.

** "all applicable taxes" includes value- added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

*Delete if not applicable

SIGNATURE(S) OF AUTHORIZED PERSON

DATE:.....

DECLARATION OF INTEREST

MBD 4

Declaration of Interest MBD 4

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.

.....

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

(a) a member of –

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

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

(c) an official of any municipality or municipal entity;

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

(e) a member of the accounting authority of any national or provincial public entity; or

(f) an employee of Parliament or a provincial legislature.

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.

DECLARATION OF INTEREST

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:

DECLARATION OF INTEREST

MBD 4

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

Full Name	Identity Number	State Employee Number

.....
Signature

.....
Date

.....
Capacity

.....
Name of Bidder

9. Declaration For Procurement Above R10 Million (VAT included) MBD 5

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

**In the event the Annual Financial Statements submitted with this tender reflect that the tenderer is not required by law to have such statement audited, Johannesburg Water reserves the discretion to interpret your selection of "Yes" as a "No" and analyse it accordingly.*

- 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

3. 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

- 3.1 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.

- 3.2 If yes, provide particulars.

.....

**DECLARATION FOR PROCUREMENT ABOVE R10 MILLION
(VAT INCLUDED)**

MBD 5

4. 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?

4.1 If yes, furnish particulars

.....

.....

5. 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 / municipality entity is expected to be transferred out of the Republic?

YES / NO

5.1 If yes, furnish particulars

.....

.....

CERTIFICATION

I, THE UNDERSIGNED (NAME)

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

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

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE MBD 6.1 PREFERENTIAL PROCUREMENT REGULATIONS 2022 -80/20

10. Preference Points Claim Form in Terms of The Preferential Procurement Regulations 2022 -80/20

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).

1.2 The applicable preference point system for this tender is the 80/20 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	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

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

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

2. DEFINITIONS

- a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE MBD 6.1 PREFERENTIAL PROCUREMENT REGULATIONS 2022 -80/20

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1 POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 PREFERENCE POINT SYSTEMS

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

80/20

$$Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

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

**PREFERENCE POINTS CLAIM FORM IN TERMS OF THE MBD 6.1 PEFERENTIAL
PROCUREMENT REGULATIONS 2022 -80/20**

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 (80/20 system)	Number of points claimed (80/20 system) (To be completed by the tenderer)
SMME (An EME or QSE) 51% or more Black owned	20	
TOTAL	20	

5. DECLARATION WITH REGARD TO COMPANY/FIRM

5.1 Name of company/firm.....

5.2 Company registration number:

5.3 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]

5.4 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;

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE MBD 6.1 PEFERENTIAL PROCUREMENT REGULATIONS 2022 -80/20

- (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:	

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN PRACTICES

MBD 8

11. Declaration of bidder's Past Supply Chain Management Practices MBD 8

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be rejected if that bidder, or any of its directors have:
 - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
 - b. been convicted for fraud or corruption during the past five years;
 - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 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 of Restricted Suppliers 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 Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied). The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
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)? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES MBD 8

4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
Item	Question	Yes	No
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS
DECLARATION FORM 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

12. Certificate of Independent Bid Determination MBD 9

- 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 per 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 (MBD 9) must be completed and submitted with the bid:

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

CERTIFICATE OF INDEPENDENT BID DETERMINATION

MBD 9

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)

CERTIFICATE OF INDEPENDENT BID DETERMINATION

MBD 9

- (c) methods, factors or formulas used to calculate prices;
- (d) the intention or decision to submit or not to submit, a bid;
- (e) the submission of a bid which does not meet the specifications and conditions of the bid;
or
- (f) bidding with the intention not to win the bid.

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
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.

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.

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

PROOF OF GOOD STANDING WITH REGARDS TO MUNICIPAL ACCOUNT

13. Proof of Good Standing With Regards to Municipal Account

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.
6. 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.
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**

PROOF OF GOOD STANDING WITH REGARDS TO 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
 - The municipal account submitted is the **only applicable municipal account relating to the director's municipal obligation**

RECORD OF ADDENDA

14. Record of Addenda

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. Communications regarding the revision of this tender document can also be viewed on the following website: www.johannesburgwater.co.za/supply chain/tenders.

Note: Tenderers are to check the JW website at least seven (7) days before the tender closing date and time for any communication in regard to the tender.

	DATE	TITLE OR DETAILS
1.		
2.		
3.		
4.		
5.		
6.		

SIGNATURE(S) OF AUTHORIZED PERSON:

NAME AND SURNAME

DATE:

15. SCOPE OF WORK, REQUIREMENTS AND SPECIFICATIONS

15.1 CONTRACT DESCRIPTION

The contract entails supply, delivery, installation, servicing, and on-site training for advanced pressure management equipment and monitoring system on “As and When” required basis for a period of thirty-six (36) months.

15.2 REQUIREMENTS

The various pressure equipment shall be supplied complete with all necessary couplings and jointing materials and shall be installed in accordance with the manufacturer’s specifications and the prescribed test pressure ratings of 0-30 bar.

- 15.2.1 The required equipment must have a minimum of 12-months warranty.
- 15.2.2 The specified pressure test shall be maintained for a period of at least 3 hours during which period all pipes, joints, and fittings shall be carefully inspected for leaks by JW and the contractor.
- 15.2.3 The supply and installation or replacement of any pressure equipment or related fittings will only be done with the approval of the Physical Loss Manager /Operational Manager of the respective region, and the JW job card will be created for the work to be carried out. The replaced equipment/fittings are to be returned to the relevant JW depot.
- 15.2.4 Prior to any work done, the physical integrity and operational status of the various existing equipment/fittings to be assessed and documented by JW staff, and the following should form the basis of the report: Description of equipment / fittings, conditions, status, type, model, GPS location, etc.
- 15.2.5 It is a requirement that the supply, delivery, installation, servicing, and on-site training for advanced pressure management equipment and monitoring system should be completed within the time frames as specified by the Physical Loss Manager or Physical Loss Operational Managers.
- 15.2.6 Water connection and electrical point will not be provided for at the site. The tenderer should provide their own portable battery- operated hand tools and ensure sufficient drinking water, as the availability of water and power is uncertain
- 15.2.7 All equipment, tools, labour, and consumables must be provided by the tenderer. The tenderer must supply clean protective clothing and equipment for the workforce employed in this project.
- 15.2.8 Access and security to the installation sites will be the tenderer’s responsibility during the period he/ she is working there and must be strictly controlled. The tenderer must provide an access control procedure for approval by the Physical Loss Manager or his representative.

15.2.9 JW will make sure that the site is ready and workable prior to handing over to the contractor, and the following work must be done when replacing or repairing the pressure management equipment:

15.2.9.1 All rusted, leaking, and malfunctioning fittings identified are to be documented and reported to JW for immediate repairs/any relevant attention needed.

15.2.9.2 JW representative is to inspect the completed work in conjunction with the contractor and produce a condition report on the installation/replacement done.

15.2.9.3 The tenderer's workforce must be suitably qualified and equipped to carry out the work safely and hygienically. The contractor will be required to comply with all requirements of the Occupational Health and Safety Act 85 of 1993 (OHS) and the regulations applicable hereunder, as well as the JW OHS specifications (Safety, Health and Safety (SHE) plans, safety file, timeous audits, etc.). The contractor shall, prior to commencing any work, conduct its own site inspection and risk assessment and shall be responsible for implementing all necessary health and safety measures in accordance with applicable legislation of the country.

15.3 PROFESSIONAL SERVICES

The key personnel allocated for this contract will be responsible for rendering professional services as listed below:

15.3.1 Acquire historical data on System input volume (SIV) from the supply zones from the Physical Loss Manager or designated Operations manager.

15.3.2 Conduct baseline logging (flow and pressure) analysis and reporting on minimum night flow (MNF) and quantify excessive pressures as directed by the Physical Loss Manager or designated Operational Manager.

15.3.3 Final Logging (Flow and Pressure) analysis and reporting after implementing the intervention, as well as recommendations to optimize the zone.

15.3.4 Ensure that all information relating to on-site installations is accurately updated on the

Johannesburg Water database through coordination and liaison with the Infrastructure Planning & Asset Management (IPAM) Department.

ADVANCED PRESSURE MANAGEMENT EQUIPMENT AND MONITORING SYSTEM WITH

INTEGRATION TO JW'S SCADA SYSTEM

The tenderer shall be required to price for the items listed below for the advanced pressure management equipment and monitoring system offered.

SCOPE OF WORK

ITEM NO.	DESCRIPTION	SPECIFICATIONS
1	TIME-BASED PRV CONTROLLER Supply and install the Smart Time-Based Pressure Reducing Valve Controllers to electronically regulate the pressure settings of PRVs of varying sizes with pilots and auxiliary pipework	* The PRV controller casing must be manufactured from UV-resistant, non-corrosive material like plastic * Rated operating pressure to be between 10 and 30 bars * Complete With Pressure Flow Control Regulator * Battery Operated * Operated by Means of replaceable alkaline batteries, which are easily available and can be changed by JW, and can last for at least one (1) year * IP68 Rated * Station with a minimum 24-hour Cycle * Start Times & Run Times * Brass Pilots
2	GLOBAL SYSTEM OF MOBILE COMMUNICATION DATA LOGGER	* Universal event logging principle for pulses and pressure. * 4 sensors/channels connected simultaneously (two pulse and two pressure) * Inputs - digital or analogue sensing devices * 3 independent memories (day, hour and events) * Data logging of bi-directional flow, positive and negative values. * Alarm Notifications * Compact design * IP68 rated housing * Battery enclosure for standard cells (e.g. LR 6)
3	LOGGING EQUIPMENT	* Opto OD Probe * HRI Reed Switches * Reed RD (Steel Pin) * Reed RD (Plastic Pin) * Quick Releases * PR7 Inductive Pulse * Data Input Cables/Communication Cables * 2 Pressure Transducers: Pressure ratings -20bars, MWT: 180° F / 82° C (Built-in)

SCOPE OF WORK

		* Suzi coils
4	ULTRASONIC LOGGING	* Ultrasonic logging/ clamp on meters required in cases where there is no water meter, or meter is not working in PRV chamber to log flow for 7 days * Logging to be temporary for MNF baseline establishment and post impact assessment. * The service provider to be fully responsible for the security of the equipment during the logging period
5	FIRE HYDRANT CAPS	* Adaptor Aluminium Alloy to fit the 65 mm Instantaneous Female connection on the above ground fire hydrant including a 1/4" DZR resistant ball valve and a 1/4" Male threaded 63 mm Dial size, glycerine filled, 0-2500kpa pressure range, water pressure gauge * Adaptor Aluminium Alloy to fit the London-V threaded outlet of the 80 mm underground fire hydrant, including a 1/4" DZR resistant ball valve and a 1/4" Male threaded 63 mm Dial size, glycerine filled, 0-2500kpa pressure range, water pressure gauge
6	TRAINING	* On-Site Training – Demonstrations (Computer Software) * Setting of controllers * Quick diagnostics, maintenance and calibration
7	MONITORING SYSTEM	* Hosting of data and subscription fees
8	SCADA INTEGRATION	* SCADA API Integration and Configuration, which includes API design, development, push/pull functionality, data mapping, SCADA configuration, and OEM/System Integrator engagement. * Cyber Security Compliance, Testing, and Validation, which includes ICT governance alignment, cyber security validation, factory and end-to-end testing, and defect rectification. * Commissioning, Documentation, and Handover, which includes final commissioning, control room validation, documentation, and knowledge transfer.
9	REPAIRS AND MAINTENANCE	* Maintenance of equipment, which includes: - o Communication issues - o Data issues - o Signal issues - o Battery issues - o Equipment failures

5.1. DURATION OF THE CONTRACT

The contract is for a period of thirty-six (36) months on an "as and when" required basis.

6. Evaluation

The tender will be evaluated and adjudicated in terms of the Municipal Finance Management Act (MFMA), Preferential Procurement Policy Framework Act, 2000, relevant Supply Chain Management Policy of Johannesburg Water (JW) and applicable Regulations.

Summary of Evaluation Stages:

STAGE 1: MANDATORY EVALUATION	STAGE 2: ADMINISTRATIVE EVALUATION	STAGE 3: FUNCTIONAL EVALUATION	STAGE 4: PREFERENCE EVALUATION
Tenderer to submit all mandatory requirements under this Stage. These are criterion scored as 'pass/fail' or 'yes/no' during the evaluation process. A "fail" or "no" will lead to the tenderer being disqualified and may not be considered for further evaluation or award.	These are the applicable Municipal Bidding Documents (MBD) that the tenderer's duly authorized representative must fully complete and sign and provide administrative documents such as director's and company's municipal statement or valid lease agreements which must be valid and submitted before tender award. Should the MBD authority to sign and other administrative documents not be submitted or be incomplete, the tenderer will be given three (3) days to submit or complete them after receiving a request in writing from JW, should the tenderer not comply with requirement, the tenderer may be disqualified, and may will be considered for award.	Tenderers are required to achieve a minimum qualifying score as stated in the tender document to proceed to next stage. Tenderers are required to submit the required documentary evidence which will clearly enable the bid evaluation committee to evaluate as per criteria requirements. Tenderers are encouraged to complete the provided forms in full and not to write "See attached or Refer to another part of the tender submission" where information is provided.	The tender will be evaluated on the 80/20 or the 90/10 preference points system according to the award strategy. 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. The BEC will evaluate the submitted supporting documentation and confirm Specific Goal points claimed by the tenderer. Specific goals to be allocated by the BEC will depend on verification documentation submitted. Only tenderers that have completed and signed MBD6.1 and submitted applicable verification documents will be allocated Specific Goal points claimed for preferencing.

1. Stage 1: Mandatory Evaluation Criteria:

EVALUATION CRITERIA: (GATE KEEPERS)			
#	CRITERIA	DOCUMENTARY EVIDENCE	COMPLY (YES/NO)
1.	Completed and Signed Pricing Schedule		Yes

NB: Bidders that fail to comply with the above mandatory requirement may not be considered further for evaluation.

2. Stage 2: Administrative Evaluation Criteria:

NO.	REFERENCE TO TENDER DOCUMENT	DESCRIPTION	REQUIREMENT
1.	Annexure	Certificate of Authority or Board Resolution Letter granting authority to sign	Complete and submit
2.	MBD 1	Invitation to Bid Form	Completed and signed MBD 1 Form.
3.	CSD	Central Supplier Database Registration	Provide proof of CSD registration. Complete MAAA number on cover page or copy of CSD report.
4.	MBD 3.1	Pricing Schedule – Firm Prices (Purchases)	Completed MBD 3.1 Form.
5.	MBD 4	Declaration of Interest	Completed and signed MBD 4 Form.
6.	MBD 5	Declaration of Procurement Above R10m (All Applicable Taxes Included)	Completed and signed MBD 5 Form.
7.	MBD 6.1	Preference Points Claim in Terms of The Preferential Procurement Regulations 2022	Completed and signed MBD 6.1 Form.
9.	MBD 8	Declaration of Bidder's Past Supply Chain Management Practices	Completed and signed MBD 8 Form.
10.	MBD 9.	Certificate of Independent Bid Determination	Completed and signed MBD 9 Form.
11.	Annexure – Proof of Specific Goals	Refer to documents listed in 4.3 verification documents to be submitted with the tender document	Submit applicable documentation with the tender submission – If not submitted with the tender document points for Specific Goals won't be allocated.
12.	Annexure	Municipal Rates and Taxes for the Tenderer - Current municipal rates for the entity not in arrears by more than 90 days. If leasing/renting, submitted copy of valid lease agreement where premises are rented OR	Submit applicable documentation with the tender submission

EVALUATION

		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	
13.	Annexure	Municipal Rates and Taxes - Current municipal rates for the directors of the entity not in arrears by than 90 days. If leasing/renting, submitted copy of valid 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.	Submit applicable documentation with the tender submission
14.	Annexure	Occupational Health and Safety Declaration form – if applicable	Occupational Health and Safety Declaration form – if applicable
15.	Annexure	Joint Venture, Consortium, or equivalent agreement– if applicable.	Joint Venture, Consortium, or equivalent agreement signed showing percentage ownership of parties – if applicable.
16.	Annexure (JW 6.4)	Returnable Annexure A: Acknowledgement of SHE Specification & Annexures	Complete and submit signed JW 6.4 Form
17.	Annexure	OHS Document	Complete and submit signed
18.	Annexure B	SCADA Integration	Complete and submit signed
19.	Annexure	Non-compulsory Briefing Session	Completed and signed

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, and MBD 6.2 Local Production and Content.

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 goal

3. Stage 3: Technical Requirements

The following aspects will be considered during the technical evaluation:

- 3.1 The tenderer (company) must submit a reference letter to indicate a minimum of 2 years' experience in the installation, servicing, and maintenance of advanced pressure management equipment that was carried out successfully.
- 3.2 The tenderer's Project Manager must provide proof of experience required and the qualifications stipulated by submitting certified copies of the qualifications.

EVALUATION

TENDERER'S EXPERIENCE, QUALIFICATION OF KEY STAFF and EXPERIENCE OF KEY STAFF					
CRITERIA NO.	CRITERIA	EVIDENCE	SUB-CRITERIA/CLAUSE	MAX SCORE	SCORE
1	TENDERER'S EXPERIENCE The tenderer (Company) must have a minimum of two (2) years experience in the installation, servicing, and maintenance of advanced pressure management equipment.	The Tenderer (Company) must submit a reference letter to indicate a minimum of two (2) years of experience in the installation, servicing, and maintenance of the advanced pressure management equipment, which was carried out successfully Note: Reference Letter <i>The attached reference letter 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. The 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 restrictions on participation in any future government tender</i>	The tenderer's experience with the installation, servicing, and maintenance of advanced pressure management equipment.	50	
			No or Less than two (2) years of experience		0
			Two (2) years or more but less than 4 years experience		30
			Four (4) or more years experience		50
2	QUALIFICATION AND EXPERIENCE OF PROJECT MANAGER The tenderer's Project Manager must provide proof of experience required and the qualifications stipulated by submitting certified copies of the qualifications. (CV to be attached)	The tenderer is required to submit a certified copy of National Diploma (NQF Level 6) qualification in Civil Engineering or Water related Engineering as the minimum qualification and CV indicating proven experience of at least three (3) years experience in Project Management of Advanced Pressure Management Projects. <i>The CV templates must be completed by the tenderer and included in the tender submission. Alternatively, the tenderer may submit a CV for this purpose, provided it complies with the functional criteria requirements.</i>	Qualification and Experience of the Project Manager	50	
			No submission of certified copy of National Diploma (NQF Level 6) Qualification in Civil Engineering or Water related Engineering and/or less than three (3) years in Project Management of Advanced Pressure Management Projects or submission not meeting requirements.		0
			Submission of certified copy of National Diploma (NQF Level 6) Qualification in Civil Engineering or Water related Engineering and Three (3) years experience but less than Five (5) years experience in Project Management of Advanced Pressure Management Projects		30
			Submission of a certified copy of National Diploma (NQF Level 6) Qualification or higher in Civil Engineering or Water related		50

EVALUATION

			Engineering and five (5) years or more in Project Management of Advanced Pressure Management Projects		
MINIMUM QUALIFYING SCORE				60	
TOTAL				100	

Note: It is the Tenderer's responsibility to ensure that the contactable references provided are accurate and reachable. The Employer reserves the right, at its discretion, to verify references for tenderers who meet the minimum qualifying score, including conducting checks on selected references where deemed necessary for due diligence purposes.

NOTE 1: where a qualification has changed in name or structure over time, bidders must provide supporting documentation from the issuing institution or relevant accrediting body confirming that the qualification is equivalent to, or supersedes, the qualification specified in the tender requirements. ***Failure to submit the required supporting documentation may result in the qualification not being considered for evaluation purposes.***

NOTE 2: Where applicable, foreign qualifications MUST be accompanied by a SAQA verification certificate. Failure to submit SAQA verification certificate will lead to that qualification not being considered for allocation of points for that criterion.

NOTE 3: *It is the Tenderer's responsibility to ensure NQF levels align with SAQA standards.*

4. Stage 4 Price and Preference Points Evaluation:

4.1 Pricing

The following aspects will be considered in the financial offer:

- a) Costing for all items as described in the Pricing Schedule and applicable Strategies
Review of financial offer and discrepancies between total and calculations.
- b) Identify any parameters that may have a bearing on the financial offer, e.g., contract period, price escalations or adjustments required and life cycle costs.
- c) The tender will be evaluated on the 80/20 preference system.

Refer to Pricing Schedule to complete the pricing.

4.2 The maximum preference points for this bid are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
TOTAL POINTS FOR PRICE AND SPECIFIC GOALS	100

Specific Goals

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 may 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

EVALUATION

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:

- III. 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:

- IV. 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
 - 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.

QSE

- I. Promotion of procurement from QSE's that are black owned.

EME:

- Promotion of procurement from EME's that are black own.

SUB-CONTRACTING:

Promotion of sub-contracting to a company owned by Historically Disadvantaged Individuals (HDI) individuals.

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 4.4 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
- JV, Consortium, or equivalent agreement to contain percentage ownership which will be used to determine the proportional points for specific goals.

Table Specific Goals 1:

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)
SMME (An EME or QSE) 51% or more Black owned	20
TOTAL	20

4.3 The following verification documents must be submitted with the tender document:

SPECIFIC GOALS – ANY ONE OR A COMBINATION OF ANY	MEANS OF VERIFICATION THAT MAY BE SELECTED OR A COMBINATION THEREOF
SMME (An EME or QSE) 51% or more Black owned	Valid BBBEE Certificate issued by SANAS accredited verification agency or DTI/CIPC BBBEE Certificate for Exempted Micro Enterprises or Affidavit sworn under oath.

4.4 The following are the requirements for the Sworn Affidavit in terms of the BBBEE Sector Codes of Good Practice:

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

4.5 Requirements for a valid BBBEE Certificate

EVALUATION

- a) Copy of a certified valid BBBEE certificate (Only Valid BBBEE certificate must be accredited by SANAS) or 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 in 4.4, 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.

N.B. A tenderer failing to submit proof of specific goals claimed as per 4.3 will not be disqualified but will be allocated zero points for specific goals and will be allocated points for pricing.

4.6 Award and Allocation Strategy:

AWARD STRATEGY	Award it to the tenderer with the highest preference ranking, based on price and specific goals.
ALLOCATION STRATEGY	Allocate the work to the highest preference ranking tenderer

5. Pricing Instructions

General Pricing Instructions:

- a) All price(s) shall include Value Added Tax at the standard rate as gazetted from time to time by the Minister of Finance in terms of the Value Added Tax Act 89 of 1991 as amended. VAT will be shown separately on the Pricing Schedule/s and included in the total.
- b) All price(s) tendered shall include the cost of all insurances, services, labour, equipment, materials, etc. and be the net price after all unconditional discounts and settlement discount have been deducted. The net price/s shall be without any extra or additional charges to JW whatsoever.
- c) A firm price tender will be required for the duration of the contract, for tender evaluation and budgeting purposes.
- d) Should the contract be based on firm prices, no adjustment of prices will be made for the duration of the contract.
- e) Unconditional discounts will be taken into account for evaluation purposes but conditional discounts will not be taken into account for evaluation purposes.
- f) Estimated quantities provided in the Scope of Work are purely for evaluation purposes only and does not provide any indication of the required quantities of product/s for the duration of the contract by JW and does not provide any guarantee to the contractor whatsoever in terms of quantities required. Pricing for any additional work that may arise on the project, outside of the defined Scope of Works, will be as per price in the pricing schedule of additional work, but written approval will still be required before any additional work is carried out by the Service Provider.
- g) All pricing quoted in the Pricing Schedule/s shall be in South African Rand (ZAR) and rounded off to two decimals.
- h) The Pricing Schedule has to be completed in black ink and the Tenderer is referred to the Acknowledgement of Bid Conditions in regard to arithmetical errors and alterations, and the handling thereof.
- i) Time based fees shall be calculated by multiplying the provided unit cost rate with the actual time spent by the applicable personnel in rendering the service required by the Employer.
- j) Lump sum prices or rates shall not be adjustable with regard to changes in the law for the duration of the Contract Period of Performance.
- k) The Service Provider shall pay all taxes, duties, fees, levies and other impositions without separate reimbursement by the Employer.
- l) All activities or tasks shall be invoiced on a monthly basis, based on work successfully completed and accepted by the Employer.
- m) Any changes to the pricing schedule on the issued tender document will result in elimination, the Tenderer can however indicate in the qualifications any alternatives that they might want to offer.
- n) Pricing in full for rates-based rates contract, the tenderer must price for year 1, year 2 and year 3.

Alterations

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:

- (i) 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
- (ii) 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:

- (i) 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.
- (ii) 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.
- (iii) 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:

- (i) If there is an unauthenticated alteration on the unit rate/price the bidder must be disqualified.

PROJECT SPECIFIC PRICING INSTRUCTIONS:

- a) The percentage for mark-up on spares is inclusive of all logistic costs required to obtain the spare parts required for use in this contract shall be 12.5% for year 1, 15% for year 2 and 17.5% for year 3.]

Recoverable Costs

The Service Provider shall:

- Ensure all claimed expenses are pre-approved in writing by the Employer prior to incurring cost or submitting claim for compensation to the Employer, thus the Employer shall not entertain claims in this regard if such approval was not obtained in writing by the Service Provider.
- Ensure cost claims is accompanied by a signed copy of the supplier's tax invoice, which must comply with good financial practices by containing all minimum invoice required information.

The Employer shall not compensate the Service Provider for accommodation and subsistence expenses, as Contract staff shall be deemed to be residing in the Contract area (City of Johannesburg) of execution. Travel and travel-time costs, within the boundaries of Johannesburg will not constitute additional compensation.

NOTE: Failure to adhere to the pricing instructions may lead to your tender being disqualified.

PRICING DATA

(b) Pricing Schedule

- a) All rates offered must be inclusive of 15% VAT.
- b) All rates for the works tendered for in Schedule A below, must include cost for all supply, delivery, installation, service, equipment with minimum 12 months warranty, labour, insurance, advance pressure management fittings, OHS related matters and transport at various Johannesburg water sites.
- c) All costs related to SCADA integration, API development, testing, cyber security compliance, and commissioning shall be deemed included in the above items. No additional claims shall be accepted.
- d) The transport rate shall be measured at a distance from a contractually agreed Contractor's premises (up to a maximum of 120km return) to the respective Johannesburg Water site.
- e) The labour on Schedule B rates will only be applied where minor repairs and maintenance is required.
- f) The transport rate on Schedule C shall be according to applicable AA Rates and will only apply where the contractor is requested to carry out repairs and maintenance only, and the contractor is expected not to exceed 120km per return trip.
- g) The percentage for mark-up on spares is inclusive of all logistic costs required to obtain the spare parts required for use in this contract shall be 12.5% for year 1, 15% for year 2 and 17.5% for year 3.]

USE OF ESTIMATED QUANTITIES

NB: the quantities provided in the tender are only estimates and do not constitute a guaranteed commitment to the tenderer. The contract awarded to the successful service provider will be structured as a rates-based agreement, where payments will be made on a per-unit basis rather than a fixed total quantity. The contracted rates will be all-inclusive, covering all associated costs. The inclusion of estimated quantities in the tender document serves solely for evaluation and comparative analysis purposes and does not represent a commitment to procure those exact quantities. This approach allows the evaluation committee to fairly assess and compare the pricing structures of different bidders under a uniform baseline, ensuring that all proposals are evaluated on an equal footing. Since the contract is rates-based, the actual quantities procured will depend on operational needs, budget availability, and demand fluctuations over the contract period.

PRICING DATA

SCHEDULE OF PRICES

SCHEDULE A											
Item	Description	Unit of measure	Estimated Qty.Per Year	Year 1		Estimated Qty.Per Year	Year 2		Estimated Qty.Per Year	Year 3	
				Unit Price (R)	Total (R)		Unit Price (R)	Total (R)		Unit Price (R)	Total (R)
1.1	Complete Time - based electronic PRV smart controller	Per Installation	30	R	R	24	R	R	20	R	R
1.2	GSM data loggers	Per Installation	30	R	R	24	R	R	20	R	R
1.3	Logging Equipment (GSM) and associated fittings	Per Installation	30	R	R	24	R	R	20	R	R
1.4	Logging Equipment (GSM) and associated fittings:	Supply and deliver									

PRICING DATA

1.4.1	USB to Data Logger Comms Cable	Number	6	R	R	N/A	N/A	N/A	N/A	N/A	N/A
1.4.2	REED01 (WP Reed) with flow input cable	Number	12	R	R	N/A	N/A	N/A	N/A	N/A	N/A
1.4.3	RD01 (WPD Reed) with flow input cable	Number	12	R	R	N/A	N/A	N/A	N/A	N/A	N/A
1.4.4	HRI-MEI B4/(DN40- 125_10L- DN150-300- 100L with flow input cable)	Number	12	R	R	N/A	N/A	N/A	N/A	N/A	N/A
1.4.5	Helicoil Pressure Hose (1m) with fittings	Number	30	R	R	N/A	N/A	N/A	N/A	N/A	N/A
1.5	GSM Data Loggers	Supply and deliver	30	R	R	12	R	R	12	R	R
1.6	Subscription Fees	Per Equipment	30	R	R	12	R	R	12	R	R
1.7	Ultrasonic Logging (5 Days- Temporary)	Per Installation	30	R	R	24	R	R	20	R	R

PRICING DATA

1.8	Fire Hydrant Caps	Number	20	R	R	15	R	R	10	R	R
1.9	Training	Per Training Session	6	R	R	6	R	R	6	R	R
1.10	Repairs and Maintenance	Per equipment	20	R	R	15	R	R	10	R	R
1.11	OHS Safety File	Contract period	1	R	R	N/A	N/A	N/A	N/A	N/A	N/A
1.12	SCADA API Integration:										
1.12.1	SCADA API Integration and Configuration	Contract period	1	R	R	N/A	N/A	N/A	N/A	N/A	N/A
1.12.2	Cyber-Security Compliance, Testing, and Validation	Contract period	1	R	R	N/A	N/A	N/A	N/A	N/A	N/A
1.12.3	Commissioning, Documentation, and Handover	Contract period	1	R	R	N/A	N/A	N/A	N/A	N/A	N/A
SUB TOTAL PRICE			Year 1		R	Year 2		R	Year 3		R
SUB TOTAL (YEAR 1 - YEAR 3)											R

PRICING DATA

SCHEDULE B											
Item	Description	Unit of measure	Estimated Qty.Per Year	Year 1		Estimated Qty.Per Year	Year 2		Estimated Qty.Per Year	Year 3	
				Unit Price (R)	Total (R)		Unit Price (R)	Total(R)		Unit Price (R)	Total (R)
1.1	Labour	Hour	280	R	R	224	R	R	186	R	R
1.2	Project Manager	Hour	40	R	R	40	R	R	40	R	R
SUB TOTAL PRICE			Year 1		R	Year 2		R	Year 3		R
SUB TOTAL (YEAR 1 - YEAR 3)											R
GRAND TOTAL (YEAR 1 - YEAR 3)											R

SUMMARY OF SCHEDULES

SCHEDULE	DESCRIPTION	Total: Exclusive of VAT	VAT @ 15%	Total: Inclusive of VAT
Schedule A	Sub Total Cost Schedule A for Year (1,2 &3)	R	R	R
Schedule B	Sub Total Cost Schedule B for Year (1,2 &3)	R	R	R
Sub-Total for Schedule A &B		R	R	R
Schedule C				
10% Provision for Travelling Allowances		R	R	R
30% Provision for Spare Parts		R	R	R
Sub-Total for Schedule C		R	R	R
GRAND TOTALS:		R	R	R



PRICING DATA



All prices MUST include any other costs incurred to render the service. Additional charges submitted after acceptance will be rejected. All rates must include VAT.

SIGNATURE(S) OF AUTHORIZED PERSON

NAME OF BIDDER

NAME OF AUTHORIZED PERSON IN BLOCK LETTERS

.....

BID NUMBER:

CONTACTABLE REFERENCE

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 the **JW OPS 072/26 for Supply, delivery, Installation, servicing, and on-site training for advanced pressure management equipment and monitoring system** on an "as and when required" basis for a period of thirty-six (36) months.

Name of Tenderer:

Description of Goods / Services provided:

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.....

Duration: Year-Month-Day when the Goods / Services were provided:

Start date (Year- Month -Day) when the above was provided:/...../.....

End date (Year- Month -Day) when the above was provided:/...../.....

Name of authorised person:

Signature: Date

Telephone/Mobile:

Email:

Completed on behalf (Name of Client)

NB: This document must be completed by the referee / client 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 as stated on this template. 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.

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a world class African city



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[illegible]

SPECIAL CONDITIONS OF CONTRACT

GENERAL:

NB: The attention of the tenderer is drawn to the fact that the General Conditions of Contract shall apply, where applicable, to this contract.

1. DEFINITIONS:

1.1 That "Johannesburg Water (SOC) Ltd" shall herein after be referred to as "JW".

1.2 The "Managing Director" shall mean the Managing Director: Johannesburg Water (SOC) Ltd or his authorised representative.

1.3 "Vat" shall mean Value Added Tax in terms of the Value Added Tax Act 89 of 1991 as amended.

2. PRICE:

2.1 All prices shall include Value Added Tax at the standard rate as gazetted from time to time by the Minister of Finance in terms of the Value Added Tax Act 89 of 1991 as amended.

2.2 All price(s) tendered shall include the cost of all insurance, services, labour, equipment, materials, etc. and be the net price after all discounts and settlement have been deducted. The net price/s shall be without any extra or additional charges to JW whatsoever.

2.3 Tenderers must provide unit rates for Year 1, Year 2 and Year 3. Failure to price for all years shall render the tenderer liable to rejection on the grounds of being incomplete.

3. CONTRACT PRICE ADJUSTMENT:

3.1 The prices for items quoted for must be firm with escalations already factored in for year 2 & 3.

4. COMPLIANCE WITH LEGISLATION & SPECIFICATION:

4.1 The Contractor shall comply with all Municipal By-laws, and any other Laws, Regulations or Ordinances, and shall give all notices and pay all fees required by the provisions of such By-laws and Regulations specified therein.

4.2 The Contractor shall comply with all the requirements prescribed in the technical specification, unless otherwise stated.

5. SAFETY:

5.1 Without derogation from the generality of Clause 4.1, or from any other provision of this contract, the Contractor shall comply in all respects with the requirements of the Occupational Health and Safety Act 85 of 1993 and the regulations applicable hereunder, as well as the JW OHS specifications.

5.2 All staff must wear clean protective clothing /boots before entering a chamber or confined space.

5.3 All equipment, tools, labour, and consumables must be provided by the Contractor.

5.4 The Contractor must supply clean protective clothing and equipment for the workforce employed

SPECIAL CONDITIONS OF CONTRACT

in this project.

5.5 The Contractor's workforce must be suitably equipped to carry out the work safely and hygienically. The contractor is encouraged to familiarise the workforce with the surroundings and to remain vigilant at all times.

5.6 Without derogation from the generality of Clause 2.1 or from any other provisions of this contract, the Contractor shall at all times during the contract, at his own expense ensure that all plant and operators and attendants used for the purposes of the contract, comply in all respects with the safety and other requirements of the Occupational Health and Safety Act No 85 of 1993, and its Regulations as well as the JW OHS specifications.

5.7 The Contractor shall at his own expense provide adequate protective clothing for his staff and protection to machinery, as he, the Regional Director or the Inspector of Machinery may deem necessary at any stage of the contract.

5.8 The Contractor shall instruct his employees that under no circumstances may his vehicles hinder or obstruct reasonable access to any property.

6. INSURANCE AND INDEMNIFICATION:

6.1 In addition to any insurance required to be held by the Contractor in terms of the Contract, in terms of the Occupational Injuries and Diseases Act no. 130 of 1993, the Contractor must be fully insured against all accidents, loss, or damage arising out of the conditions or operation of the vehicles or execution of any work, including all third-party risks. The Contractor hereby indemnifies and agrees to keep indemnified throughout the period of the contract JW against all claims by third parties or the Contractor's own employees resulting from the operations carried out by the Contractor under this contract up until the date of acceptance.

6.2 A current certificate of good standing in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 must be furnished by the Contractor within 21 days of notification of acceptance of the tender. Proof of renewal or extension of insurance cover must be furnished by the Contractor whenever required by JW.

6.3 The Contractor shall be liable for any damages or injury of whatever nature caused directly or indirectly because of his operations, to any of JW's or Municipal Government or Private Property or to his own vehicles and personnel.

7. REMEDIES, BREACH, WHOLE AGREEMENT, WAIVER, VARIATION, AND INDULGENCES:

7.1 If the supplier or any person employed or associated with him or in the case of a Company, a Director or shareholder or person also associated with such Company, either directly or indirectly gives or offers to give any gratuity, reward or commission or other bribe to any person in the employ of JW this contract shall be avoidable at the instance of JW.

7.2 If the Contractor has not complied with the Managing Director's requirements or if he is in breach of any of the Conditions of this contract and Fails to remedy such breach within 14 (fourteen) days of receipt of written notice requiring it to do so (or if not reasonably possible to remedy the breach within 14 (fourteen) days), within such further period as may be reasonable in the circumstances, provided that the Contractor furnishes evidence within the period of 14 (fourteen) days reasonably satisfactory to JW, that it has taken whatever steps are available to it to commence remedying the breach), then the JW shall be entitled, without notice and in addition to any other remedy available to it at law or

under this agreement, including obtaining an interdict, to cancel this agreement or to claim specific performance of any obligation whether or not the due date for performance has arrived, in either event without prejudice to JW's right to claim damages.

7.2.2 Should JW elect to cancel the contract, then and in such instance, a certificate presented by the Managing Director of JW shall constitute proof of the contractor's indebtedness to JW.

7.3 This agreement constitutes the entire agreement between the parties relating to the matter hereof.

7.4 No amendment or consensual cancellation of this agreement or any provision or term hereof or of any agreement, bill of exchange or other document issued or executed pursuant to or in terms of this agreement and no settlement of any dispute arising under this agreement and no extension of the time, waiver or relaxation or suspension of any of the provisions or terms of this agreement or of any agreement, bill of exchange or other document issued pursuant to or in terms of this agreement shall be binding unless recorded in a written document signed by the parties. Any such extension, waiver, relaxation, or suspension, which is so given or made, shall be strictly construed as relating to the matter in respect of which it was made or given.

8. DISPUTES:

8.1 In the event of any dispute arising between JW and the Contractor in connection with or arising out of the contract, it shall be referred to the Managing Director of JW, who shall state his decision in writing and give notice of the same to the Contractor within 28 days of the dispute having been submitted to the Managing Director of JW. Such decision shall be binding upon the Contractor subject to clause 9.2.

8.2 Should the Contractor be dissatisfied with the decision of the Managing Director he/she may, within 28 days after receiving notice of such decision, require that the issue or issues be referred to a single arbitrator to be agreed upon between the parties or, failing agreement, to be nominated by the Chairman of the Association of Arbitrators and any such reference shall be deemed to be submission to the arbitration of a single arbitrator in terms of the Arbitration Act, 1965. The arbitrator's award shall be final and binding on both parties.

8.3 Not later than one week after receipt of notice calling for arbitration, JW may give notice to the Contractor that the dispute or disputes be settled by Court of Law having jurisdiction.

9. SCOPE OF CONTRACT:

9.1 The Contractor will be required to supply, deliver, install, service, and on-site training of the advanced pressure management equipment and monitoring system on an as-and-when required basis at various sites in accordance with the technical specifications which shall be integrated with JW's SCADA system. Annexure B has the technical specifications for the SCADA system integration.

10. CONTRACTUAL OBLIGATION

All Key Personnel documentation, including detailed Curriculum Vitae (CVs) and certified copies of qualifications, shall be formally submitted to the Employer prior to the commencement of the contract. Such documentation shall be subject to review and written approval by the Employer to ensure operational readiness and full alignment with the agreed delivery timelines.

Where any personnel proposed at tender stage are unavailable at the commencement of the contract,

SPECIAL CONDITIONS OF CONTRACT

the appointed Service Provider shall submit the CVs and certified qualifications of suitably qualified replacement personnel for review and written approval. Any proposed replacement personnel must fully comply with the stipulated minimum qualification and experience requirements of the tender.

Replacement personnel may only assume duties on site upon receipt of formal written approval from the Employer.

The required information must be submitted within fourteen (14) calendar days from the date of formal written communication by the Employer. Failure to submit the required documentation within the stipulated period may result in implementation delays, which will be recorded as poor performance. In addition, a penalty of R500.00 per calendar day may be imposed for each day of non-submission beyond the prescribed period

11. PLACE AND TIME OF DELIVERIES:

11.1 The supply, Delivery, installation, Servicing and on-site training of advanced pressure management equipment and monitoring system shall be anywhere in and around the boundaries of the City of Johannesburg between 07H30 and 16H00.

12. DURATION:

12.1 The tenure of the contract will be for a period of thirty-six (36) months on As and When required basis.

13. PERIOD FOR WHICH TENDER HOLDS GOODS:

13.1 The Tender shall be valid for a period of ninety (90) days from the date of closing tenders.

14. ADJUDICATION OF TENDERS:

14.1 The highest, lowest or any tender will not necessarily be accepted by JW. JW reserves the right to adjudicate the Tender to its best interest.

15. ACCEPTANCE OF TENDER:

15.1 A valid and binding contract shall be concluded at the time when the Service Provider receives an official appointment letter and signs a letter of acceptance at the offices of JW, after which the Service Provider/will enter into a contract with JW, with the terms and conditions packaged in this document.

16. EMERGENCIES:

16.1 The Supply, Delivery, Installation, Servicing, and on-site training of advanced Pressure management equipment and monitoring system will be scheduled well in advance, and the time frames will be as agreed with the authorised JW representative. However, the Contractor may be requested to render these services within specified time frames during an emergency.

17. ADDITIONAL INFORMATION:

17.1 Any technical clarity required may be obtained from Delisile Nkosi via email at delisile.nkosi@jwater.co.za or Patrick Lebotsa via email at patrick.lebotsa@jwater.co.za during office hours.

18. CONTRACT PRICE ADJUSTMENT:

18.1 For the contract period, a FIRM PRICE will be accepted.

19. EXTENSION OF TIME FOR COMPLETION:

19.1 The authorised JW representative may, in writing, extend the time set for completion of the works. On receipt of written notice from the Contractor given within 24 hours of the occurrence of the cause of the delay, that the completion of the works will be delayed by any other cause, but not if such cause of delay is due to the fault of the Contractor; or If any extra or additional works beyond those included in the Contract documents are ordered by JW; or If in the opinion of JW, the delay has been caused by the default or delay of JW or its officials.

19.2 Except as provided for under this clause, no compensation or damages shall be paid to the Contractor for any delay or extensions of time, nor shall any extension of time affect the validity of the contract or the liability of any surety.

20. PENALTIES:

Instead of exercising its rights in terms of Clause 22 of the General Conditions of Contract, the relevant Manager or his representative may, at his discretion, impose the following penalties:

20.1 If the Contractor fails to complete the work within the time prescribed by Clauses in the technical specification hereof the agreed time frame shall be binding or extended time granted to the Contractor in writing, the Contractor shall pay JW the sum of R1 500.00 for every day which shall elapse between the time prescribed in the 'time for completion clause', or extended time as the case may be and the date of completion of works.

20.2 JW may, without prejudice to any other method of recovery, deduct the amount of such penalty stipulated from any monies due or which may become due to the Contractor. The payment or deduction of such penalty shall not relieve the Contractor of his obligations and liabilities under the contract.

21. PERMITS AND COMPLIANCE WITH REGULATIONS AND BY-LAWS:

21.1 The Contractor shall apply for and obtain any permits, licenses, certificates, permissions, or exemptions which may be required for and in connection with the entry and use of the plant on the site.

21.2 All items tendered for must conform to the requirements of General principles of safety (Protection from electric shock and energy hazards, Physical requirements such as stability, mechanical strength, waterproof resistant, etc.), Protection of equipment users from overvoltage on telecommunication networks, and general standard for safety of Information technology equipment, The equipment maintainability and reliability.

21.3 All staff must wear clean protective clothing before entering a chamber or confined space.

21.4 Without derogation from the generality of Clause 2.1 or from any other provisions of this contract, the Contractor shall at all times during the contract, at his/her own expense ensure that all plant and operators and attendants used for the purposes of the contract, comply in all respects with the safety and other requirements of the Occupational Health and Safety Act No 85 of 1993, and its Regulations as well as the JW OHS specifications.

SPECIAL CONDITIONS OF CONTRACT

21.5 The Contractor shall at his own expense provide adequate protective clothing for his/her staff and protection to machinery, as he/she may deem necessary at any stage of the contract.

21.6 The Contractor shall instruct his employees that under no circumstances may his vehicles hinder or obstruct reasonable access to any property.

22. WORKING HOURS:

22.1 The normal working hours, i.e., 07:30 to 16:00 Monday to Friday, would apply unless prior permission is given in writing by the JW Physical Loss Manager to work after hours.

23. PAYMENT:

23.1 Payment on this contract will be as follows: All invoices for work completed successfully must be submitted to the respective UFW Operational Manager or his/her duly authorised representative by the 25th of every month until the contract expires.

23.1.1 Should there be any discrepancies with the invoice, it shall be communicated to the Service Provider, and the turnaround time for submission of the invoice shall be within 72 hours of notice

23.1.2 Invoices for payment must be submitted under the contractor's name.

24. TIME FOR COMPLETION:

At certain sites identified by the Ops Manager, Physical Loss Manager, or Senior Manager, the contractor may be required to work continuously in shifts to complete installation, replacement, or maintenance work.

25. ADDITIONAL CAPACITY:

25.1 The authorised JW Representative may request the Contractor to increase their capacity where required during emergency work.

26. LIABILITY PERIOD:

26.1 The installed equipment must have a minimum warranty period of 12 months.

27. NOTICE:

27.1 Any NOTICE or communication required or permitted to be given in terms of this agreement shall be valid and effective only if in writing and may be given in one or more of the following manners:

27.1.1 Sent by prepaid registered post (by airmail if appropriate) in an envelope correctly addressed to it at an address chosen as its domicile citandi et executandi to which post it is delivered, in which event such notice shall be deemed to have been received on the 7th (seventh) business day after posting (unless the contrary is proved); or

27.1.2 Delivered by hand to a responsible person during ordinary business hours at the physical address chosen as its domicilium citandi et executandi, in which event such notice shall be deemed to have been received on the day of delivery; or

27.1.3 Sent by email to any address associated with this tender or specified in clause 16.1.

27.1.4 Notwithstanding anything to the contrary herein contained, a written notice or communication received by a party shall be adequate written notice or communication to it, notwithstanding that it was not sent to or delivered at its domicilium citandi et executandi.

28. QUANTITIES

JW reserves the right to request any quantities deemed necessary, on an As and When required basis.

29.COMPLETENESS

Failure by the tenderer to complete the pricing schedule in full will render the tender liable to rejection on the grounds of being incomplete.

(c) General Conditions of Contract

TABLE OF CLAUSES

1. Definitions
2. Application
3. General
4. Standards
5. Use of contract documents and information inspection
6. Patent Rights
7. Performance security
8. Inspections, tests and analyses
9. Packing
10. Delivery and documents
11. Insurance
12. Transportation
13. Incidental Services
14. Spare parts
15. Warranty
16. Payment
17. Prices
18. Variation orders
19. Assignment
20. Subcontracts
21. Delays in the supplier's performance
22. Penalties
23. Termination for default
24. Anti-dumping and countervailing duties and rights
25. Force Majeure
26. Termination for insolvency
27. Settlement of Disputes
28. Limitation of Liability
29. Governing language
30. Applicable law
31. Notices
32. Taxes and duties
33. Transfer of contracts
34. Amendments of contracts
35. Prohibition of restrictive practices

1. Definitions 1. The following terms shall be interpreted as indicated:

1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.

1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.

1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.

1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.

1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

1.7 "Day" means calendar day.

1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.

1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.

1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the goods are so delivered and a valid receipt is obtained.

1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.

1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.

1.14 "GCC" means the General Conditions of Contract.

1.15 "Goods" means all of the equipment, machinery, and/or other materials that the

GENERAL CONDITIONS OF CONTRACT

supplier is required to supply to the purchaser under the contract.

1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the goods covered by the bid will be manufactured.

1.17 "Local content" means that portion of the bidding price, which is not included in the imported content provided that local manufacture does take place.

1.18 "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.

1.19 "Order" means an official written order issued for the supply of goods or works or the rendering of a service.

1.20 "Project site," where applicable, means the place indicated in bidding documents.

1.21 "Purchaser" means the organization purchasing the goods.

1.22 "Republic" means the Republic of South Africa.

1.23 "SCC" means the Special Conditions of Contract.

1.24 "Services" means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.

1.25 "Supplier" means the successful bidder who is awarded the contract to maintain and administer the required and specified service(s) to the State.

1.26 "Tort" means Delict

1.27 "Turnkey" means a procurement process where one service provider assumes total responsibility for all aspects of the project and delivers the full end product / service required by the contract.

1.28 "Written" or "in writing" means hand-written in ink or any form of electronic or mechanical writing.

2. Application

2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services (excluding professional services related to the building and construction industry), sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.

2.2 Where applicable, special conditions of contract are also laid down to cover specific goods, services or works.

2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General 3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.

3.2 Invitations to bid are usually published in locally distributed news media and on the municipality/municipal entity website.

4. Standards 4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

5. Use of contract documents and information inspection

5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.

5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser

5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent Rights

6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

6.2 When a supplier develops documentation / projects for the municipal owned entity (MOE), the MOE shall retain ownership of any written opinion, advice, presentation or other deliverable that the supplier produces for the MOE in its tangible form on payment of all fees due, owing and payable to the supplier. The ownership of the intellectual property rights in the services, products of the services and the methodology and technology used to perform the services and all its working papers shall be retained by the supplier.

7. Performance security

7.1 Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.

7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.

7.3 The performance security shall be denominated in the currency of the contract, or in

GENERAL CONDITIONS OF CONTRACT

a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:

- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
- (b) a cashier's or certified cheque.

7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified.

8. Inspections, tests and analyses

8.1 All pre-bidding testing will be for the account of the bidder.

8.2 If it is a bid condition that goods to be produced or services to be rendered should at any stage be subject to inspections, tests and analyses, the bidder or contractor's premises shall be open, at all reasonable hours, for inspection by a representative of the purchaser or organization acting on behalf of the purchaser.

8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.

8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the goods to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.

8.5 Where the goods or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such goods or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.

8.6 Goods and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.

8.7 Any contract goods may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected goods shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with goods, which do comply with the requirements of the contract. Failing such removal the rejected goods shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute goods forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected goods, purchase such goods as may be necessary at the expense of the supplier.

8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 22 of GCC.

9. Packing

9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling

during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

10.1 Delivery of the goods and arrangements for shipping and clearance obligations, shall be made by the supplier in accordance with the terms specified in the contract.

11. Insurance

11.1 The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified.

12. Transportation

12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified.

13. Incidental Services

13.1 The supplier may be required to provide any or all of the following services, including additional services, if any:

- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
- (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
- (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
- (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

14. Spare parts

14.1 As specified, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

(a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and;

(b) in the event of termination of production of the spare parts:

- (i) advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
- (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise.

15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.

15.4 Upon receipt of such notice, the supplier shall, within the period specified and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

16. Payment 16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified.

16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of other obligations stipulated in the contract.

16.3 Payment shall be made within 30 days of receipt of the supplier statement, provided the statement submitted is correct and submitted to Johannesburg Water before the end of the month. The invoice for which payment is required must be correct, must be reflected on the statement referred to above and also be submitted by no later than the end of the month.

16.4 Payment will be made in Rands unless otherwise stipulated.

17. Prices

17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized or in the purchaser's request for bid validity extension, as the case may be.

18. Variation in contractual hours

18.1 In the event that work to be performed in terms of this contract be completed in less

than the envisaged time, or in the event that the duration of such work exceeds the envisaged time pursuant to the approval by JW of an exception report referred to in clause 8 of the Scope of Work, the rate per hour payable to the contractor shall remain the same.

19. Assignment

19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

20. Subcontracts

20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

21. Delays in the supplier's performance

21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.

21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.

21.3 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the goods are required, or the supplier's services are not readily available.

21.4 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of penalties.

21.5 Upon any delay beyond the delivery period in the case of a goods contract, the purchaser shall, without cancelling the contract, be entitled to purchase goods of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

23. Termination for default

23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
- (b) if the supplier fails to perform any other obligation(s) under the contract; or
- (c) if the supplier, in the judgement of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner, as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the supplier as having no objection and proceed with the restriction.

23.5 . Any restriction imposed on any person by the purchaser will, at the discretion of the purchaser, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the purchaser actively associated.

23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:

- (i) the name and address of the supplier and / or person restricted by the purchaser;
- (ii) the date of commencement of the restriction
- (iii) the period of restriction; and
- (iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7 . If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters.

When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website

24. Antidumping and countervailing duties and rights

24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the supplier to the purchaser or the purchaser may deduct such amounts from moneys (if any) which may otherwise be due to the supplier in regard to goods or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.

25. Force Majeure

25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

26. Termination for insolvency

26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the purchaser.

27. Settlement of Disputes

27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.

27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.

27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.

27.4 Notwithstanding any reference to mediation and/or court proceedings herein,
(a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and

(b) the purchaser shall pay the supplier any monies due the supplier for goods delivered and / or services rendered according to the prescripts of the contract.

28. Limitation of Liability

GENERAL CONDITIONS OF CONTRACT

28.1 Except in cases of criminal negligence or wilful misconduct, and in the case of infringement pursuant to Clause 6;

(a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and

(b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

29. Governing language

29.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

30. Applicable law

30.1 The contract shall be interpreted in accordance with South African laws, unless otherwise specified.

31. Notices 31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice.

31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

32. Taxes and duties

32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.

32.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.

32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid SARS must have certified that the tax matters of the preferred bidder are in order.

32.4 No contract shall be concluded with any bidder whose municipal rates and taxes and municipal services charges are in arrears.

33. Transfer of contracts

33.1 The contractor shall not abandon, transfer, cede assign or sublet a contract or part thereof without the written permission of the purchaser

34. Amendment of contracts

34.1 No agreement to amend or vary a contract or order or the conditions, stipulations or provisions thereof shall be valid and of any force unless such agreement to amend or vary is entered into in writing and signed by the contracting parties. Any waiver of the requirement that the agreement to amend or vary shall be in writing, shall also be in writing.

35. Prohibition of restrictive practices

35.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended,

GENERAL CONDITIONS OF CONTRACT

an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder(s) is/ are or a contractor(s) was / were involved in collusive bidding.

35.2 If a bidder(s) or contractor(s) based on reasonable grounds or evidence obtained by the purchaser has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in section 59 of the Competition Act No 89 Of 1998.

35.3 If a bidder(s) or contractor(s) has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned. Revised May 2013

BANKING DETAILS FOR EFT

(d) Banking Details for Electronic Funds Transfer

Requirements

- All fields below must be completed and only **the completed original authorised form will be accepted.** (Faxed and emailed copies are not accepted).
- This form must be accompanied by an original **cancelled cheque** or an **original signed and stamped letter from your bank** (date must be not older than 3 months). Alternatively this form can be stamped by your bank.

Supplier Name	
Contact Person	
Email Address	
Telephone Number	
Fax Number	

Bank Information	
Name of Payee (Must be the same as your supplier name)	
Name of Bank	
Account Number	
Branch Code -(to be confirmed with your bank for EFT payments)	
Branch Name	
Reference (if applicable)	

In the event my tender is successful, I hereby authorize Johannesburg Water SOC Ltd, to make all payments by EFT into the above bank account and I have attached the required documents as requested. I have the authority to provide and authorize the above information on behalf of the corporation/organization/payee.

Authorized representative of supplier

Name & Surname: _____ Date: _____

Signature : _____ Designation _____

ANNEXURE B: SCADA INTEGRATION REQUIREMENTS

1. TECHNICAL SPECIFICATION: SCADA API INTEGRATION

1.1 Purpose

This Annexure defines the technical requirements for integrating the Advanced Pressure Management Equipment and Monitoring System with Johannesburg Water's SCADA system, utilising an API interface compatible with Adroit Technologies.

The integration shall enable reliable operational monitoring, alarm management, diagnostics, data storage and future analytical use of pressure management information across the Johannesburg Water distribution network.

1.2 Scope

This specification covers:

- API connectivity between the Pressure Management Software and the SCADA system
- Monitoring by Johannesburg Water's operations personnel
- Event and alarm management via the SCADA system
- ICT governance and cyber-security alignment
- Contractor responsibilities for implementation, testing and commissioning

This Annexure forms an integral part of the Advanced Pressure Management Equipment and Monitoring System specification.

1.3 SCADA Environment

- Johannesburg Water's SCADA platform is based on Adroit Technologies.
- The Contractor shall ensure full compatibility with the JW SCADA environment.
- All exchanged data shall be structured and machine-readable for ingestion into SCADA, historians and analytics systems.

1.4 API Connectivity and Data Exchange

1.4.1 API Architecture

The Pressure Management Software shall provide an API interface that supports push-based data transmission, pull-based data access, or a combination of both, subject to compatibility with the Adroit SCADA system.

- Push-based: Data is automatically transmitted to SCADA at configured intervals.
- Pull-based: SCADA securely requests and retrieves data from the API on demand.

The selected implementation shall comply with Adroit Technologies' best practices and Johannesburg Water ICT requirements.

1.4.2 Minimum Data Set

For each pressure management site, the API shall expose or transmit:

Advanced Pressure Management Equipment and Monitoring System

Site Information

- Site name
- Site location (GPS coordinates or approved identifier)

Operational Data

- Pressure readings
- Flow readings
- These readings must be Date-Time stamped values

Telemetry and Diagnostics

- GSM signal strength
- Logger battery percentage

This information shall be available to operational and field personnel for monitoring connectivity, diagnostics and maintenance.

1.5 Data Transmission Frequency

- The GSM Data shall be transferred **at least twice per day per site** as a minimum.
- The system shall support configurable higher frequencies if required.
- Buffering and retry mechanisms shall prevent data loss during communication interruptions.

1.6 Operational Monitoring and Alarms

1.6.1 Monitoring

The system shall support monitoring by a 24/7/365 continuously staffed Telemetry Control Room.

1.6.2 Events and Alarms

The system shall allow configuration of events and alarm thresholds on the SCADA, including but not limited to:

- High or low pressure
- Abnormal or zero flow
- Communication failure
- Low battery levels
- Poor GSM signal strength

Alarm conditions shall be visible within the SCADA system.

1.6.3 Notification

The system must be designed for Operational personnel to be notified of potential issues within 24 hours of detection.

Advanced Pressure Management Equipment and Monitoring System

1.7 Availability and Reliability

- Continuous operation suitable for 24/7/365 monitoring
- Automatic recovery following communication outages
- Full audit logging of data transactions and events

1.8 Data Ownership and Use

- All data shall remain the property of Johannesburg Water.
- Data shall be available for operational monitoring, historical trending, diagnostics, and future analytics.

1.9 ICT Governance and Cyber-Security Alignment

Johannesburg Water's information systems and ICT governance practices are aligned with the principles of COBIT (Control Objectives for Information and Related Technologies).

Reference to COBIT is provided for governance context only and shall be interpreted as alignment with Johannesburg Water's applicable ICT policies, standards, and control requirements.

The integration shall not introduce cyber-security vulnerabilities and shall comply with JW-ICT requirements for access control, authentication, encryption, and auditability.

1.10 Mandatory and Non-Negotiable SCADA Integration Requirement

- Compliance with this requirement is mandatory and non-negotiable.
- The Contractor shall include in their tendered price all costs associated with engaging an Adroit-approved System Integrator and/or the OEM.
- The Contractor shall ensure full testing, compliance, and commissioning.
- No additional claims related to SCADA integration shall be entertained.

1.11 Commissioning and Acceptance

Commissioning shall only be deemed complete once:

- End-to-end testing is successful
- Alarms and diagnostics are verified
- ICT and cyber-security requirements are met
- Written acceptance is issued by Johannesburg Water Operations: Electrical Support Management (ESM) business unit.

2. THE SCHEDULE OF EVENTS – SCADA API INTEGRATION

- i) Project kick-off meeting with Operations: ESM
- ii) Engagement with Adroit System Integrator / OEM
- iii) Confirmation of data points, alarms, and API architecture
- iv) API design and security review

Advanced Pressure Management Equipment and Monitoring System

- v) API development and SCADA configuration
- vi) Factory and site testing
- vii) Live data integration
- viii) End-to-end operational testing
- ix) Control room validation
- x) Commissioning
- xi) Documentation and handover

SIGNATURE(S) OF AUTHORIZED PERSON:

NAME AND SURNAME:

DATE:

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	TENDER NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCRIPTION:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

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 2)
- 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 T2.12 as applicable*

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
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VOLUME 2

OCCUPATIONAL HEALTH & SAFETY SPECIFICATION

JW OPS 072/26

SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

Prepared by: OHS Department PO Box 61542 Marshalltown 2107 Tel: +27 11 688 1476	PRINCIPAL CONTRACTOR:	
	CEO (16.1 APPOINTEE):	
	TELEPHONE NUMBER:	
	FAX NUMBER	
	E-MAIL ADDRESS:	
	SIGNATURE:	

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
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General Notification

This document forms an integral part of the Contract Specification and, in particular, shall constitute the Client's (Johannesburg Water SOC Ltd.) Occupational Health & Safety (OHS) Specification, as required by the Construction Regulations, 2014, as promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993). The Specification shall furthermore be applied for the management of Mandatories performing activities for or on behalf of Johannesburg Water SOC Ltd, irrespective whether the contract work constitutes construction work or not.

The Contract Specification is contained in Volume 1 of the contract documents in Part 3: Scope of Work.

Acknowledgements

This Occupational Health & Safety (OHS) Specification was developed by the internal OHS Department for the sole use by Johannesburg Water SOC Ltd. The issue date of this OHS Specification is September 2016.

ITEM	Page no
1. Introduction	6
1.1 JW's commitment to OHS management	6-7
1.2 Scope of OHS specification	7
1.3 Omissions	7
1.4 Change management	7
2. Overview of contractor management	7
2.1 Contractor management process	8
3. OHS Documentation	9
3.1 Safety file	9
3.2 Principal Contractor appointment	9-10
3.3 37.2 agreement	10-11
3.4 OHS plan	11
3.5 Legislative framework	11
3.6 OHS Policy	11
3.7 Appointments & competencies	11
3.7.1 Appointment index	12
3.8 Insurances	13
3.9 Costing for OHS	13
3.10 Sub-contractors	13
3.11 Notification of construction work	13
3.12 Construction work permit	14
4. Organisational Structure / Organogram	14
5. Commitment to OHS	14
6. HIRA	14-16
6.1 Baseline risk assessment	16

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

6.2	Issue based risk assessment	16
6.3	Continuous risk assessment	16
6.4	Safe work procedures	16
7.	Incident Management	16-17
7.1	Reporting	16
7.2	Investigation	16
7.3	Close-out	17
7.4	Lost time injury rate	17
8.	Medicals screening requirements	17
9.	Emergency management	18
10.	OHS Training	18-20
11.	PPE requirements	20-21
12.	Disciplinary processes	21
13.	Site rules	21
14.	Public health and safety	21
15.	Refusal to work	21
16.	Security on site	22
17.	Accommodation on site	22
18.	Welfare facilities	22
19.	Compliance monitoring	22-24
19.1	Inspections	22
19.2	Audits	23
19.3	Work stoppages	23-24
19.4	Non-compliance monitoring	24
20.	Operational Control	25-41
20.1	Excavations	25-27
20.2	Confined space entry	27-29
20.3	Barricading	29-30
20.4	Working at heights	30
20.5	Symbolic signage	30-31
20.6	Use and storage of flammables	31-32
20.7	Hazardous chemical substances	32
20.8	Fire prevention and protection	32-33
20.9	Stacking and storage	33
20.10	Housekeeping	34

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

20.11	Traffic management	34
20.12	Hand tools	34-35
20.13	Portable electrical equipment	35
20.14	Lifting machinery and machinery	35-38
20.15	Ladders	38-39
20.16	Construction vehicles and mobile plant	39-40
20.17	Asbestos exposure	-
20.18	Horizontal directional drilling	40-41
23.	Monthly reporting	41
24.	Project close out	41
25.	Sign off form	42

ABBREVIATIONS

Abbreviation	Description
CR	Construction Regulations
COID	Compensation for Occupational Injuries and Diseases
DoL	Department of Labour
GAR	General Administrative Regulations
GMR	General Machinery Regulations
GSR	General Safety Regulations
HCS	Hazardous Chemical Substances
HIRA	Hazard Identification and Risk Assessment
JW	Johannesburg Water (SOC) Ltd
MSDS	Material Safety Data Sheet
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
PER	Pressure Equipment Regulations
SANS	South African National Standards
SABS	South African Bureau Standard
OHS	Safety, Health & Environment
SOC	State Owned Company

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

DEFINITIONS

Word / Phrase	Definition
“WCL 1”, “WCL 2” and “WCL 22”	Means the prescribed forms for reporting of incidents and occupational diseases referred to in the Compensation for Occupational Injuries and Diseases Act.
Competent Person	A person who has in respect of the work or task to be performed the required knowledge, training, experience and, where applicable, qualifications specific to that work or task: provided that where appropriate, qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, (Act 67 of 2000).
Construction work	Any work in connection with: a) The construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure b) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work
Contractor (inclusive of Principal Contractor)	Any organization, person, entity performing activities for or on behalf of Johannesburg Water SOC Ltd.
Corrective Action	Action to eliminate the cause of a detected nonconformity or other undesirable situation.
Employee	Any person who is employed by or works for an employer and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person
Employer	Any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him, but excludes a labour broker as defined in section I (1) of the Labour Relations Act, 1956 (Act No. 28 of 1956)
Hazard	Means a source of or exposure to danger.
Hazard identification	The identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed.
Incident	Means an incident as contemplated in section 24 (1) of the OHS Act 85 of 1993.
Machinery	means any article or combination of articles assembled, arranged or connected and which is used or intended to be used for converting any form of energy to performing work, or which is used or intended to be used, whether incidental thereto or not, for developing, receiving, storing, containing, confining, transforming, transmitting, transferring or controlling any form of energy
Mandatory	Includes an agent, a contractor or a subcontractor for work, but without derogating from his status in his own right as an employer or a user
Medical surveillance	Means a planned programme or periodic examination (which may include clinical examinations, biological monitoring or medical tests) of employees by an occupational health practitioner or, in prescribed cases, by an occupational medicine practitioner.
Method Statement	A document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment.
Principal Contractor	Any employer who performs work and is appointed by the Client to be in overall control and management of the contract work (inclusive of Mandatories).
OHS File	A file or other record in permanent form, containing the information required as contemplated in the S.H.E Specification Document and legal requirements applicable to work activities.
OHS Plan	A documented plan which seeks to address all hazards identified means and ways to control and eliminate such to ensure compliance to the S.H.E Specification.
Workplace	Any physical location in which work related activities are performed under the control of the organization.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

1. Introduction

In terms of Section 37 of the Occupational Health and Safety Act (Act no. 85 of 1993), Johannesburg Water SOC Ltd is required to control persons/organizations conducting activities for or on their behalf (Mandatories) and the Construction Regulations promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993), is requiring Johannesburg Water SOC) Ltd. to compile an occupational health and safety specification for any intended project classified as construction work and to provide the specification to prospective tenderers / Mandatories.

The dual objective of this specification is to ensure that the Mandatories and Principal Contractors (herein after called Principal Contractor (including Mandatories)) entering into a contractual agreement/relationship with Johannesburg Water SOC Ltd. achieves and maintains an acceptable level of occupational health, safety and environmental performance whilst conducting activities to perform the contract work.

This document forms an integral part of the Contract Specification and, in particular, shall be the OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL (OHS) SPECIFICATION FOR CONSTRUCTION WORK. The Contract Specification is contained in Volume 1 of the contract documents. The principal and other contractors shall ensure that this specification is included with any contract/s that they may have with other contractors and/or suppliers that are engaged for the provision of labour, goods or services for this project. The Principal Contractor and its Contractors shall furthermore implement any reasonable practicable means to ensure compliance to this Occupational Health, Safety and Environmental (OHS) Specification and any other applicable legislation on their organization and/or activities performed by or for them. This OHS Specification will be read in conjunction, where issued and applicable, with the Environmental Specification issued for listed activities requiring environmental authorization by a relevant authority.

Compliance with this OHS specification does not absolve the Principal Contractor from complying with any other applicable minimum legal requirement and the Principal Contractor remains responsible for the sustainable integrity of the environment and the health and safety of its employees, mandatories as well as any persons affected by activities conducted for or on behalf of Johannesburg Water SOC Ltd (SOC) Ltd..

1.1 Johannesburg Water SOC Ltd's commitment to Occupational Health & Safety (OHS) Management

Johannesburg Water SOC Ltd is committed to responsible occupational health, safety and environmental management. This commitment is essential to protect the environment, employees, Mandatories, visitors and provide a work environment conducive to health and safety. Principal Contractors and their Contractors shall demonstrate their commitment and concern by:

- Ensuring that decisions and practices affecting occupational health, safety and environmental performance are consistent with the issued OHS specification;
- Ensuring adequate resources are made available for the effective implementation of occupational health, safety and environmental control and mitigation measures;
- Participating in hazard identification and risk assessments and design safety reviews;
- Communicating occupational health, safety and environmental management processes, strategies and control measures with all levels of employees, contractor and/or visitors;
- Ensuring visible leadership at all sites;
- Promoting and enforcing the use of correct types of Personal Protective Equipment (PPE);
- Reporting and investigation of incidents and accidents and ensuring actions are identified and implemented to prevent similar types of incidents reoccurring;
- Participating in Client audits and meetings and ensuring required actions are implemented within reasonable time frames on the site/project;
- Recognizing and commending safe work practices and coaching employees who require guidance;
- Applying and enforcing consequence management from deviations and transgressions of/from compliance to this OHS Specification noted and/or observed, where applicable;

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Carrying out safety observations, implement corrective and preventative actions and giving immediate feedback;
- Encouraging employee participation in the formulation of work instructions and safety rules.

1.2 Scope of Occupational Health, Safety and Environmental (OHS) Specification

The scope of this Occupational Health, Safety and Environmental (OHS) Specification is to address the reasonable and foreseeable aspects of occupational health, safety and environmental management, which will be affected by the contract work.

The specification will provide 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 or degradation of the environment, to a level as low as reasonably practicable and possible.

In particular, Johannesburg Water SOC Ltd will ensure that it shall not appoint any Principal Contractor unless it is reasonably satisfied that the contractor which it intends to appoint has the necessary competencies and resources to carry out the work safely.

1.3 Omissions from OHS Specification

Where any omission from the OHS Specification is identified, applicable legal requirements will constitute the minimum standard for compliance to the relevant omission. The responsibility will be on the Principal Contractor to provide assurance to Johannesburg Water SOC Ltd on compliance to the applicable legal requirements related to the activity / task / process.

1.4 Change management

Whenever Johannesburg Water SOC Ltd identifies the need to change or review the OHS Specification, approved changes and revisions will be communicated to the Principal Contractor. A cost analysis on the implementation of the proposed changes / revisions will be calculated through a collaborative processes between Johannesburg Water SOC Ltd and the Principal Contractor – where the approved changes and/or revisions has no cost implication for the Principal Contractor the Principal Contractor will be required to accept the approved changes / revisions and ensure implementation within the OHS Plan / File framework.

2 Overview of contractor management process

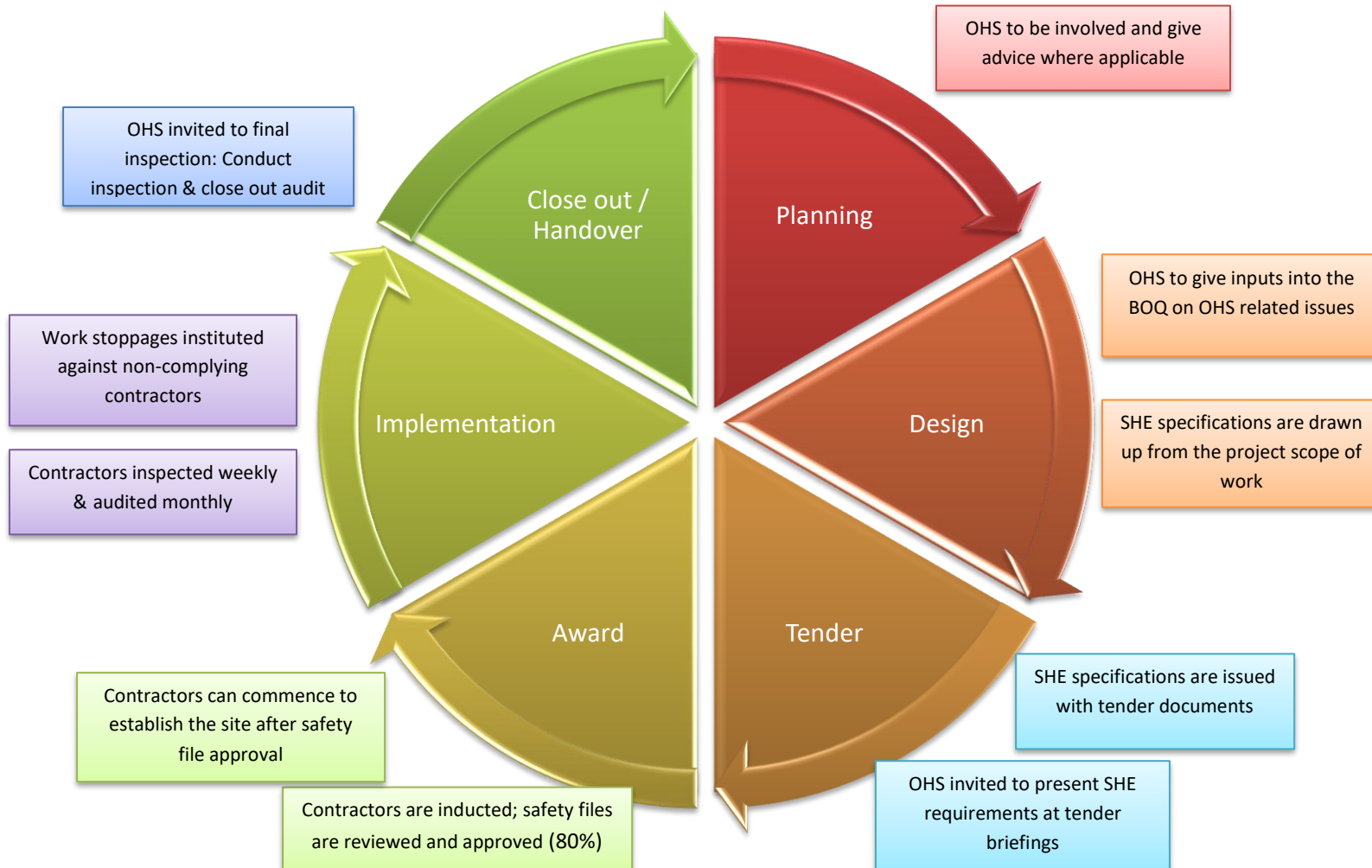
The contractor management process consists of the following phases:

- Tender briefing and tender documentation;
- Competency evaluation of Principal Contractors (integrated into Supply Chain Management processes);
- Appointed contractor to attend OHS system induction;
- Preparation of OHS File by Principal Contractor;
- Evaluation of OHS File;
- Principal Contractor engagement phase;
- Project close-out and submission of consolidated Health & Safety File.



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION

PROJECT NUMBER:	JW OPS 072/26
PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.



 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

2. OHS DOCUMENTATION

2.1 Safety file

The Principal Contractor will prepare a OHS File containing the processes / procedures and templates to be applied during the project period for the scope of work. The Principal Contractor will be evaluated during the contract period against the submitted OHS File.

At a minimum the OHS File will contain the following documentation:

- Notification of construction work to the relevant Department of Labour (stamped on each page / no faxed copies);
- Scope of work to be performed;
- Personnel list (Principal Contractor employees);
- OH&S / OHS Policy and other Policies;
- Updated copy of the Occupational Health and Safety Act (Act no. 85 of 1993) and its Regulations; COLD Act.
- Proof of valid registration and good standing with the Compensation Commissioner or another licensed Insurer;
- OHS Plan agreed with Johannesburg Water SOC Ltd.
- Approved risk assessments, review and monitoring plans and safe work procedures (method statements);
- A list of contractors (sub-contractors) including copies of the agreements between the parties and the type of work being done by each contractor;
- All written designations and appointments for project scope of work (CV and competency copies);
- Management structure (inclusive of OH&S responsibility & meeting structure);
- Induction training and site OHS rules;
- Occupational health and safety training matrix / plan;
- Arrangements with contractors and/or mandatories;
- Description of security measures;
- The following registers (as applicable to contract scope of work):
 - Accident and/or incident notifications, investigation & control register;
 - Occupational health and safety representatives inspection register;
 - Template for entry into confined space;
 - Toolbox talks pro-forma;
 - Fall protection inspections template;
 - First-aid box content template;
 - Record of first-aid treatment template;
 - Fire equipment inspection and maintenance template;
 - Ladder inspection template;
 - Machine safety inspections template (including machine guards, lock-outs etcetera);
 - Inspection templates for lifting machines and –tackle (including daily inspections by drivers/operators);
 - Inspection templates of scaffolding;
 - Inspections templates of structures;
 - Templates of issuing of Personal Protective Equipment;
 - Monthly reporting and recording of statistics templates;
 - Keeping of any other record in terms of applicable legislation falling within the scope of OHS Legislation applicable to the project and the Principal Contractor / Contractor's activities and organization.
- Emergency preparedness and response programmes;
- Medical examination tests

2.2 Principal contractor appointment

- The principal contractor will be appointed in terms of Construction Regulations 2014, Reg 5(1) k

CLIENT SHE SPECIFICATION – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.4 – SEPTEMBER 2016	Page 9 of 38

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- All responsibilities imposed on the contractor by the Regulations will be applicable
- The duties will include:
 - a) Prepare a site specific OHS file based on client OHS specification and project scope.
 - b) Have an updated Letter of Good standing.
 - c) Ensure the necessary legal appointment letters are compiled and signed by affected parties.
 - d) Ensure OHS file submitted before work commences to Johannesburg Water for evaluation and approval.
 - e) Must ensure an organizational medical programme for its employees is in place. This must address pre-employment, periodic examination, and exit examinations.
 - f) Ensure all employees undergo medical examination and are declared fit for the job they are employed for by a Medical Practitioner.
 - g) All employees undergo his control undergo company specific induction and Johannesburg water induction.
 - h) Ensure before work commences employees are trained on the health and safety risks associated with the work they are conducting.
 - i) Ensure employees are trained on company procedures, policies, method statements and informed of the Johannesburg Water OHS requirements as per the specification.
 - j) Ensure legislative requirements are complied with during the duration of the contract and ensure that their employees comply also.
 - k) Sign the 37 (2) Agreement between Johannesburg Water and themselves before any work commences and kept on their OHS file.
 - l) Ensure that 37(2) Agreement(s) are signed between themselves and their sub-contractors.
 - m) Ensure that sub-contractors have valid Compensation Commissioner Letter of Good Standing.
 - n) Have a disciplinary procedure to address those found to be transgressing requirements of OHS specification, OHS plan, site rules or any other OHS act and its Regulation requirement.
 - o) Prevent any employee or visitor who is under the influence of any alcohol or drugs (in state of intoxication) from being allowed to site.
 - p) Ensure the safety of employees who are taking legal medication.
 - q) Must hand over a consolidated OHS file at the end of the contract.
 - r) Stop his/her employees who are doing unsafe acts or who are creating an unsafe environment.
 - s) Investigate all incidents and report to Johannesburg water and ensure all reportable incidents as per the legislative requirement are complied with.
 - t) Ensure work is supervised by competent personnel and that work is done by competent employees.
 - u) Ensure pre-task risk assessment is done by a competent person and that employees are informed of the pre-task risks and the risk control measures.
 - v) Ensure tool box talks are conducted to communicate OHS issues in connection to the work being done and any other aspects.
 - w) Ensure that appointed personnel as per the OHS file are executing their duties as per the legal appointment.
 - x) Ensure first aid kit is made available in case of any emergency.
 - y) Ensure that housekeeping is maintained in good condition and that materials are store/stacked properly in designated areas.
 - z) Have sufficient waste receptacles and ensure the correct disposal of the different wastes.
 - aa) Proof of hazardous waste disposal to be requested from disposal site and to be kept inside OHS file.
 - bb) Take reasonable steps to ensure that each appointed sub-contractor health and safety plan is implemented and maintained on the site and OHS File documentation is up to date.
 - cc) Stop any work from being executed which is not in accordance with the client's health and safety specification and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons.
 - dd) Must maintain an up to date list of all the sub-contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done; and
 - ee) Ensure that all his or her employees have a valid medical certificate of fitness.

2.3 37.2 Agreement

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Johannesburg Water will enter into a 37(2) Agreement with all the appointed contractors
- A copy of the 37(2) Agreement must be kept in the OHS file of the contractor at all times.
- It is the responsibility of the contractor to ensure that there are 37(2) agreements between themselves and all their appointed sub-contractors.

2.4 OHS Plan

- The contractor shall prepare a OHS plan to address and manage all applicable sources of risk that are identified during the execution of the project. The OHS plan shall incorporate the requirements as listed in the OHS specification.
- A copy of the OHS plan shall be submitted together with OHS file for review and approval.
- It is the contractor responsibility to ensure they sub-contractor compiles a OHS plan that in line with the OHS specification requirement of Johannesburg Water.

2.5 Legislative framework

All contractors shall comply with legislation pertaining to this contract, including but not limited to:

- Constitution of the Republic of South Africa
- Occupational Health and Safety Act and its associated Regulations
- National Environmental Management Framework Legislation
- National Road Traffic Act
- Applicable South African National Standards (SANS)
- Compensation of Occupational Injuries and Diseases Act (COID)
- Local by-laws and provincial ordinances

2.6 OHS Policy

A OHS policy is a statement of intent and a commitment by the organization Chief Executive or Managing Director (OHS Act 16(1) appointee) in relation to requirements applicable to their Safety, Health and Environmental legal obligation, relevant OHS roles and responsibilities, and contractual obligations to the Client.

The contractor and their sub-contractor companies shall each have a documented OHS Policy authorized by their Chief Executive/Managing Director (OHS Act Section 16 (1) Appointee). The OHS Policy must meet the following minimum requirements;

- Organizational Mission and Goal.
- State the overall OHS objectives within the project.
- Show commitment to the prevention of injuries and ill-health.
- Show commitment to the protection of environment and the conservation of natural resources.
- Must be reviewed at predetermined intervals, or when there is change in work process, serious incident occurs.
- The OHS Policy must be in line with OHSAS 18001 and ISO 14001 requirements and guidance documentation.
- Must be authorized by contractor CEO.

2.7 Appointments and competencies

- The contractor and its appointed sub-contractor must make the relevant legislative and non-statutory appointments, which must be maintained valid for the entire contract duration.
- All appointees shall be suitably trained and certified competent for the responsibilities they are assigned for.
- Copies of all relevant appointments and the relevant competence certificates must be kept in the relevant OHS file.

2.8 Supervision of construction work

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- The principal contractor shall ensure that the construction manager and construction health and safety officer are appointed for a **single site** on a full time basis.
- JW should be informed in writing of the absence of the above-mentioned on site.

Appointment index

Appointment	Legislative Ref	Competency requirements (Min)
Alternate Construction Manager	CR 8.1	N.Dip Eng + 3yrs exp in similar role
Assistant Construction Manager	CR 8.2	N/A
Confined Space Supervisor	GSR 5	Certificate + Proven experience
Construction Manager (<i>Technician</i>)	CR 8.1	N.Dip Eng + 3yrs exp in similar role Full time on site
Construction Health, Safety & Environmental Officer	CR 8.5 JW requirement	N.Dip Safety + 2yrs exp; OR N.Dip Enviro + 3yrs exp; OR NEBOSH / SAMTRAC + 4yrs exp Proof of application with SACPCMP Full time on site
Construction supervisor	CR 8.7	3 yrs experience in similar role
Construction vehicle & mobile plant supervisor	CR 23.1	Certificate
Excavation supervisor (including piling)	CR 13	3yrs exp / N.Dip building
Explosive actuated fastening device inspector	CR 21	Certificate
Fall protection supervisor	CR 10.1	Certificate
First-aiders	GSR 3	Certificate
Fire fighting equipment inspector	CR 29	Certificate
Hazardous chemical substances supervisor	HCS Regs	Certificate
Incident investigator	GAR 9.2	Certificate
Ladder inspector	GSR 13A	-
Occupational health and safety representatives	OHS Act 17	Certificate
Risk assessor	CR 9.1	Certificate

2.9 Insurances

- The principal contractor and all his appointed contractors shall be registered with an appropriate compensation commissioner and have available a valid letter of good standing at all times.
- The obligation lies with the contractor to ensure that the Letter of Good Standing remains valid throughout the entire duration of the project.
- A copy of the said letter must be filed in all OHS files and made available during inspections and audits.

2.10 Costing for OHS

The contractor is responsible for ensuring that OHS costing is taken into consideration for the entire project/contract as this will ensure they comply with the OHS legislative requirements.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
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2.11 Sub-contractors

- Whenever the Principal Contractor appoints contractors or sub-contractors, it is a requirement that an Occupational Health and Safety Act (Act no. 85 of 1993) Section 37(2) agreement (i.e. Agreement with Mandatory) is entered into between the Principal Contractor and Contractors.
- The Principal Contractor will ensure that all appointed contractors comply with the Johannesburg Water SOC Ltd OHS Specification requirements.
- The Principal Contractor will establish a procedure on sub-contractor management and assurance on compliance to the established procedure will be provided to Johannesburg Water SOC Ltd on a monthly basis.
- Principal Contractors are required to formally notify Johannesburg Water SOC Ltd before appointing subcontractors.
- Johannesburg Water SOC Ltd shall approve all specialist subcontractors to be appointed and/or engaged by the Principal Contractor.

The Principal Contractor shall:

- Ensure prior to work commencing on the site that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;
- Appoint each contractor in writing for the part of the project on the construction site;
- Take reasonable steps to ensure that each contractor's health and safety plan is implemented and maintained on the construction site;
- Ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;
- Stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons;
- Include and make available a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done; and
- Ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

2.12 Notification of construction work

- There will not be a requirement for submitting a notification of construction work to Department of Employment and Labour.

2.13 Construction work permit

- N/A

3. ORGANISATIONAL STRUCTURE

- The contractor shall develop and submit together with OHS file an organizational organogram related to the contractor, listing all the levels of responsibility from the Chief Executive down to the supervisor(s) responsible for the project.
- The organogram diagram must list all relevant positions, names of appointees and legal appointments.
- The contractor is responsible for updating the organogram timeously when there are changes to the appointments.
- All appointed sub-contractors are also required to compile their own organograms.

4. COMMITMENT TO OHS

- Visible commitment is essential to providing a safe working environment.
- Managers, supervisors and employees at all levels must demonstrate their commitment by being proactively involved in the day to day OHS operations.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Legislation requires that each employee takes reasonable care of themselves and their fellow workers

5. HIRA

Annexure 1: List of possible hazards emanating from projects and activities conducted for or on behalf of Johannesburg Water SOC Ltd includes an assessment of site specific health and safety hazards and risks and environmental aspects and impacts that have been identified by Johannesburg Water SOC Ltd as possibly applicable to the contract work for this project. It is by no means exhaustive and is offered as assistance to the tenderers and contractors.

Development of risk assessments

Every Contractor performing construction work shall, before the commencement of any construction work or work associated with the construction work, and during construction work, ensure that a risk assessment is undertaken by a competent person, appointed in writing, and the risk assessment shall form part of the OHS plan to be applied on the site. Risk assessments shall identify occupational health and safety hazards and risks and environmental aspects and impacts emanating from the activity to be performed by the Principal Contractor / Contractor.

The risk assessment (inclusive of impact assessment) shall include (at a minimum):

- Identification of the relevant Johannesburg Water SOC Ltd Project with regard to JW Number, Project name and area;
- Date on which risk assessments were conducted / reviewed;
- The identification of the risks / hazards and aspects / impacts to which persons may be exposed to per activity;
- The analysis and evaluation of the risks / hazards and aspects / impacts identified;
- Existing control measures and proposed corrective measures;
- A plan to review the risk assessments as the work progresses and changes are introduced;
- Identification of significant risks (e.g. high; exceeding 75%);
- A documented plan of Safe Working Procedures (SWP)', and its relevance to the risk assessment, inclusive of method statements, to mitigate, reduce or control the risks and hazards that have been identified;
- A plan to monitor the application of the Safe Working Procedures (SWP);
- Signature of appointed competent person conducting risk assessment; and
- Signature of approval by Principal Contractor management and employees involved in risk assessment.

Based on the risk assessments, the Principal Contractor must develop a set of site-specific occupational OHS rules that will be applied to regulate the health, safety and environmental hazards/aspects of the construction work.

The risk assessments, together with the site-specific occupational health and safety rules, must be submitted to Johannesburg Water SOC Ltd before mobilisation on site commences. These will be included in the OHS plan. The Contractor shall ensure through his risk management process the hierarchy of controls stipulated as follows, are implemented:

- **Eliminate** - The complete elimination of the hazard.
- **Substitute** - Replacing the material or process with a less hazardous one.
- **Redesign** - Redesign the equipment or work process.
- **Separate** - Isolating the hazard by guarding or enclosing it.
- **Administrate** - Providing control such as training, procedures etc.
- **Personal Protective Equipment (PPE)** - Use of appropriate and properly fitted PPE where other controls are not practical. (PPE as the last resort)

The Principal Contractor will be required to carry out the following three forms of risk assessment:

- Baseline risk assessment;
- Issue based risk assessment;
- Continuous risk assessments.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
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	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

Baseline risk assessments

The Principal Contractor is required to develop a baseline risk assessment taking the resources, competency levels, nature and scale of their organization into consideration for submission during OHS File evaluation phase. The hazards and risks to which persons, plant, vehicles and facilities may be exposed during the construction should be identified and evaluated. The aspects and impacts resulting in environmental pollution or degradation should also be identified and evaluated. Measures to reduce or control these risks or hazards should be defined during this assessment. The effectiveness of the measures defined and the baseline risk assessment prepared shall be monitored and reviewed from time to time to ensure that it remains relevant and accurate.

Issue based risk assessments

The Contractor will be required to carry out separate risk assessments during construction of the project when methods and procedures are varied, for example when:

- Designs are amended;
- New machines are introduced;
- Plant is periodically cleaned and maintained;
- Plant is started-up or shut-down;
- Systems of work change or operations alter;
- Indents or near-misses occur; or
- Technological developments invalidate prior risk assessments.

Continuous risk assessments

The Occupational Health and Safety Act (Act no. 85 of 1993) specifically requires that employers shall provide and maintain working environments that are safe and without risk to health. The general awareness of hazards needs to be raised as work ethic to maintain a safe and risk free environment on an on-going basis. This is achieved by continuous risk assessments, a form of risk assessment that takes place as an integral part of day-to-day management. Examples of continuous risk assessments include:

- Maintaining general hazard awareness, and
- Pre-work risk assessments / Daily Safety Task Instructions.

Occupational health and safety risks or environmental impacts that are identified during the risk assessment process shall be communicated before the commencement of the said activity to every employee whose work is associated with the risk. Each employee shall sign to confirm understanding of the safety, health or environmental risks in the tasks.

Review of risk assessments

The Principal Contractor is required to review the hazards identified, the risk assessments and the Safe Work Procedures as the contract work develops and progresses and each time changes are made to the designs, plans and construction methods and/or processes. Revisions to the approved risk assessments and Safe Work Procedures will be presented at each production planning and progress meeting.

Risk assessments are to be reviewed whenever there is change on the scope of work, process, and accidents or when required by Johannesburg Water SOC Ltd

The Principal Contractor must provide Johannesburg Water SOC Ltd, other contractors and all other concerned or affected parties with copies of any changes, alterations or amendments to risk assessments and Safe Work Procedures within 14 days of such changes.

6. SAFE WORK PROCEDURES / METHOD STATEMENTS

Method statements or written safe work procedures shall be documented for all high risk activities:

- Design change or scope change/addition

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Change in job or task
- Introduction of new machinery, equipment or substance.

Method statements or written safe work procedures shall identify following:

- Tasks that are to be undertaken
- The hazards and associated risks of the task(s)
- The control measures for the task(s)
- The equipment and substances that are associated with task(s)
- Any training or qualification needed to do the task
- Personal protective equipment to be worn.

7. INCIDENT MANAGEMENT

7.1 Reporting of accidents and incidents

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he:

- Dies
- Becomes unconscious
- Loses a limb or part of a limb
- Is injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he was usually employed

Or where -

- A major incident occurred
- The health or safety of any person was endangered
- Where a dangerous substance was spilled
- The uncontrolled release of any substance under pressure took place
- Machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- Machinery ran out of control

to Johannesburg Water SOC Ltd within two days and to the Provincial Director of the Department of Labour within seven days from date of incident (Section 24 of the Occupational Health and Safety Act (Act no. 85 of 1993) and General Administrative Regulations), except that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both Johannesburg Water SOC Ltd and the Provincial Director of the Department of Labour forthwith by telephone, telefax or e-mail.

- All other reports required by this specification must also be completed. Reporting of accidents / incidents to Johannesburg Water SOC Ltd will be on the prescribed format.
- The Principal Contractor is required to provide Johannesburg Water SOC Ltd with copies of all statutory reports required in terms of the Occupational Health and Safety Act (Act no. 85 of 1993) within 7 days of the incident occurring.
- The Principal Contractor is required to provide Johannesburg Water SOC Ltd with copies of all internal and external accident/incident investigation reports, within 7 days of the incident occurring.

7.2 Accident and incident investigation

- The Principal Contractor is responsible for the investigation of all accidents and/or incidents where employees and non-employees were injured to the extent that they had to receive medical treatment other than first aid.
- The results of the investigation are to be entered into the accident and/or incident register. The Principal Contractor is responsible for the investigation of all incidents, including those described in Section 24 (1) (b) and (c) of the Occupational Health and Safety Act (Act no. 85 of 1993) and for keeping a record of the results of the investigations including the steps taken to prevent similar accidents in future.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- The Principal Contractor is responsible for the investigation of all road traffic accidents, related to the construction activities, and for keeping a record of the results of the investigations including the steps taken to prevent similar accidents in future.
- Johannesburg Water SOC Ltd reserves the right to hold its own investigation into an incident or call for an independent external investigation.

7.3 Close out

- All incident investigation reports will be closed out once all the recommendations to prevent further incidents have been implemented.
- A copy of the investigation report must be handed to JW Safety Officer conducting the investigation.

8. MEDICAL SCREENING REQUIREMENTS

- The Principal Contractor shall ensure that a medical surveillance programme is implemented for all employees.
- An initial health evaluation shall be carried out by an occupational health practitioner immediately after a person commences employment, where any exposure exists or may exist, which comprises:
 - an evaluation of the employees medical and occupational history;
 - a physical examination; and
 - any other essential examination which in the opinion of the occupational health practitioner is desirable in order to enable the practitioner to do a proper evaluation.
- Medical surveillance and immunisation shall be done accredited at / by institutions or occupational health personnel, including, but not limited to:
 - Audiograms.
 - A cardio-respiratory examination / Lung function test;
 - Chest X-rays
 - Eye/ sight tests.
 - A general physical examination;
 - A review of previous medical history.
 - Glucose levels
 - Blood pressure
- An entry medical certificate shall be obtained for all workers prior to commencing with site activities from approved medical institution. Copies of all medical certificates shall be retained in the OHS File prior to site establishment and before an employee is allowed to come onto site.
- Specific attention shall be given to the physical and psychological fitness of people who will be required to work in elevated positions and operators of mobile machinery.
- An exit medical certificate shall be obtained for all workers at the end of the contract and for all workers who leave the employment of the Contractor before the end of the Project. Copies of all exit medical certificates shall be submitted to the Johannesburg Water SOC Ltd Project Specialist or Appointed OHS Agent.

9 EMERGENCY MANAGEMENT

The Principal Contractor must appoint a competent person to act as emergency controller and/or coordinator.

The Principal Contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that Johannesburg Water SOC Ltd may have in place.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

In the event where a contractor incorporates the services of a 3rd party service provider for the provision of Emergency Response Services, the following criteria must be met:

- Identification of 3rd party emergency response services (organization & contact details);
- Notification of contractor to 3rd party emergency response service of incorporation of services into contractor's emergency response plan (written agreement / signed letter).

The Principal Contractor and the other contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

First-aid

The Principal Contractor must provide first-aid equipment (including a stretcher) and have qualified first-aiders on site as required by General Safety Regulations promulgated in terms of the Occupational Health and Safety Act (Act no. 85 of 1993).

The contingency plan of the Principal Contractor must include arrangements for the speedy and timeous transporting of injured and/or ill person(s) to a medical facility or of getting emergency medical aid to person(s) who may require it.

The Principal Contractor must have written arrangements in place with his other contractors regarding the responsibility of the other contractors towards their own injured and/or ill employees.

10 OHS TRAINING

All employees in jobs requiring training in terms of the Occupational Health and Safety Act (Act no 85 of 1993) and any other applicable legislative requirements are to be in possession of valid proof of training. Other occupational health, safety and environmental training requirements of the Occupational Health and Safety Act (Act no 85 of 1993) and Construction Regulations can include:

- General induction;
- Site and job specific induction, including visitors;
- Occupational health and safety representatives;
- Training of the legal and nominated appointees;
- Operators and drivers of construction vehicles and mobile plant;
- Basic fire prevention and protection;
- Basic first-aid;
- Storekeeping methods and safe stacking; and
- Emergency planning and coordination
- Incident investigation
- Risk Assessment
- Planned job observations (supervisors)

All operators, drivers and users of construction vehicles, mobile plant and other equipment are to be in possession of valid proof of training and, where applicable, valid licenses.

10.1 General Job training

The contractor is required to ensure that before an employee commences work their direct supervisor or line manager who is responsible for the employee has informed the employees of his scope of authority, hazards and risks associated with the work to be performed as well as the safety control measure(s). This will involve discussion in connection with any work standard, job description or company policy or procedure.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

10.2 Awareness and promotion

The Principal Contractor is required to have a promotion and awareness programme in place to create an occupational health and safety culture within employees. The following are some of the methods that may be used:

- Toolbox talks;
- Posters;
- Videos;
- Competitions;
- Suggestion schemes;
- Participative employee activities such as “occupational health and safety circles”.

The Principal Contractor is, at a minimum, required to provide awareness programmes to employees on the following:

- General Health and Safety Awareness
- Environmental Awareness;
- HIV / AIDS awareness.

10.3 General competence requirement

The Principal Contractor shall ensure that his personnel and other contractors’ personnel are trained and competent to carry out work safely and without risk to health has been completed before work commences. The Principal Contractor shall ensure that follow-up and refresher training is conducted as the work progresses and whenever the scope or nature of the work changes.

A “**competent person**” in relation to construction work, means any person having the knowledge, training and experience specific to the work or task being performed: Provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995), these qualifications and training shall be deemed to be the required qualifications and training. It is the responsibility of the Contractor to determine whether any appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act.

Records of all training must be kept in the OHS File. The contents of the file will be audited from time to time.

At a minimum, the Principal Contractor will provide training on Safe Work Procedures / Safe Operating Standards to personnel responsible for performing the related task. Records of training on Safe Work Procedures / Safe Operating Standards will be retained. Competence and skill levels by the employees responsible for performing the task on the implementation of the Safe Work Procedures / Safe Operating Standards will be measured through Planned Job Observations.

10.4 Site-specific induction training

The Principal Contractor will be required to develop a project specific induction-training course based on the baseline risk assessment for the contract work. He will ensure that all his employees and other contractors and their employees have received training on the submitted induction-training programme.

All employees of the principal and other contractors are to be in possession of proof (on person) that they have attended a site-specific occupational health and safety induction-training course.

No contractor shall allow or permit any employee, visitor or any other person to enter the site, unless such employee or person has undergone health, safety and environmental induction training pertaining to the hazards prevalent on the site at the time of entry.

Where the Principal Contractor is required to operate within Johannesburg Water SOC Ltd Depot’s the Principal Contractor will ensure that all employees undergo the Johannesburg Water SOC Ltd induction.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

11 PPE REQUIREMENTS

- The Principal Contractor is required to continuously identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions.
- The Principal Contractor will establish a Personal Protective Equipment Policy and a Personal Protective Equipment study will be conducted to determine the types of Personal Protective Equipment (PPE) to be supplied related to the hazards and risks emanating from the tasks.
- Cognisance shall be given to the gender of individuals required to where PPE; size required by the employee and size issued.
- Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.
- Where it is not possible to create an absolutely safe and healthy workplace the Principal Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.
- It is a further requirement that the Principal Contractor maintains the equipment, instructs and trains the employees in the use of the equipment and ensures that the employees use the prescribed equipment.
- Employees do not have the right to refuse to use and/or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear the prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition(s) for which the equipment was prescribed. An alternative solution has to be found that may include relocating the employee.
- The Principal Contractor may not charge any fee for protective equipment prescribed by him but may charge for equipment under the following conditions:
 - Where the employee requests additional issue in excess of what is prescribed;
 - Where the employee has patently abused or neglected the equipment leading to early failure; and
 - Where the employee has lost the equipment.

All employees shall, as a minimum, be required to wear the following personal protective equipment on any of Johannesburg Water SOC Ltd's projects:

- Protective overalls;
- Protective footwear;
- Protective headwear; and
- Eye, face and ear protection.
- NO SHORTS OR DRESSES WILL BE ALLOWED ON SITE!!!

All Personal Protective Equipment will clearly display the branding components of the Principal Contractor's organization (e.g. Name of Organization, logo).

12 DISCIPLINARY PROCESSES

- The contractor is required to implement disciplinary process in order to enforce compliance with requirements.
- All sub-contractors are required to have the same.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

13 SITE RULES

- The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the Health and Safety Plan and associated aspects of the construction.
- When required for a site by law, visitors and non-employees upon entering the site shall be issued with the proper Personal Protective Equipment (PPE) as and when necessary.

14 PUBLIC HEALTH AND SAFETY

The Principal Contractor is responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from the construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes:

- Non- employees entering the site for whatever reason;
- The surrounding community; and
- Passers-by the site.
- The Principal Contractor shall organize the site in such a manner that pedestrians and vehicles can move safely and without risks to health, including sufficient and suitable traffic routes and safe walkways with relevant signage.
- Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times.
- All non-employees entering the site must receive induction into the hazards and risks of the site and the control measures to be observed.
- The Principal Contractor shall recognize that the Community Liaison Officer (CLO) is the link between Johannesburg Water SOC Ltd and the community and provide all reasonable support to the Community Liaison Officer to ensure relevant responsibilities are fulfilled and positive relationships with the community are maintained.
- Where activities are performed close to public routes, the Principal Contractor will establish a traffic management plan incorporating the requirements of relevant by-laws. At a minimum, barricading, warning signage and flagmen will be provided to ensure the protection of workers from vehicles in transit. Where required, the Principal Contractor will interact with the local traffic department to establish minimum requirements to be implemented on public routes.

15 REFUSAL TO WORK

- Section 14 of the OHS Act states that employees shall carry out any lawful orders given to them, suggesting that they have the right to refuse to obey any unlawful order or work instruction.
- In terms of legal and JW requirements, if an employee has reasonable belief that the work to be carried out is likely to endanger themselves or other persons in any way, he/OHS has the right to refuse to work.
- An employee may also refuse to work in term of Section 29 of NEMA, if the work would result in imminent and serious threat to the environment.
- All contractors shall ensure that their employees are conversant with hazards associated with their work and work environment, and be aware of the precautionary measures to take.
- The contractor must ensure that all refusals to work are investigated promptly and resolved timeously.

16 SECURITY

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must, amongst other, include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of security rules and procedures and maintain these throughout the construction period.

The Principal Contractor shall:

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Provide a guardhouse for security personnel. The guardhouse should be in good condition and at-least meet minimum requirements as per Environmental Regulations for Workplaces as promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993).
- Supply an access card containing the name, surname, employee number and photograph for all appointed employees (full or part time) for the site.
- Ensure that no person enters the construction site without wearing the necessary Personal Protective Equipment (PPE).
- Ensure that no children are allowed on the construction site.
- Ensure that no family members are sleeping over on the construction site.
- Ensure that no pets are allowed on the construction site.
- No firearms are allowed on site.

17 ACCOMMODATION ON SITE

No employees shall be accommodated on site.

18 WELFARE FACILITIES

The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 28. Chemical toilets are allowed instead of the water borne sewerage type. Toilets have to be provided at a ratio of 1 toilet per 30 workers. The Principal Contractor shall provide flushing toilets on the construction premises.

- At least cold-water showers for each sex have to be provided at a ratio of 1 shower per 15 workers.
- Some form of screened off changing facility must be provided separately for each sex.
- Some form of eating facility sheltered from the sun, wind and rain must be provided.

The employer needs to provide his employees with the following:

- Potable water for drinking;
- Water and soap for hand washing
- Toilet paper

19 COMPLIANCE MONITORING

19.1 Inspections

- Contractors will be inspected at least once per week by the JW Project Inspectors.
- Feedback of the inspections will be issued immediately on work instructions, and a formal report sent within 7 days of conducting the inspection to all relevant stakeholders.
- Johannesburg Water SOC Ltd. reserves the right to conduct other ad-hoc assessments and inspections as deemed necessary.
- This may include, amongst other measures, site safety walks. Corrective actions will be identified by Johannesburg Water SOC Ltd. and the Principal Contractor's representative and implemented by the Principal Contractor (at no cost to Johannesburg Water SOC Ltd.) to ensure OHS Performance improvement.

19.2 Monthly audits

- Monthly audits will be conducted within periods not exceeding 30 days.
- The Principal Contractor is to conduct his own monthly internal audits and inspections to verify compliance with his own occupational health and safety plan and management system as well as compliance with the requirements of the Johannesburg Water SOC Ltd. OHS Specification.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- The Principal Contractor will also assess and inspect the compliance of other contractors under its control. Management members of the Principal Contractor will be involved in the internal assessments and inspections.

19.3 Monthly compliance rating

A monthly compliance rating will be calculated for each Principal Contractor as per a formula determined by Johannesburg Water SOC Ltd focussing on or incorporating outcomes of assurance (e.g. monthly audit), operational (e.g. behavioural based safety inspection) assessments and other requirements, as necessary. Johannesburg Water SOC Ltd reserves the right to adjust the monthly compliance calculation formula as and when required – each revision of the monthly compliance calculation formula will be communicated to the Principal Contractor before implementation.

Each Principal Contractor is required to maintain a minimum compliance rating of 93% (Ninety Three Percent).

Scoring	Classification	Classification description
93% -100%	Good	Substantial compliance
80% -92%	Average	Compliance status needs to be improved
60% - 79%	Poor	Methods to ensure compliance require substantial improvement - operations with substantial non-compliance risks
<60%	Very poor	Methods to ensure compliance failed completely - troubled operation with severe non-compliance risks

19.4 Work stoppages

Work stoppages will be identified for 2 (two) types of work stoppages to be implemented:

- Overall work stoppage – the Principal Contractor and its Contractors are not allowed to continue with any type of construction / site work up until the work stoppage has been closed-out;
- Activity work stoppage – The Principal Contractor and its Contractors are not allowed to continue with the specific activity / task / job up until the work stoppage has been closed-out.

Overall work stoppages will be issued where non-conformances are identified against the criteria in the following table.

NO.	DESCRIPTION OF AUDIT NON-CONFORMANCE / NON-COMPLIANCE
1	NOTIFICATION OF CONSTRUCTION WORK
1.1	Local Department of Labour not notified of construction work before commencement of construction activities
1.2	Notification of construction work not stamped by local Department of Labour (no fax copies)
1.3	Copy of notification of construction work not available on site
2	PROOF OF REGISTRATION WITH COMPENSATION COMMISSIONER
2.1	Proof of registration with Compensation Commissioner or other insurer not available
2.2	Registration with Compensation Commissioner or other insurer not valid and up-to-date
3	POLICY COMMITMENT & OHS SPECIFICATION

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

NO.	DESCRIPTION OF AUDIT NON-CONFORMANCE / NON-COMPLIANCE
3.1	OHS Plan not compiled, approved by contractor management and available on site
4	SECTION 37(2) AGREEMENT
4.1	Signed section 37(2) Agreement not signed and available on site
5	RISK ASSESSMENTS
5.1	Risk assessments not developed/ not applicable to scope of work issued by Client
6	CONSTRUCTION MANAGER
6.1	No construction manager appointed / on site / Construction Manager not full time on site
6.2	Appointed construction manager does not meet requirements
7	SITE SAFETY OFFICER
7.1	No safety officer appointed/ available on site
7.2	Safety officer does not meet requirements
8	OHS FILE
8.1	No file on site

Activity work stoppages will be issued where non-conformance are identified per activity where the health and safety of employees or the public is compromised.

20.4 Non-compliance management process

The following actions will be instituted where non-conformances are identified in terms of compliance to relevant legislative requirements and the Johannesburg Water SOC Ltd OHS Specification.

CRITERIA	ACTION TO BE INSTITUTED	RESPONSIBLE PARTY
Compliance rating: 93-100%	Non-conformance closure	Principal Contractor / Contractor
Compliance rating: 80-92%	Letter of compliance improvement to Principal Contractor	Johannesburg Water SOC Ltd
	Non-conformance closure	Principal Contractor / Contractor
Compliance rating: 60-79%	Non-compliance hearing	Johannesburg Water SOC Ltd
	Letter of commitment for performance improvement	Principal Contractor / Contractor
	Non-conformance closure	Principal Contractor / Contractor
Compliance rating: <60%	Non-compliance hearing	Johannesburg Water SOC Ltd
	Letter of commitment for performance improvement	Principal Contractor / Contractor
	Non-conformance closure	Principal Contractor / Contractor

	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

CRITERIA	ACTION TO BE INSTITUTED	RESPONSIBLE PARTY
3 x Work stoppages	Supply Chain Management to be informed of non-compliance standing	Johannesburg Water SOC Ltd
	Non-compliance hearing	Johannesburg Water SOC Ltd
	Letter of commitment for performance improvement	Principal Contractor / Contractor
	Non-conformance closure	Principal Contractor / Contractor
	Supply Chain Management to be informed of non-compliance standing	Johannesburg Water SOC Ltd
3 x Non-conformance to <93% monthly compliance rating	Non-compliance hearing	Johannesburg Water SOC Ltd
	Letter of commitment for performance improvement	Principal Contractor / Contractor
	Non-conformance closure	Principal Contractor / Contractor
	Supply Chain Management to be informed of non-compliance standing	Johannesburg Water SOC Ltd
3 x consecutive repeat findings	Non-compliance hearing	Johannesburg Water SOC Ltd
	Letter of commitment for performance improvement	Principal Contractor / Contractor
	Non-conformance closure	Principal Contractor / Contractor
	Escalation to SCMU & CAPEX	Johannesburg Water SOC Ltd

20 OPERATIONAL REQUIREMENTS

20.1 EXCAVATIONS

- Where excavations will exceed 1.5 m in depth the contractor will be required to submit a method statement to Johannesburg Water SOC Ltd for approval before commencing with the excavation and Johannesburg Water SOC Ltd will issue a permit to proceed once the risk assessment and method statement is approved.
- Excavations must be limited to 100m per day, or equated to the amount of work to be done for the day.
- All open excavations shall be closed within 3 days of excavation. No excavation will remain open beyond 3 days or during holidays.
- Excavation work must be carried out under the supervision of a competent person, who has been appointed in writing, with at least two years' experience in excavation work. Before excavation work begins the stability of the ground must be evaluated.
- Whilst excavation work is being performed, the contractor must take suitable and sufficient steps to prevent any person from being buried or trapped by a fall or dislodgement of material.
- No person may be required or permitted to work in an excavation that has not been adequately shored or braced.
- Where the excavation is in stable material and where the sides of the excavation are sloped back to at least the angle of repose of the excavated material, shoring or bracing may be left out but only after written permission has been obtained from the appointed competent person.
- Shoring and bracing must be designed and constructed to safely support the sides of the excavation.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed competent person.
- No load or material may be placed near the edge of an excavation unless suitable shoring has been installed to be able to carry the additional load.
- Neighbouring/adjoining buildings, structures or roads that may be affected or endangered by the excavation must be suitably protected.
- Every excavation must be provided with means of access that must be within 6 metres of any worker within the excavation.
- The location and nature of any existing services such as water, electricity, gas etc. must be established before any excavation is commenced with and any service that may be affected by the excavation must be protected and made safe for workers in the excavation.
- The appointed competent person must inspect every excavation, including the shoring and bracing or any other method to prevent collapse, as follows:
 - Daily before work commences
 - After every blasting operation
 - After an unexpected collapse of the excavation
 - After substantial damage to any supports
 - After rain
- The results of any inspections must be recorded in a register kept on site and in the safety file.
- Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced to at least one meter high and as close to the excavation as practicable, regardless of the depth of the excavation.
- Every excavation must be provided with warning lights or visible boundary indicators after dark or when visibility is poor.
- Upon entering an excavation the requirements of General Safety Regulation 5, work in confined spaces, must be observed:
- Any confined space may only be entered after the air quality has been tested to ensure that it is safe to breathe and does not contain any flammable or noxious air mixture.
- The confined space must be purged and ventilated of any hazardous or flammable gas, vapour, dust or fumes.
- The safe atmosphere must be maintained and, where necessary.
- Employees are to be provided with breathing apparatus and must wear a safety harness with a rope with the free end of the rope being continuously attended to by a person outside the confined space.
- Furthermore, an additional person, trained in resuscitation, to be in full-time attendance immediately outside the confined space.
- Additional serviceable breathing and rescue apparatus is kept immediately outside the confined space for rescue purposes.
- All pipes, ducts etc. that may leak into the confined space to be blanked off sufficiently to prevent any leakage or seepage.
- The employer must ensure that all employees have left the confined space after the completion of work.
- Where flammable gas is present in a confined space no work may be performed in close proximity to the flammable atmosphere.
- Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into them.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Excavations left open for extended periods of time (exceeding 48 hours) must be approved the relevant Engineer / Construction Supervisor.

20.2 EXISTING SERVICES

- The Contractor shall note that although the drawings have been prepared using available information they show only the approximate positions of existing services where applicable.
- The information is supplied in good faith but shall be used as a guide only and does not relieve the Contractor of his responsibility to exercise due caution when working in areas where existing services can reasonably be expected, nor his obligation to liaise with the authorities in this regard and the obtaining of the necessary work permits and wayleaves.
- The Contractor shall be responsible to locate and safeguard any existing service he may encounter during construction. The Contractor shall be responsible for any damage to such existing services and works in the execution of this contract and shall reimburse the Employer, authority or the owner concerned for any repairs required following damages due to the Contractor's negligence.
- The Contractor shall be responsible for immediately notifying the Engineer and the authorities concerned regarding any damage caused to public services and existing works.
- Any alterations to public services shall be carried out by the Authority concerned unless the Contractor is instructed otherwise.

20.3 SETTING OUT OF WORKS

- Reference and level beacons will be shown to the Contractor by the Engineer at the commencement of the Contract and the Contractor will be responsible for transferring the datum to the Site of Works.
- The Contractor shall check the condition and accuracy of all reference and level beacons and satisfy himself that they have not been disturbed and are true with regard to position and level. A beacon that has been disturbed shall not be used until its true position and level have been re-established and the new values have been certified by the Engineer. The Contractor shall thereafter be held entirely responsible for the protection of all reference and level beacons.
- The Contractor shall employ a capable surveyor to set out the Works to the required lines and levels. The Engineer shall be informed immediately should any discrepancy be discovered between the levels or dimensions obtained by the Contractor and those shown on the drawings.
- Where a beacon is likely to be disturbed during construction operations, the Contractor shall establish suitable reference beacons at locations where they will not be disturbed during construction. No beacons shall be covered over, disturbed or destroyed before accurate reference beacons have been established and details of the positions and levels of such beacons have been submitted to the Engineer. The Contractor's reference beacons shall be of at least the same accuracy and sturdiness of construction as the existing beacons.
- The Contractor shall submit the method of setting out he proposes to employ to the Engineer. Accurate control of line and level shall be provided by the Contractor at all stages of construction.
- Work set out by the Contractor may be checked by the Engineer and any errors found shall be rectified by the Contractor at his own expense. The Contractor shall supply any instrument, equipment, material and labour required by the Engineer for this survey work. Any assistance, including checking given to the Contractor by the Engineer or any setting out done by the Engineer for Contractor shall not be held as relieving the Contractor of his responsibility for the accurate construction of the Works.
- The Contractor's survey instruments and survey equipment shall be suitable for the accurate setting out of the Works and shall be subject to the approval of the Engineer. They shall furthermore be checked and correctly

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

adjusted by the authorized agents before the commencement of the contract and subsequently when required by the Engineer and when otherwise necessary.

Survey work shall not be measured and paid for directly and compensation for the work involved in setting out shall be deemed to be covered by the rates tendered and paid for the various items of work included under the contract.

20.4 CONFINED SPACE ENTRY

- Enclosed space work necessitates a Confined Space Permit. This may only be obtained from the authorized person nominated in writing.
- The responsibility for safe procedure, both at the time of entry and during the entire operation of entering and working in confined spaces, rests with the Contractor.
- The Contractor shall be sure that adequate steps have been taken to eliminate or control hazards.
- Before working in an area that contains dust, the area is to be ventilated and hosed down to settle and dampen the dust.
- The Contractor shall provide all necessary equipment to manage confined spaces, including all necessary monitoring and rescue equipment (such as tripods, breathing equipment and the like).
- The Contractor shall ensure all persons working in a confined space or managing entry to a confined space are appropriately trained.
- Compulsory - Continuous monitoring, trained rescue teams, radio communication & adequate ventilation.

20.5 BARRICADING

- Barricading plans are to be presented by the Principal Contractor for any major operations involving site works for approval by Johannesburg Water SOC Ltd. Where areas are unsafe, they should be enclosed with barricading. Examples are people working overhead, welding splatter etc.
- Where there is a risk of injury, the area should be barricaded off with secure solid barricades.
- Barricading for the prevention of access into areas with a potential risk of injury shall as a minimum be constructed of a handrail, knee-rail and appropriately supported as to prevent any person from falling into the restricted/risk area.
- Appropriate signage shall be affixed to the barricade indicating the risk associated (i.e. deep excavation, lifting operations etc.) and the responsible Supervisor and contact details shall be displayed. All barricading shall have a “No Entry” signs on all sides and at each change of direction. Signage shall be placed at 20 m intervals where lengths exceed. All signage shall be a minimum size of 290 mm x 290 mm.
- Danger tape shall not be utilised to prevent personnel from entering into areas.
- Where no risk exists of injury to personnel such as stacking and storage areas, the use of wire for hand and knee rails netting shall be acceptable to demarcate the area.
- All barricades will have a dedicated entrance where it is required that personnel enter the areas.
- Appropriate signage shall be placed at the entrance indicating which Contractor has right of entry.
- It is the Contractor's responsibility to remove all redundant barricades directly after use. The Contractor's Safety Officers will maintain a marked-up site plan indicating where barricades are erected.
- It will be a requirement that the contractor protects employees against contact with exposed rebar and poles by the installation of rebar-caps on all exposed areas where there is a potential that an employee could be injured.

20.6 WORKING AT HEIGHTS

- A pre-emptive risk assessment will be required for any work to be carried out above **two metres** from the ground or any floor level. This work will be classified as “work in elevated positions”.
- As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if he is working at ground level.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Whilst working in this position he shall be wearing a single belt with lanyard to prevent the person falling from the platform, ladder or other device.
- This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length and strength that the person will not be able to move over the edge.
- Alternatively, any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with suitable guard rails at two different heights as prescribed in the relevant South African National Standard for the design, erection, use and inspection of access scaffolding.
- Where the requirement in the paragraph above is not practicable, the person will be provided with a full body harness that will be worn at all times and shall be attached above the wearer's head at all times.
- The lanyard must be fitted with a shock-absorbing device or the person must be attached to a fall arrest system (anchorage connector; body wear; and connecting device) approved by Johannesburg Water SOC Ltd.
- Where the requirements in the paragraph above are not practicable, a suitable catch net must be erected.
- Employees working in elevated positions must be trained to work without risk to their health and safety or to the health and safety of others and be declared medically and psychologically fit to perform work at elevated positions.
- Where work on roofs is carried out, the risk assessment must take into account the possibility of persons falling through fragile material, i.e. skylights and openings in the roof.
- Access scaffolding must be erected, used and maintained safely in accordance with Construction Regulations and relevant SA Bureau of Standards Code of Practice.
- Detailed consideration must be given to all scaffolding to ensure that it is properly planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. Sufficient material must be available to erect the scaffolding properly.
- Scaffolding must only be erected, altered or dismantled by persons who have adequate training and experience and are competent in this type of work and under the continuous supervision of such a person.

20.7 SYMBOLIC SIGNAGE

Contractors shall use mandatory and prescribed symbolic safety signs at their lay down and site areas. The display of the following signs is mandatory:

- “Radio-Active Material” symbolic signs at radioactive storage areas.
- “Eye Protection” symbolic signs shall be displayed at all grinding machines and at any area where it is mandatory to wear eye protection or where there is danger of an eye injury being sustained.
- “Ear Protection” symbolic signs shall be displayed at all areas where there is a danger of noise induced hearing loss being sustained.
- Every separate room of a workplace shall be consecutively numbered.
- All toilets or urinals shall be marked in a conspicuous place with painted or stencilled letters to indicate the sex for which they are intended.
- The location of every first aid box is to be clearly indicated by means of a sign.
- In any room, cabinet or enclosure where flammable substances are used or stored shall be fixed a suitable and conspicuous sign prohibiting smoking or the use of naked flames in the area.
- At the entrance to premises where machinery is used
- Restricted access on “Authorised Person Only” signs on entry. “No person shall enter the workplace or premises without the permission of the employer or user of the machinery”.
- At every place where machinery is used a notice (English & Pictograms) shall be posted.
- Explosive Power Tool shall have a sign warning people when it is in use.
- Electrical Control Gear. A notice shall be posted so as to warn against the re-closing of a switch of control gear whilst a person is working on such equipment.
- Emergency contact telephone numbers.
- Adequate scaffolding signs. (When applicable).

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Adequate fire fighting equipment signs.
- Speed limit signs.
- Warning notices at openings through which people may fall.
- Risk based signage depending on the task being performed e.g.:
 - “Men working above”, “Men working below”, “Road closed – detour”, “Excavation in progress”, “No walkway” etc.;
- No-entry signs to incomplete platforms

The Principal Contractor shall install a notification board indicating the following information at the site entrance:

- Johannesburg Water SOC Ltd project number;
- Principal Contractor identification details (name, telephone number)
- Name and contact details of Construction Supervisor;
- Name and contact details of site safety officer;
- Monthly compliance rating;
- Lost Time Injury Rate;

The Principal Contractor will ensure that information on the notification board is kept up-to-date.

20.8 USE AND STORAGE OF FLAMMABLES

The Principal Contractor to ensure that:

- No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present unless adequate precautions are taken;
- No flammable material is used or applied e.g. in spray painting, unless in a room or cabinet or other enclosure specially designed and constructed for the purpose unless there is no danger of fire or explosion due to the application of adequate ventilation;
- The workplace is effectively ventilated. Where this cannot be achieved:
 - Employees must wear suitable respiratory equipment
 - No smoking or other source of ignition is allowed in the area
 - The area is conspicuously demarcated as “flammable”
- Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with access control measures in place. Sufficient fire fighting equipment is installed and fire prevention methods practiced. Proper housekeeping may achieve this;
- Flammables stored in a permanent flammable store are stored so that no fire or explosion is caused.
- Stored in a locked and well-ventilated reasonably fire resistant container, cage or room conspicuously demarcated as “Flammable Store – No Smoking or Naked Lights”
- The flammables store to be constructed of two-hour fire retardant walls and roof and separated from adjoining rooms or workplaces by means of a two-hour fire retardant fire wall
- Adequate and suitable fire fighting equipment installed around the flammables store and marked with the prescribed signs
- All electrical switches and fittings to be of a flameproof design
- Any work done with tools in a flammable store or work areas to be of a non-sparking nature
- No Class A combustibles such as paper, cardboard, wood, plastic, straw and the like to be stored together with flammables
- The flammable store to be designed and constructed such that in the event of spillage of liquids the store is able to contain the full quantity + 10% of the liquids stored
- A sign indicating the capacity of the store to be displayed on the door
- Only one day’s quantity of flammable is to be kept in the workplace;
- Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas;
- Metal containers to be bonded to earth whilst decanting to prevent build-up of static forces; and

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Welding and other flammable gases to be stored segregated according to the type of gas and empty and full cylinders.

20.9 HAZARDOUS CHEMICAL SUBSTANCES

The Principal Contractor must ensure that:

- Employees receive the necessary information and training to be able to use and store hazardous chemical substances safely;
- Employees obey lawful instructions regarding:
 - The wearing and use of protective equipment
 - The use and storage of hazardous chemical substances
 - The prevention of the release of hazardous chemical substances
 - The wearing of exposure monitoring and measuring equipment
 - The cleaning up and disposal of materials containing hazardous chemical substances
 - Housekeeping, personal hygiene and the protection of the environment
- The risk assessments required in terms of Construction Regulation include employee exposure to hazardous chemical substances and that the necessary measures be taken to protect persons from being detrimentally affected by hazardous chemical substances present or used in the workplace;
- Suppliers provide the necessary information in the form of a material safety data sheet regarding a hazardous chemical substances required to ensure the safe use and storage of that substances;
- An up-to-date list is kept on site of hazardous chemical substances stored and used together with the material safety data sheet of the hazardous chemical substances;
- Hazardous chemical substances containers be clearly marked with the contents and main hazardous category e.g. “Flammable” or “Corrosive” and the reference number of the hazardous chemical substances on the list indicated above;
- Hazardous chemical substances, for example asbestos dust, are not cleared by using compressed air but should be vacuumed;
- No person eats or drinks in a hazardous chemical substances workplace; and
- Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements.
- MSDS's to be in 16 point format- available on site

20.10 FIRE PREVENTION AND PROTECTION

The Principal Contractor must ensure that:

- The risk of fire is avoided;
- Sufficient and suitable storage for flammables is provided;
- Sources of ignition are removed wherever flammable or highly combustible material is present in the workplace, for example:
 - Notices prohibiting smoking are displayed and enforced
 - Welding and flame cutting is only allowed under controlled conditions that includes written hot work permits
 - Only spark-free hand and power tools are used
 - No grinding, cutting and shaping of ferrous metals is allowed using electrically driven power tools that produce sparks
 - Flameproof switches and fittings are to be used in the flammable atmosphere
 - Good housekeeping is maintained to prevent the accumulation of unnecessary combustibles
 - Adequate ventilation is maintained
 - Adequate and suitable fixed and portable fire fighting equipment is provided and maintained in good working order.
- Maintenance must include:

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Regular inspection of fire equipment by a competent person appointed in writing and keeping a register
- Annual inspection and service by an accredited service provider
- All employees are instructed in the use of the fire fighting equipment and know how to attempt to extinguish a fire;
- A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;
- Employees are informed regarding emergency evacuation procedures and escape routes;
- Emergency escape routes are kept clear at all times and clearly marked;
- Evacuation assembly points are demarcated;
- Evacuation is practiced to ensure that all persons are evacuated timeously;
- Roll call is held after evacuation to account for all personnel and ensure that no-one has been left behind; and
- A siren or alarm is fitted which is clearly audible to all persons on site.

20.11 STACKING AND STORAGE

N/A

All equipment and materials will be stored on suitable wood poles or pallets which will not protrude more than a meter from any of the stored material. Safe access ways shall be maintained between all stored items preventing employees from having to climb over or under equipment to retrieve the necessary.

20.12 HOUSEKEEPING

The Principal Contractor to ensure that:

- Housekeeping is continuously implemented and maintained;
- Materials and equipment are properly stored;
- Scrap, waste and debris is removed regularly;
- Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;
- Waste and debris not to be removed from heights by throwing but rather by chute or crane;
- Where practicable, construction sites are fenced off to prevent entry of unauthorised persons;
- Catch platforms or nets are erected over entry and exit ways or over places where persons are working to prevent them being struck by falling objects;
- An unimpeded work space is maintained for every employee;
- Every workplace is kept clean, orderly and free of tools, materials and the like that are not required for the work being done;
- As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid-free and free of obstruction, waste and materials;
- The walls and roof of every indoors workplace sound and leak-free; and
- Openings in floors, hatchways, stairways and open sides of floors or buildings are barricaded, fenced, boarded over or provided with protection to prevent persons from falling.

20.13 PUBLIC SAFETY & TRAFFIC MANAGEMENT

The Principal Contractor is responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from the construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes:

- Non- employees entering the site for whatever reason;
- The surrounding community; and
- Passers-by the site.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- The Principal Contractor shall organize the site in such a manner that pedestrians and vehicles can move safely and without risks to health, including sufficient and suitable traffic routes and safe walkways with relevant signage.
- Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times.
- All non-employees entering the site must receive induction into the hazards and risks of the site and the control measures to be observed.
- The Stakeholder Relations Specialist will be the link between Johannesburg Water SOC Ltd and the community to ensure relevant responsibilities are fulfilled and positive relationships with the community are maintained.
- Where activities are performed close to public routes, the Principal Contractor will establish a traffic management plan incorporating the requirements of relevant by-laws. At a minimum, barricading, warning signage and flagmen will be provided to ensure the protection of workers from vehicles in transit. Where required, the Principal Contractor will interact with the local traffic department to establish minimum requirements to be implemented on public routes.
- Where roads will be closed proper signage including the following will be posted:
 - Road closed
 - Detour
 - Keep left / right
 - Slow down
 - Deep excavation
 - Delineator
 - Road work ahead

20.14 HAND TOOLS

The Principal Contractor must inspect all hand tools before it is brought onto the site.

- As far as possible all hand tools must be numbered and placed on register to be inspected monthly by a person designated to do so.
- Any tools found to be in an unsafe condition must immediately be removed from service and either discarded or rectified.
- No chisels with “mushroomed” heads must be used.
- No hammer shall be used with a cracked or damaged handle.
- All files must be fitted with handles.
- All trolleys, pushcarts, etc. used on site must be identifiable, placed on register and inspected at least once every month.
- Non-sparking tools must be used in areas where the risk of fire or explosion is present.
- No homemade hand tools are allowed on the project.
- All tools shall be attached to a suitable lanyard when utilised in elevated positions

20.15 PORTABLE ELECTRICAL EQUIPMENT

Portable electrical tools and equipment includes every unit that takes electrical power from a 15 ampere plug point and is moved around for use in the workplace for example; drills, saws, grindstones, portable lights, etcetera. Other electrical appliances such as fridges, hotplates, heaters, and etcetera must be inspected and maintained to the same standards as portable electrical tools and appliances.

The use, inspection and maintenance of portable electrical tools and equipment shall be as follows:

- Periodical inspections must be carried out by a competent person appointed in writing;
- Inspection results must be recorded in a register;
- Only competent authorised persons are allowed to use portable electrical tools and equipment; and

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- The correct protective equipment must be worn or used whilst operating portable electrical tools and equipment.

This equipment:

- Must be maintained in good condition at all times to prevent an electrical shock to the user;
- The main power source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and
- All equipment must be fitted with a switch to allow for safe and easy starting and stopping.

The following requirements apply to portable lights:

- Must be fitted with a robust non-hygroscopic non-conducting handle;
- Live metal parts or parts which may become live must be protected against contact;
- The lamp must be protected by a strong guard;
- The cable lead-in must withstand rough handling;
- Inspections must be undertaken that concentrate on plug, cord, switch and any obvious faults;
- A register be kept for each piece of equipment with findings of regular inspections undertaken to evaluate the condition of these lights; and
- When used in wet/damp/metal container conditions, the lamp must be protected.

20.16 LADDERS

The following requirements for ladders will apply:

- All ladders used on the site shall be constructed and used in compliance with the OH&S Act and Regulations.
- Ladders, which provide access to a working platform, shall extend one metre above the platform where it provides access, and shall be secured to prevent slipping.
- Timber ladders shall not be painted other than with clear preserving oils, clear varnishes or clear plastics.
- Ladders, which are in a damaged condition, shall not be used and shall be labelled accordingly and removed from the Premises.
- All Ladders shall be numbered, logged in a register, and inspected monthly.
- A ladder in use shall be held by an assistant and/or properly tied down in position.
- Only ladders that do not conduct electricity shall be used in live electrical sub-stations and switching rooms.
- Ladders shall be removed after use and stored in an appropriate facility as to not expose them unnecessarily to the elements or potential damage by surrounding activities.

20.17 CONSTRUCTION VEHICLES AND MOBILE PLANT

Johannesburg Water SOC Ltd will inspect construction vehicles and mobile plant prior to being allowed on a project site. Suppliers of hired vehicles, plant and equipment will be required to comply with this specification as well as the Occupational Health and Safety Act (Act no. 85 of 1993) and Regulations.

Construction vehicles and mobile plant to be:

- Of acceptable design and construction;
- Maintained in good working order;
- Used in accordance with their design and intention for which they were designed;
- Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised persons are to be allowed to drive construction vehicles and mobile plant;
- Provided with safe and suitable means of access;
- Fitted with adequate signalling devices to make movement safe including reversing;
- Provided with roll-over protection (where applicable);
- Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book;

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- Fitted with two head and two tail lights that are in good working condition and must be used whilst operating under poor visibility conditions;
- When used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.

Operator Approval

Authorization for operators for the use of equipment shall be given in writing only after the following minimum requirements and documentation have been verified and shall as a minimum include the following:

- Operator's Certificate (accredited training organisation);
- Operators Licence appropriate to the nature of the Mobile equipment;
- Operator's knowledge tested and familiar with the controls for the vehicle;
- Public driver's permit where required;
- Medical fitness certificate.

20.18 Horizontal Drilling

- N/A

20.19 Working in proximity to Eskom / City Power power lines

- No mechanical equipment, including mechanical excavators, may be used under or in close proximity to Eskom's services without the prior approval of Eskom's authorized representatives. No excavations may be executed closer than 3 meters from any of Eskom underground electric power cables and 10 meters from Eskom overhead electrical power lines unless Eskom authorized representative is on site.
- No excavations may take place closer than 5m from any overhead line infrastructure (poles and stays and only excavation by hand will be allowed. Only excavation by hand will be allowed on the same route and in close proximity to the Eskom's 132 kV cables.
- The use of explosives of any type within 500 meters of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the applicant must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process.
- The contractor shall be liable for any death or injury to any person or for the loss of or damage to any property caused in whatsoever manner by the contractor, his employees, agents or sub-contractors. The contractor's attention is drawn to section 27(3) of the Electricity Act 1987.
- The contractor is advised to negotiate a proper route with the CNC (Customer Network Centre. Lat Long co-ordinates of all proposed routes to be provided on site and during the application process. The contractor is required to provide the same to the CNC on site during the signing of the Stakeholder On-Site Risk Identification Form.
- Parallel encroachment into overhead power line servitudes is limited to one meter from the boundary of the servitude. (Where applicable for underground pipelines only.)
- All Eskom servitudes to be kept clear of any obstacles and other services. No dumping, manholes and illegal structures whether occupied by equipment or humans, shall be allowed directly underneath or within Eskom servitude areas.
- Eskom Overhead Lines, Cables and Eskom Plant to be adequately protected against other services and water sources.
- Adequate protection fence should be installed around all Eskom Overhead Structures. The type of fence will be proposed and approved by Eskom CNC / Engineering as listed above.
- Interlocking bricks to be used along all roads and reserves as to ensure Eskom cables could be easily accessed for maintenance and repair / emergency purposes. No roads should be tarred with Eskom cables within the road.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- For developer projects and other works that might affect access to Eskom mini-sub, an appropriate fence with access / gate as approved by the CNC should be installed on street front side.
- The applicant shall ensure that the existing natural ground level is maintained within the Eskom servitude area and where Eskom cables are affected. Should there be a need for the lifting of lines and / or replacement of existing structures / cables and application should be made via **Eskom Customer Services**.
- The vertical clearance required between the road surface and the 11kV / 22kV power-lines shall be at least 6.4m. (Where applicable.)
- Eskom Plant and Cables to be protected from proposed landscaping i.e. no big trees and large plants / scrubs (large roots.) to be planted in close proximity to Eskom services.
- Construction / Amendment of boundary wall/s / fences to be closely monitored with guidance from the CNC – where walls / fences are in close proximity of Eskom Plant.
- At all entrances and road crossings, corrosion-free sleeves must be installed at least 600 mm below undisturbed ground level to provide for existing and future installation of Eskom cables. (Where applicable.)
- Cross trenches by hand need to be done for each road crossing on both sides of the road before the services are installed, to ensure Eskom services do not get damaged during drilling operations. For installations where the service will be installed parallel to Eskom services, cross trenches need to be done by hand at regular intervals, which is to be determined by site conditions and the Eskom PPM cables representative.
- The contractor must inform and update Eskom PPM cables on a weekly basis of the on-site work being planned and performed.
- Equipment shall be regarded electrically live and therefore dangerous at all times.
- Eskom may stipulate any additional requirements to illuminate any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.
- Security must be on-site 24/7 when trenching and working in close proximity to the Eskom 132 kV cables
- Extra care must be taken when working in close proximity to the 132 kV cables. (Eskom's PPM cables can assist in identifying these cables on-site.)
- The contractor in charge of the construction or maintenance work on site must at all times be in possession of the Approved Wayleave letter of the affected Eskom services, as well as all plans related to the wayleave application. This should be available upon the request of any Eskom and Municipal official, during site visits. If no approval is presented, then the Eskom Official(s) can order that all work to be ceased until approval can be presented.

20.20 WATER ENVIRONMENTS

- The contractor must ensure that where construction work is done over or in close proximity to water, provision is made for—
 - preventing persons from falling into water; and
 - the rescuing of persons in danger of drowning.

The contractor must ensure that where a person is exposed to the risk of drowning by falling into the water, the person is provided with and wears a lifejacket

20.21 Welding, flame cutting, soldering and similar operations

N/A

20.22 Noise

Where noise is identified as a hazard the requirements of the NIHL regulations must be complied with and the following must be included / referred to in the Health and Safety Plan.

- Proof of training with regards to these regulations.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

- That monitoring carried out by an AIA and done according to SABS 083.
- Medical surveillance programme is established and maintained for the necessary employees.
- Control of noise by means of:
 - Engineering methods considered
 - Admin control considered
 - Personal protective equipment considered/decided on
 - Describe how records are going to be kept for 40 years.

21. Monthly reporting

- The Principal Contractor is required to provide Johannesburg Water SOC Ltd. with a monthly report in the format provided on the last working day of the month.
- The report will include the monthly man-hours, incidents, training, inductions, audits, etc

22. Project close out

- Upon completion of the project, the contractor is required to hand over a consolidated project file to the Client with all the working documents for retention.
- The documents shall be submitted in an electronic format, preferably a memory stick or a downloadable link
- The contractor shall also ensure that the site is left in a safe manner that cannot cause injury or harm to JW employees or third parties.

 Johannesburg Water	OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION	
	PROJECT NUMBER:	JW OPS 072/26
	PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
	PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

Returnable Annexure A: Acknowledgement of OHS Specification & Annexures

CONTRACTOR:	
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I, the undersigned, hereby acknowledge that I have obtained copies of the following listed documentation and confirm that I fully understand the contents thereof and the consequences of non-compliance. The Contractor furthermore reiterates its commitment to compliance of the requirements contained within the following provided documentation:

- Johannesburg Water SOC Ltd, Safety, Health & Environmental (OHS) Specification, Volume 2;
- Annexure 1: List of possible hazards emanating from projects and activities conducted for or on behalf of Johannesburg Water SOC Ltd;

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

CONTRACT MANAGER			
NAME	DESIGNATION	DATE	SIGNATURE
CONTRACT SUPERVISOR			
NAME	DESIGNATION	DATE	SIGNATURE
WITNESS (1)			
NAME	DESIGNATION	DATE	SIGNATURE
WITNESS (2)			
NAME	DESIGNATION	DATE	SIGNATURE



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION

PROJECT NUMBER:	JW OPS 072/26
PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

ANNEXURE 1: BASELINE RISK ASSESSMENT



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT

PROJECT NUMBER:	JW OPS 072/26
PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

BASELINE RISK ASSESSMENT



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PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

ACTIVITY: TRANSPORTATION OF MATERIALS TO SITE

Task	Hazard	Risk	Consequence	Rating	Controls
Transportation of material to site	✓ Unsafe road conditions ✓ Un-road worthy vehicles ✓ Equipment and material not safely secured ✓ Incompetent drivers ✓ Driving under the influence of alcohol ✓ Inclement weather ✓ Speeding ✓ Slippery road	✓ Overturning vehicles ✓ Vehicle collisions ✓ Bumping pedestrians / employees	✓ Injuries ✓ Property damages ✓ Third party liability	M	✓ Adherence to the speed limit ✓ Only competent/ authorised drivers should operate the vehicle ✓ Inspection of vehicles ✓ Equipment and material to be properly secured ✓ Alcohol testing to be done ✓ The road to be paved to prevent accidents ✓ Traffic control to be implemented to avoid collisions



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT

PROJECT NUMBER:	JW OPS 072/26
PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

ACTIVITY: INSTALLATION OF PRESSURE MANAGEMENT EQUIPMENT ON PIPES, VALVES & OTHER EQUIPMENT

Task	Hazard	Risk	Consequence	Rating	Controls
Exposing of pipes	✓ Deep excavations	✓ Collapse ✓ Falling ✓ Unsafe entry and exit	✓ Injuries	M	✓ Ensure that the sides of the trenches are properly supported and protected. ✓ No unauthorised entry into the project site. ✓ Fencing off of the excavation and prompt supervision of the area. ✓ Full time security on site to monitor entry and exit. ✓ Safe method of entry and exit to be provided for employees ✓ Spoil material to be stored at least 2m away from the excavation. ✓ Signage to be displayed indicating deep excavations
Use of hand tools	✓ Repetitive movements	✓ Improper bending	✓ Back pains	L	✓ Training in correct posture while using hand tools
	✓ Distance between employees	✓ Hitting each other with tools	✓ Injuries	M	✓ Ensure safe distance between employees
	✓ Damaged hand tools	✓ Contact with skin	✓ Injuries	L	✓ Inspect tools prior to use ✓ Provide employees with gloves



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT

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PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

ACTIVITY: INSTALLATION OF PRESSURE MANAGEMENT EQUIPMENT ON PIPES, VALVES & OTHER EQUIPMENT

Task	Hazard	Risk	Consequence	Rating	Controls
	✓ Loss of grip of tools	✓ Hitting other employees	✓ Injuries	M	✓ Train employees on the use of tools ✓ Provide gloves
Using hand tools and portable equipment	✓ Improper placing ✓ Unstable footing	✓ Falling on employees	✓ Injuries	L	✓ Provide employees with proper safety shoes. ✓ Ensure that the equipment is properly placed and balanced
Entering chambers	✓ Confined space	✓ Entrapment ✓ Inability to move ✓ Lack of oxygen	✓ Injuries ✓ Suffocation	H	✓ Develop method statement for entering inside confined spaces ✓ Measure the level of gases prior to entry
	✓ Slippery steps	✓ Falling	✓ Injuries	M	✓ Inspect the steps prior to entering
	✓ Poor / No ventilation	✓ Continued exposure to oxygen-deficient air	✓ Suffocation	H	✓ Ensure that there is mechanical / natural ventilation
Working next to the road	✓ Moving vehicles and pedestrians ✓ Improperly placed signage ✓ Incorrect signage displayed ✓ Poor communication between flagmen	✓ Road accidents ✓ People getting knocked down by cars ✓	✓ Fatalities ✓ Serious injuries ✓ Property damages	H	✓ Adhere to traffic management procedures ✓ Proper training of flagpersons ✓ Ensure good communication between flagmen ✓ Display correct road signage, and put reflective barricades for additional visibility, especially at night and when it is dark / foggy. ✓ Employees should wear reflective PPE ✓ Keep area clean & clear of obstacles. ✓ Obtain wayleaves from the roads agency (JRA)



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT

PROJECT NUMBER:	JW OPS 072/26
PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

ACTIVITY: INSTALLATION OF PRESSURE MANAGEMENT EQUIPMENT ON PIPES, VALVES & OTHER EQUIPMENT

Task	Hazard	Risk	Consequence	Rating	Controls
Tie ins & pressure testing	✓ Pressurized water ✓	✓ Hitting employees ✓ Burst	✓ Fatalities ✓ High water losses	E	✓ Ensure that the water is shut down ✓ Ensure that the correct class of pipe is used as well as valve specifications are correct ✓ Develop and follow a method statement ✓ Use only competent person to perform the task. ✓ Don't exceed pipe operating pressure, ensure pipe is correct diameter and is not damaged.
Backfilling	✓ Soil	✓ Entrapment	✓ Serious injuries	M	✓ Backfilling to be done by mechanical means where excavations are deep ✓ No unauthorized entry ✓ The correct types of backfilling material to be used for backfilling
	✓ Unstable ground	✓ Excavation collapse	✓ Serious injuries ✓ Fatalities	H	✓ Ensure that backfilling is done according to relevant standards. ✓ Ensure that the area is well barricaded. ✓ Compaction tests to be done ✓ Put relevant signage ✓ No unauthorized entry to the construction site
Compacting	✓ Compactor ✓ Noise ✓ Dust ✓ Vibration	✓ Overexposure to noise and vibration ✓ Collapsing excavation wall ✓ Inhalation of dust	✓ Noise induced hearing loss ✓ Raynaud's Syndrome ✓ Injuries Respiratory problems	M	✓ Use of earmuffs by compactor operator ✓ Dust mask to be worn by compactor operator ✓ Compactor operator to be declared competent before using the machine ✓ Provide operator with anti-vibration gloves and provide rest periods in between. ✓



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT

PROJECT NUMBER:	JW OPS 072/26
PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

ACTIVITY: GENERAL ACTIVITIES ON SITE

Task	Hazard	Risk	Consequence	Rating	Controls
✓ Working on site	✓ Unhappy community	✓ Community coming to survey site ✓ Violence against employees	✓ Property damages ✓ Serious injuries	H	✓ Develop an emergency response procedure ✓ Meet with the community and all stakeholders prior to commencement of the project ✓ Have the contact details of the nearest police station / JMPD offices
	✓ Unfavourable weather conditions	✓ Exposure to temperature extremes	✓ Heat exhaustion ✓ Frost bite	M	✓ Provide employees with water for cooling down. ✓ Provide employees with warm jackets and gloves during winter ✓ Provide 5-minute rest periods for every 30 minutes of exposure to temperature extremes. ✓ No work to be undertaken in rainy conditions
	✓ Housekeeping	✓ Trips and falls	✓ Injuries	M	✓ Ensure that proper housekeeping is maintained on site at all times.
✓ Working in open spaces	✓ Snakes	✓ Bites ✓ Poisoning	✓ Fatalities ✓ Serious injuries	H	✓ Inspect the area for snakes prior to entering ✓ Conduct snake awareness training ✓ Know the do's and don'ts of what to do when coming across snakes
✓ Working in open spaces	✓ Bees	✓ Bites	✓ Allergic reaction	M	✓ Inspect the area for bees / wasps prior to entering ✓ Conduct bees awareness training



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT

PROJECT NUMBER:	JW OPS 072/26
PROJECT LOCATION:	VARIOUS LOCATIONS WITHIN COJ
PROJECT DESCR:	SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

ACTIVITY: GENERAL ACTIVITIES ON SITE

Task	Hazard	Risk	Consequence	Rating	Controls
					✓ Know the do's and don'ts of what to do when coming across bees
✓ Working in open spaces	✓ Sharp objects	✓ Getting pricked by sharp objects	✓ Tetanus ✓ Injuries	M	✓ All employees to get Tetanus vaccination. ✓ Provide employees with proper safety boots
✓ Working in open spaces	✓ Criminals	✓ Getting mugged ✓	✓ Loss of personal possession	M	✓ Personal belongings such as phones and car keys to be safely put in pockets while working. ✓ Employees to report any suspicious activities to the local police. ✓ Equipment to be safely stored while not in use
✓ Working in open spaces	✓ Criminals	✓ Employees being attacked	✓ Injuries ✓ Fatalities	H	✓ Ensure that employees do not work in isolation. ✓ Employees to report any suspicious activities to the local police. ✓ Develop an emergency response procedure
✓ Working in open spaces	✓ Open excavations	✓ Falling inside	✓ Injuries	M	✓ Employees to be vigilant while working on site
✓ Working in open spaces	✓ Water bodies	✓ Falling inside	✓ Serious injuries ✓ Fatalities	H	✓ Employees to be vigilant while working on site ✓ Emergency procedures to be developed



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT

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RISK ASSESSMENT MATRIX

Likelihood	Consequences				
	Insignificant (minor problem easily handled by normal day to day processes)	Minor (Some disruption possible e.g., damage equal to R150k)	Moderate (significant time / resources required. E.g., damage equal to R500k)	Major (Operations severely damaged. E.g., damages equal to R1m)	Catastrophic (business survival is at risk. Damage equal to R5m – 10m)
Almost certain (90% chance)	High	High	Extreme	Extreme	Extreme
Likely (between 50-90%)	Moderate	High	High	Extreme	Extreme
Moderate (between 10-50%)	Low	Moderate	High	Extreme	Extreme
Unlikely (between 3-10%)	Low	Low	Moderate	High	Extreme
Rare (<3%)	Low	Low	Moderate	High	High



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ANNEXURE 2: MEDICAL SCREENING POLICY

JOHANNESBURG WATER (SOC) LTD

MEDICAL SCREENING POLICY

JW OPS 072/26: SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN “AS AND WHEN” REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

NOTICE

It is the Contractor's responsibility to ensure that medical surveillance requirements specified in the Occupational Health and Safety Act (85/1993) and Regulations and any other applicable legal and Johannesburg Water's requirements are fully complied with.

This document is meant to facilitate the Contractor's compliance to applicable requirements and does not replace the applicable legal requirements.

This document may be revised at any time to include applicable legal requirements not currently included that may come to the attention of Johannesburg Water in future. The Contractor will accordingly be responsible to comply with the revised requirements as might be necessary.

Where methods to ensure legal compliance have been specified in this document, Contractors may submit alternative detailed method statements for consideration and approval by Johannesburg Water. Johannesburg Water may, at its sole discretion, reject or accept such alternative methods.

1 PURPOSE OF THE MEDICAL SURVEILLANCE REQUIREMENTS PROCEDURE

The purpose of this Medical Surveillance Requirements Procedure is to facilitate the achievement of legal compliance relating to medical surveillance by all Consultants, Contractors, Subcontractors and suppliers that will be working on the Johannesburg Water project and to ensure that employees are fit to work in the roles that they have been employed to execute and remain so for their duration on the project site.

This document represents the minimum requirements for medical surveillance and does not replace applicable legal requirements.

2 MEDICAL SURVEILLANCE OBJECTIVES

The Johannesburg Water main objectives for medical surveillance are:

- a) To ensure compliance with all applicable medical surveillance legal requirements.
- b) To ensure compliance with all Johannesburg Water's requirements regarding medical surveillance.
- c) To ensure that employees are fit to execute the work for which they have been employed.
- d) To prevent employees from acquiring occupational diseases or illnesses.
- e) To ensure early detection and treatment of occupational diseases and to prevent the aggravation of existing medical conditions.
- f) To ensure that employees on departure from the project have not contracted any occupational diseases and to enable any such condition that arises to be suitably addressed.

All contractors are required to demonstrate total commitment towards the achievement of these objectives.

3 GENERAL REQUIREMENTS

- 3.1 The Principal Contractor shall ensure that a medical surveillance programme is implemented for all employees.
- 3.2 An initial health evaluation shall be carried out by an occupational health practitioner immediately after a person commences employment, where any exposure exists or may exist, which comprises:
- an evaluation of the employees medical and occupational history;
 - a physical examination; and
 - any other essential examination which in the opinion of the occupational health practitioner is desirable in order to enable the practitioner to do a proper evaluation.
- 3.3 Medical surveillance & Immunization shall be done accredited institutions or occupational health doctor, including, but not limited to:
- a) Audiograms.
 - b) A cardio-respiratory examination, including full size chest x-rays (If lung function tests are abnormal)
 - c) Lung function tests.
 - d) Eye/ sight tests.
 - e) A general physical examination.
 - f) A review of previous medical history.
 - g) Blood pressure tests
 - h) Glucose tests

Copies of all medical certificates shall be submitted to the Johannesburg Water Safety Specialist or Appointed OHS Agent to prior to site establishment and before an employee is allowed to come onto site.

Specific attention shall be given to the physical and psychological fitness of people who will be required to work in elevated positions and operators of mobile machinery.

An exit medical certificate shall be obtained for all workers at the end of the contract and for all ~~workers who leave the employment of the Contractor before the end of the Project. Copies of all~~
Uncontrolled when Printed 4 Version 02 Sep 2016

exit medical certificates shall be submitted to the Johannesburg Water Safety Specialist or Appointed OHS Agent.

Medical surveillance shall address all occupational health risks to which the employee is exposed, identified through the risk assessment referred to in section 4 below.

Retention monies will be withheld if the exit medical is not complete for all employees.

The cost of all medical examinations will be borne by the Contractor as provision is made on the bill of quantities.

4 OCCUPATIONAL HEALTH RISK ASSESSMENT

4.1 The Contractor shall conduct an occupational health risk assessment prior to site establishment.

4.2 The Contractor shall ensure that, as far as is reasonably practicable, ergonomic related hazards are analyzed, evaluated and addressed in the risk assessment.

4.3 The methodology used by the contractor to assess occupational health risks associated with their activities shall be submitted to Johannesburg Water for approval by the Johannesburg Water Safety Specialist or Appointed OHS Agent prior to site establishment. The methodology should take the following into consideration, among others:

- a) Legal requirements.
- b) Normal activities undertaken by the contractor.
- c) Abnormal situations (e.g. unanticipated breakdown of equipment etc).
- d) Emergency situations (e.g. fires, exposure to chemicals).
- e) Changes in work procedures and methods.
- f) Previous experience.

4.4 A risk register that will include the following shall be submitted to the Johannesburg Water Safety Specialist or Appointed OHS Agent before site establishment.

- ~~a) All occupational health risks identified during the occupational health risk assessment.~~

-
- b) A list of the occupational health risks that have been identified as being significant.
 - c) Reference to the method statements, measures or procedures that will be followed to either eliminate or reduce the significant risks to tolerable levels.

4.5 The Contractor shall, in writing, clearly explain how each occupational health risk assessed to be significant will be addressed to eliminate or reduce it to a tolerable level and submit it for approval by the Johannesburg Water Safety Specialist or Appointed OHS Agent before site establishment. This may be through method statements or written operational control procedures. Associated responsibilities and authorities shall be clearly defined. All method statements shall reflect at least:

- a) When the activities relating to the method statement will be conducted (timing).
- b) Materials to be used.
- c) Equipment and staffing requirements.
- d) The proposed construction procedure designed to implement the relevant requirements.
- e) The system to be implemented to ensure compliance with the method statement.
- f) Any other information deemed to be necessary by the Johannesburg Water Safety Specialist or Appointed OHS Agent and/or the contractor's responsible person.

4.6 For significant occupational health risks identified after site establishment, method statements shall be submitted to the Johannesburg Water Project Specialist or Appointed OHS Agent at least 10 working days before the start of the associated activity, when possible.

4.7 All changes to approved method statements or procedures shall be approved in writing by the Johannesburg Water Safety Specialist or Appointed OHS Agent.

4.8 The contractor's Responsible Person shall retain records of any amendments and shall ensure that only the most current approved version of any method statement or procedure is used.

4.9 Every occupational health risk that is identified during the risk assessment process shall be conveyed to every employee whose work is associated with the risk. This may be done in the form of a toolbox talk but does not replace the toolbox talk entirely. Each employee shall sign to ~~confirm an understanding of the occupational health risks in the tasks.~~

- 4.10 Occupational health risk assessments may be combined with safety and environmental risk assessments, but the consideration of occupational health issues shall be clearly reflected in the records generated and maintained.
- 4.11 The occupational health risk assessment process and effective implementation of measures to eliminate or reduce identified risks is the responsibility of the Contractor. Johannesburg Water will closely monitor the effectiveness of implemented measures.

Acknowledgement of JW Medical Screening Policy

Name of Contractor

I, the undersigned, hereby acknowledge that I have obtained copies of JW Medical Screening Policy and confirm that I fully understand them and the consequences of non-compliance.

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

Signature of Contractor / Mandatory

Date

Signature of 16.2 / Construction Manager

Date

Witness 1

Witness 2



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION

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ANNEXURE 3: SIGN OFF FORM

OHS CONTRACTORS' MANAGEMENT SYSTEM				 Johannesburg Water	
TENDER DOCUMENT SHE SPECS SIGN-OFF FORM					
REQUESTED BY	SIPHOSETHU MAZIBUKO	DATE	21/08/2025	JW OPS 072/26	
JW OPS 072/26: SUPPLY; DELIVERY; INSTALLATION; SERVICING AND ONSITE TRAINING FOR ADVANCED PRESSURE MANAGEMENT (GLOBAL SYSTEM OF MOBILE COMMUNICATION SMART CONTROLLERS) AND RELATED FITTINGS ON AN "AS AND WHEN" REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.					
LIST OF SHE SYSTEM ATTACHED TO THE TENDER DOCUMENT					
SHE SYSTEM ATTACHED	Y/N	VERSION	NO PAGES	REMARKS	
Volume 2 SHE Specification & Acknowledgement Form	Y	V2 – 09/16	38	For info	
Baseline Risk Assessment	Y	V01 – 05/15	8	For info	
Medical Screening Policy	Y	V01 – 05/15	8	For info	
Returnable Annexure A	Y	V02 - 02/20	1	Return with tender document	
Page 1 of 1					



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION

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ANNEXURE 4: ENVIRONMENTAL MANAGEMENT PLAN



ENVIRONMENTAL MANAGEMENT PLAN

JOHANNESBURG WATER SOC LTD

ENVIRONMENTAL MANAGEMENT PLAN

REVISION:05

Prepared By:
OHSE & DM
Environmental Management Section

Johannesburg Water SOC (Ltd)

PO Box 61542

Marshalltown

2001

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 1 of 104

DISCLAIMER

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2. Should the contractor deviate from the conditions and requirements of the EMP and/or Environmental Authorisation (if applicable), the contractor is liable for non-compliances, rectification and associated fines thereof
3. This EMP does not exempt the Contractor from complying with other relevant legislations related to the construction activities.

TABLE OF CONTENTS

LIST OF ACRONYMS.....	4
DEFINITIONS	5
1. BACKGROUND	10
2. APPLICABLE LEGISLATIONS.....	11
3. OBJECTIVES OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME	16
4. ROLES AND RESPONSIBILITY	19
4.1 Johannesburg Water and its Agents shall:.....	19
4.2 Appointments and competencies.....	19
4.3 The Contractor shall:	24
4.4 Environmental Liaison Officer (ELO)/ SHE Officer shall:	25
4.5 Resident Engineer (RE)/ Site Agent shall:	26
4.6 Project Engineer /Inspectors (PE/PI) shall:	27
4.7 Environmental Officers shall:.....	27
4.8 Environmental Control Officer (ECO).....	28
4.9 Environmental Representative (Environmental Rep) shall:	29
5. CONTENTS FOR CONTRACTOR'S ENVIRONMENTAL FILE	30
6. ENVIRONMENTAL SPECIFICATIONS.....	31
6.1 Method Statement.....	81
6.2 Monitoring.....	82
6.2.1 Monitoring Program	82
6.2.2 Method of Monitoring.....	82
6.2.3 Monitoring Reports	83
6.3 Internal Audits and Reporting.....	85
6.3.1 Monthly compliance rating.....	86
6.3.2 Work Stoppage.....	86

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 2 of 104

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6.4 Environmental Awareness Plan	87
6.4.1 Environmental Awareness and Training.....	88
6.4.2 Formal Environmental Training.....	88
6.4.3 Induction Training	89
6.4.4 Toolbox Talks	89
6.5 Erosion Management Plan	89
7. RECORD KEEPING, COMPLIANCE AND PENALTIES	93
8. DECOMMISSIONING	94

LIST OF TABLES

Table 1: Environmental Appointment Index.....	21
Table 2: Environmental Management and Mitigation Measures that must be implemented during the Design Phase and Construction Phase.....	30
Table 3: Environmental Management and Mitigation Measures that must be implemented during the Operational Phase.....	69
Table 4: Monitoring Programme.....	82
Table 5: Compliance Rating Protocol.....	85

LIST OF APPENDICES

- Annexure A:** Acknowledgement of Environmental Management Plan (EMP)
- Annexure B:** Contractors Environmental File Evaluation Form
- Annexure C:** Environmental Work Instruction
- Annexure D:** Johannesburg Water General Surface Rehabilitation Specification

LIST OF ACRONYMS Acronym Description

BA	Basic Assessment
BAR	Basic Assessment Report
CA	Competent Authority

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 3 of 104

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DEA	Department of Environmental Affairs
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EO	Environmental Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme Report
GDARD	Gauteng Department of Agriculture and Rural Development
GN	Government Notice
I&AP	Interested and Affected Party
JW	Johannesburg Water
km	Kilometre
m	meter
MSDS	Material Safety Data Sheets
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
PHRAG	Provincial Heritage Resources Authority for Gauteng
RE	Resident Engineer
WUL	Water Use License
WULA	Water Use License Application
WWTW	Wastewater Treatment Works

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 4 of 104

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- Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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DEFINITIONS

Environment

The surroundings in which humans exist and which comprise of:

- Land, water and atmosphere of the earth.
- Micro-organisms, plant and animal life.
- Any part or combination of a) and b) and the interrelationships among and between them.
- The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that can influence human health and well-being.

Environmental Aspect

Those components of the company's activities, products and services that is likely to interact with the environment.

Environmental Authorisation

The written statement from the relevant environmental authority in terms of the National Environmental Management Act (Act 107 of 1998), with or without conditions, that records its approval of a planned activity and the implementation thereof and the mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

Environmental Impact Assessment (EIA)

The decision-making process of examining the environmental impacts of a development in terms of the NEMA (107 of 1998) and the EIA Regulations (Government Notice No. R982, R983, R984, R985 and R986) as amended.

Environmental Management Programme (EMPR)

An environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented; and that the positive benefits of the projects are enhanced.

Environmental Management System (EMS)

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 5 of 104

DISCLAIMER

1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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A set of process and practices that enable an organization to reduce its environmental impacts and increase its operational efficiency. The EMS provides a framework that helps a company achieve its environmental goals through consistent control of its operations.

Auditing

A systematic and objective assessment of an organization's activities and services conducted and documented on a periodic basis internally and externally.

Environmental Objective

An overall environmental goal, arising from the environmental policy, that an organization sets itself to achieve, and which is quantified where practicable.

Environmental Target

A detailed performance requirement quantified where practicable, applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.

Floodplain

A flat expanse of land bordering a river channel, formed through sediment deposition and other alluvial processes, and often characterized by frequent flooding as a result of bank overspill from the river channel.

Groundwater

Sub-surface water in the zone in which permeable rocks, and often the overlying soil, are saturated.

Hazardous waste

Waste that are proven to be toxic, corrosive, explosive, flammable, carcinogenic, radioactive, poisonous or classified as such in legal terms.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 6 of 104

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Heritage Resource

Any place or object of cultural significance including buildings, structures, landscapes, graves and geological, archaeological artefacts and paleontological sites.

Landscape

Land modified for human use and occupation, embracing both the natural (wilderness) environment and the urban.

Management actions

Practical actions aimed at achieving management objectives and targets.

Management objectives

Desired outcome of management measures for mitigating negative impacts and enhancing the positive impacts related to project activities and aspects (i.e. risk sources).

Monitoring

A systematic and objective observation of an organization's activities and services conducted and reported on regularly.

Natural Vegetation

All existing vegetation species, indigenous or otherwise, of trees, shrubs, groundcover, grasses and all other plants found growing on the site.

Pollution

Any change in the environment caused by substances, radioactive or other waves, or noise, odours, dust or heat, emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 7 of 104

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1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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an effect in the future. Furthermore, pollution can also be regarded as an undesirable state of the natural environment being contaminated with harmful substances as a consequence of human activities.

Protected Plants

Plant species officially listed on the Protected Plants List (each province has one), and which may not be removed or transported without a permit to do so from the relevant provincial authority.

Reinstatement

Reinstatement is defined as the return of a disturbed area to a state, which approximates the state (where possible), which it was before disruption.

Riparian Habitat

The physical structure and associated vegetation of the areas associated with a watercourse which are commonly characterised by alluvial soils, and which are inundated or flooded to an extent and with a frequency sufficient to support vegetation of species with a composition and physical structure distinct from those of adjacent land areas.

Runoff

The total water yield from a catchment including surface and subsurface flow.

Sensitive environmental features

Environmental features protected by legislation (e.g. heritage resources), or identified during the EIA as sensitive through specialists' findings and input received from Interested and Affected Parties.

Subsoil

The soil horizons between the topsoil horizon and the underlying parent rock.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 8 of 104

DISCLAIMER

1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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Topsoil

Topsoil can be regarded as the fertile upper part or surface of the soil.

Transplanting

The removal of plant material and replanting the same plants in another designated position.

Veld

Unimproved areas of natural vegetation

Wastewater

Water contaminated by the project activities.

Watercourse

A geomorphological feature characterized by the presence of a stream flow channel, a floodplain and a transitional upland fringe seasonally or permanently conveying surface water.

Waterlogged

Soil or land saturated with water long enough for anaerobic conditions to develop.

Weeds and Alien Invasive Plants

Weeds and Alien Invasive plants are defined as undesirable plant growth that shall include, but not be limited to all declared category 1, 2 and 3 listed Alien Invasive species as set out in the Conservation of Agricultural Resources Act (No 43 of 1983) regulations. Other vegetation deemed to be invasive should be those plant species that show the potential to occupy in number, any area within the defined construction area.

Wetland

Land where a surplus of water (i.e. waterlogging) is the key factor determining the nature of the soil development as well as the types of plants and animals living at the soil surface.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 9 of 104

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1. BACKGROUND

The purpose of this document is to provide management measures that will ensure that potential negative impacts associated with the activity are minimized whilst positive impacts are optimised, provided that the EMP is implemented by a suitably qualified Environmental Officer (EO). The development proponent, the main contractor and the sub- contractor are responsible for the implementation of the EMP throughout the stages. Therefore, it is imperative that the EMP is circulated to site managers, contractors and Depots who will perform any work on site which has the potential to cause environmental damage. Any parties responsible for transgression of the underlying management measures outlined in this document will be held liable for non- compliances.

The following is a generic EMP to mitigate against “generally occurring impacts” associated with the construction phase of Johannesburg Water’s activities. “Generally occurring impacts” refers to potential impacts typical of Johannesburg Water’s activities and are not restricted to a single or specific site. The findings of this EMP will be implemented at all sites.

This section is an essential component of the contract specification and shall be included during **planning, design, construction, and operational phases.**

PURPOSE

The purpose of this EMP is to ensure that Johannesburg Water conducts all its activities related to the construction and maintenance in accordance with the provisions of NEMA, and other applicable legislations. This EMP has considered the provisions of the Constitution and the principles of Integrated Environmental Management.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 10 of 104

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2. APPLICABLE LEGISLATIONS

Several laws and regulations apply to the protection of the environment. These laws contain environmental principles and standards that need to be applied when applicable permits and licences that need to be obtained. This EMP will be subject to regulatory control under a range of State, Provincial and Local regulations. Such legislation largely embraces pollution prevention, sustainable resource use, conservation, and socio cultural (heritage) protection. This chapter reviews legislation pertaining to this generic EMP.

According to Section 2 (1, 2 & 3) of the National Environmental Management Act No. 107 of 1998 (NEMA), all organs of state must apply certain principles set out in NEMA when taking decisions that may significantly affect the environment. The key principles of this Act include that all “actions” that they approve must be economically, socially, and environmentally sustainable. It further states that “people and their needs” must be at the forefront of “its concern” and their interests must be served equitably. These legislative requirements include, but are not limited to, the provisions of the legislation represented as described below:

The Constitution of the Republic of South Africa Act No. 108 of 1996)

Section 24 of the Constitution of South Africa (Act 108 of 1996) states that “Everyone has the right (a) to an environment that is not harmful to their health or well-being; and

(b) To have the environment protected, for the benefit of present and future generations through reasonable legislative and other”

Measures that:

- Prevent pollution and ecological degradation;
- Promote conservation; and
- Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”.
- Section 152 of the Constitution states that the objectives of local government are to:
- Ensure that services are provided to communities in a sustainable manner.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 11 of 104

DISCLAIMER

1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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- Promote social and economic development; and
- Promote a safe and healthy environment.

National Environmental Management Act No. 107 of 1998 (as amended)

The National Environmental Management Act 107 of 1998 (NEMA) requires that an environmental authorization is obtained before activities, which have been listed in terms of NEMA, are commenced with. The failure to obtain such an environmental authorization, before commencing with listed activities, could result in administrative sanctions, including compliance notices or directives ordering the cessation of the operations until authorized; and fines of up to ZAR10 million for each such contravention.

The Environmental Impact Assessment Regulations (EIA Regulations) set out the process to be followed in applying for an environmental authorization, while the listing notices; list the activities that require authorization (the Listing Notices). NEMA 107 of 1998 amended in 07 of April 2017. The following are the listed activities:

- EIA Regulations GNR 326
- Listing Notice 1; Government Notice Number (GNR) 327 (Basic Assessment).
- Listing Notice 2; Government Notice Number (GNR) 325 (Full EIA/ Scoping & Environmental Impact Report).
- Listing Notice 3; GNR 324 (It applies on both Basic Assessment and full EIA).

National Environmental Management: Biodiversity Act No. 10 of 2004

Provides management and conservation of South Africa's biodiversity within the framework of NEMA 107 of 1998; the protection of species and ecosystems that warrant national protection and the sustainable use of indigenous biological resources.

The National Environmental Management Waste Act 59 of 2008

The National Environmental Management Waste Act (NEMWA) reforms the law regulating waste management in order to protect health and the environment providing reasonable measures for the

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 12 of 104

DISCLAIMER

1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.

The Occupational Health and Safety Act No. 85 of 1993

The Occupational Health and Safety Act make provision in regulation

- Section 8 for the general duties of employers to their employees.
- Section 9 of the Regulations makes provision for general duties of employers and self-employed persons to persons other than their employees.

National Heritage Resources Act (NHRA) No. 25 of 1999

The protection and management of South Africa's heritage resources are controlled by the National Heritage Resources Act. The South African National Heritage Resources Agency (SAHRA) is the responsible authority for implementing the National Heritage Resources Act (NHRA) 1999, (Act 25 of 1999).

Section 38(1) of the NHRA lists development activities that would require authorisation by the responsible heritage resources authority. Activities considered applicable to the proposed project include the following:

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length.

(b) the construction of a bridge or similar structure exceeding 50 m in length; and

(c) any development or other activity which will change the character of an area of land, or water -
i exceeding 5 000 m² in extent,

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 13 of 104

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- ii involving three or more existing erven or subdivisions thereof; or
- iii involving three or more erven or divisions thereof which have been consolidated within the past five years; or
- iv the costs of which will exceed a sum set in terms of regulations by SAHRA or a Provincial Heritage v Resources Authority.
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a Provincial Heritage Resources Authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature, and extent of the proposed development.

Water Services Act No. 108 of 1997

This Act provides for the rights of people to basic water supply amongst others basic sanitation. It acknowledges that there is a duty on all spheres of government to ensure that sanitation services are provided in a manner which is efficient, equitable and sustainable and that it should be sufficient for subsistence and sustainable economic activity. The provision of sanitation services must be undertaken in a manner consistent with the broader goals of water resource management. This goal is in line with the Act as it aims to provide sufficient sanitation services to the region in a sustainable manner.

Conservation of Agricultural Resources (CARA) Act, Act No. 43 of 1983

The CARA aims to ensure the protection of agricultural resources such as land with agricultural potential and water and makes provision for the eradication of alien and invasive species, and protection of topsoil.

NEMA Air Quality Act (AQA), Act No. 39 of 2004

The aim of this law is to regulate air quality and protect the environment in South Africa through reasonable measures to prevent pollution and ecological degradation, while securing sustainable development. The Act also provides national norms and standards for air quality management, monitoring and control. Under this legislation, Priority Air shed Areas can be proclaimed, where specific

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 14 of 104

DISCLAIMER

- Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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Air Quality Management Plans are applicable. Regulations are also published under this Act for the format of air quality assessments and what should be included in the assessment. Any Air Quality Management Plan which has been compiled for the area and any proposed WWTW should be in line with this Management Plan. This Act may list activities which may result in atmospheric emissions, and which may have a significant detrimental effect on the environment.

Government Gazette 32434 of 24 July 2009 listed activities, which require an atmospheric emission license before it commences. Air quality limits and thresholds are fundamental to effective air quality management, providing the indicators to safe exposure levels for the majority of the population. The current South African standards have been revised and National Ambient Air Quality Standards were promulgated on the 24th of December 2009 (Government Gazette No. 32816, Notice No. 1210). The newly proposed standards include particulate matter specifically PM10 (particulates with a diameter of less than 10 micrometre), sulphur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), lead, carbon monoxide (CO) and benzene. These revised standards have been adopted as the VTAPA air quality objectives. Any emissions from the proposed WWTW should be within these standards.

National Water Act (NWA), 36 of 1998

Water use is controlled by the National Water Act (NWA) Act No. 36 of 1998. The NWA recognises that water is a scarce resource in South Africa and its provisions are aimed at achieving sustainable use of water to the benefit of all users. The provisions of the Act are thus aimed at discouraging pollution and waste of water resources. According to Section 21 of the NWA the following activities require a water use licence (WUL) prior construction:

- “21.(a) taking water from a water resource;
- 21.(b) storing water;
- 21.(c) impeding or diverting the flow of water in a watercourse;
- 21.(d) engaging in a stream flow reduction activity contemplated in section 36;
- 21.(e) engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1);
- 21.(f) discharging waste or water containing waste into a water resource through a pipe, canal,

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 15 of 104

DISCLAIMER

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sewer, sea outfall or other conduit;

21.(g) disposing of waste in a manner which may detrimentally impact on a water resource;

21.(h) disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process;

21.(i) altering the bed, banks, course or characteristics of a watercourse;

21.(j) removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and

21.(k) using water for recreational purposes.”

3. OBJECTIVES OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

The purpose of this EMP is to provide an easily interpreted reference document that ensures that the project environmental commitments, safeguards and mitigation measures from the environmental planning documents, project approvals, and scope of work are implemented.

The objectives for the EMP are:

- To develop, implement and maintain effective management systems for the environmental aspects.
- To document details of environmental protection infrastructure and controls so that they are able to provide long term protection for the natural environment.
- To ensure compliance with relevant legislation (National, Provincial and Local), regulatory requirements and environmental documents.
- To maximise the value and outcomes of environmental monitoring activities so that the information can be applied to the planning and implementation of future projects.
- To ensure that all Environmental Management considerations are implemented during the planning, operational and maintenance phases of the project.

All the environmental specifications and the procedures discussed in this document were also developed in accordance with the relevant legislation applicable to the development.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 16 of 104

DISCLAIMER

1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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3.1 Phases of the Project

The EMP deals with the following phases as detailed below:

3.1.1 The Planning and Design Phase

Overall Goal for Planning and Design: Undertake the planning and design phase of the development in a way that:

- Ensures that the design of the proposed development responds to the identified environmental constraints and opportunities.
- Ensures that the best environmental options are selected for all components of the project.
- **Ensures that there is sufficient financial provision for environmental assessment, monitoring, rehabilitation, and maintenance. The JW rehabilitation calculation template must be used (See Annexure D).**
- The qualified landscaping specialist must be appointed to undertake rehabilitation on site. The landscaping specialist must pose the following qualifications and work experience:
 - Landscaping Specialist should at least have BA/BSc Honours Degree or 4-year Degree in Natural Sciences/Ecological
 - The Landscaping Specialist must at least be registered with South African Council for Natural Scientific Professions (SACNASP) as a Professional Natural Scientist (Copy of SACNASP Certificate must be submitted).
 - At least three letters from their client/s must be submitted, detailing the landscaping work he/she has undertaken (letters should have the name of the client, description of the project and/or scope of work done, contact details and must be signed). Letters should be in their client's company letterhead, and it must indicate if the work has been completed satisfactorily or not.
 - Copy of CV must be submitted, specialist should at least have a minimum of five (5) years working experience as landscaping Specialist (See Table 1).

The EMP offers an ideal opportunity to incorporate pro-active environmental management measures with the goal of attaining sustainable development.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 17 of 104

DISCLAIMER

1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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Pro-active environmental measures minimize the chance of impacts taking place during the construction and operational phase. There is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g., this EMP) during the planning phase, the necessary corrective action can be taken to further limit potential impacts. In order to meet this goal, action plans for planning and design stages of the project must be identified together with monitoring requirements.

3.1.2 The Construction Phase

The bulk of the impacts during this phase will have immediate effect (e.g., noise-, dust- and water pollution etc.) If the site is monitored on a continual basis during the construction phase, it is possible to identify these impacts as they occur. These impacts will then be mitigated through the contingency plans identified in the planning phase, together with a commitment for sound environmental management from Johannesburg Water and its agents.

3.1.3 Rehabilitation and Reinstatement Phase

This phase will involve restoring the land impacted during the construction phase back to its original state (in the case of slopes, gradients, soil profiles, and hydrology) or better. This process will be mainly on rectifying the negative impacts that have been caused during construction by the removing pollution or contaminants and other dangerous substances from groundwater, sediment, or surface water and improvement of the soil.

3.1.4 The Operational Phase

By taking pro-active measures during the planning and construction phases, potential environmental impacts emanating during the operational phase will be minimised. This, in turn, will minimise the risk and reduce the monitoring effort, but it does not make monitoring obsolete.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 18 of 104

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4. ROLES AND RESPONSIBILITY

The implementation of this EMP requires the involvement of several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during the construction and operational phases. The stakeholders are discussed below:

4.1 Johannesburg Water and its Agents shall:

Ensure that the EMP is kept on JW's Sites and construction sites.

- Remain ultimately responsible for ensuring that the development is implemented according to the requirements of the EMP.
- Ensure that the Environmental section attends all project related tender briefing sessions.
- Although Johannesburg Water appoints specific role players to perform functions on its behalf, this responsibility is delegated.
- Be liable for restoring the environment in the event of negligence leading to damage to the environment.
- Ensure that the EMP is included in the tender documentation so that the contractor who is appointed is bound to the conditions of the EMP, and there's sufficient budget for environmental assessments and/or assessment during the planning, design, construction, replacement of vegetation and restoration of habitats, decommissioning (rehabilitation) phases of the project.
- Ensure that the contractor appointed understands, acknowledges and fully accepts the content of this EMP and their responsibilities for implementation and compliance.
- Monitor compliance with the conditions of the environmental authorisation and the EMP and compliance audits are undertaken.
- Ensure that the Environmental section signs all close out reports to confirm rehabilitation.

4.2 Appointments and competencies

- The contractor and its appointed sub-contractor must meet the relevant legislative and non-statutory appointments, which must be maintained valid for the entire contract duration.
- All appointees shall be suitably trained and certified competent for the responsibilities they are assigned for.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 19 of 104

DISCLAIMER

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- Copies of all relevant appointments and the relevant competence certificates must be kept in the relevant Environmental file.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 20 of 104

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ENVIRONMENTAL MANAGEMENT PLAN

Table 1: Environmental Officer's Appointment Index

Appointment	Project Type	Legislative Ref	Competency requirements (Min)
Contractor SHE Officer	Unauthorised Project	JW EMP/ JW Waste Management Procedure	National Diploma in Safety & ISO14001:2015 (Introduction/Awareness, implementation, and auditing ISO14001:2015) + 2 years' Experience OR National Diploma in Environmental Management + 2 years' Experience OR NEBOSH / SAMTRAC & Basic ISO14001:2015/ Basic Environmental Awareness (Introduction and Implementations to ISO14001:2015) + 4 years' Experience. Register with SACPCMP.
Contractor Environmental Liaison Officer/Environmental Officer	Authorised project	JW EMP and Project Specific approved EMP /Directives/Environmental Authorisation/GA/WUL	National Diploma in Environmental Management/ + 3 years' Experience. BA/BSc Environmental Management + 3 years' experience. The recommended and/or market related minimum Salary/wages for ELO/EO should be R17 000.00.

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ENVIRONMENTAL MANAGEMENT PLAN

Environmental Representative/Environmental Rep	Unauthorised Project	JW EMP	Must hold a Senior Certificate (Matric) and one of the following qualifications. National Diploma in Environmental Management/ BA/BSc Environmental Management or Science/ISO 14001:2015(Introduction; Implementation and Auditing/Certificate in Environmental law/National Certificate in Environmental Management. The recommended and/or market related minimum salary/wages for Environmental Representative should be R10 000.00.
Consultant Environmental Control Office	Authorised project (as and when required)	JW EMP and Project Specific approved EMP /Directives/Environmental Authorisation/GA/WUL	Reputable Environmental Consulting Company National Diploma or BA/BSc Environmental Science or Management + 3 years' experience as an independent ECO/Consultant
Landscaping Specialist	Unauthorised and Authorised project	JW EMP and Project Specific approved EMP /Directives/Environmental Authorisation/GA/WUL	Reputable Environmental Consulting firm /Landscaping Company.

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ENVIRONMENTAL MANAGEMENT PLAN

			Landscaping Specialist should at least have BA/BSc Honours Degree or 4-year Degree in Natural Sciences/Ecological. - The Landscaping Specialist must at least be registered with South African Council for Natural Scientific Professions (SACNASP) as a Professional Natural Scientist (Copy of SACNASP Certificate must be submitted). - Specialist should at least have a minimum of five (5) years working experience as landscaping Specialist (See Table).
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ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 23 of 104

DISCLAIMER

1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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4.3 The Contractor shall:

- Be bound to conform to the EMP conditions through his/her contract with Johannesburg Water, and is responsible for ensuring that he adheres to all the conditions of the EMP.
- Thoroughly familiarise with the EMP requirements before construction begins and must request clarification on any aspect of these documents, should they be unclear.
- Be responsible for mitigation and rehabilitating all environmental damage at his/her expense.
- Ensure adherence to, and implementation of, the environmental management specifications.
- Ensure that environmental damage, whether intentional or unintentional, is prevented in the first instance, mitigated and rehabilitated, and must adopt a proactive approach followed by a reactive approach.
- Ensures identification of, and compliance with, all environmental laws, all by laws and regulations.
- Ensure that any instructions (whether verbal or written) issued by the site manager, project manager, site engineer or EO, in terms of the EMP is adhered to.
- Ensure that an environmental compliance report is tabled at each site meeting, which must document all incidents, complaints, and non-compliances, and their close out progress, which has occurred during the period before the site meeting.
- Provide a photographic report to JW upon request showing close out of identified issues.
- Provide any project or compliance information that may be requested by JW in any format as requested.
- Ensure that proposed site camp areas are approved by JW environmental section prior to establishment.
- Ensure compliance with the EMP conditions even if there will be no site camps or the project is an emergency or subject to Directives.
- Take comprehensive site photographs for before, during and after construction.
- Ensure that each individual resident/landowner/stakeholder requirement is documented, pertaining to the area to be disturbed, special features, vegetation to be disturbed, rehabilitation requirements (contractors must state to residents/stakeholders that indigenous vegetation species will be put

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 24 of 104

DISCLAIMER

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back, however, should residents/stakeholder require non-indigenous species to be replaced, these are to be documented before being affected) prior to any disturbance.

- Provide a detailed, site-specific method statement for rehabilitation, which must be approved by JW Engineer and EO.
- Ensure that a report is tabled at each site meeting, which will document all incidents that have occurred during the period before the site meeting.
- Ensure that incidents register is kept in the site office.
- Ensure that a register of all public complaints is maintained.
- Ensure that all employees, including those of sub-contractors receive Environmental Induction before the commencement of construction in order that they can constructively contribute towards the successful implementation of the EMP (i.e., ensure their staff are appropriately trained as to the environmental obligations).
- Ensure that all disturbed areas are rehabilitated and at least 85% healthy grass/ground cover has established, that rehabilitation is maintained, the sites are free of erosion, waste and pollution of any kind including rubble and spills, and free of weeds and alien invasive species.
- Appoint an Environmental Liaison Officer (ELO) prior Construction for Environmental Authorised Projects.
- Appoint SHE Officer prior Construction for unauthorized projects i.e., the SHE Officer with Environmental Management experience or be trained on Environmental legislation.
- Provide accurate and factual information pertaining to the projects, communications, and discussions at all times.
- Is responsible for NEMA Duty of Care, and Polluter pays principle.

4.4 Environmental Liaison Officer (ELO)/ SHE Officer shall:

- Ensure that the project team is involved in all aspects of project planning that can influence environmental conditions on the site.
- Be permanently on site during the construction phase to oversee the Contractor's internal compliance with the EMP requirements and ensuring that the environmental specifications are adhered to.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 25 of 104

DISCLAIMER

1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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- Assist with day-to-day monitoring of the construction activities. Ensure that any issues raised by the EO will be routed to the SHE Officer for the contractors' attention.
- The ELO/ SHE Officer shall be permanently on site during the construction phase to oversee the Contractor's internal compliance with the EMP requirements and ensuring that the environmental specifications are adhered to.
- Be responsible for keeping detailed records of all site activities that may pertain to the environment and include all these aspects in an environmental register.
- Maintain site documentation and records related to environmental management (EMP, authorisations, permits, way-eaves, method statements, audit reports, monitoring results, receipts for waste removal, environmental file, etc.)
- The ELO/SHE Officer must keep a register of complaints from any community members on environmental issues.
- The ELO /SHE Officer will be required to keep a record of all on-site environmentally related incidents and how these incidents were dealt with.
- Ensure daily implementation of the EMP conditions, and monitoring of the contractor's compliance with EMP conditions, using checklists and visual inspections.
- Provide location details for possible site camp locations to JW environmental section and await approval from this section before establishing.
- Inform JW environmental section when actual work is about to commence.
- Inform JW environmental section of pending completion activities and intention to de-establish, prior.
- Ensure proper rehabilitation is undertaken before site closure.

4.5 Resident Engineer (RE)/ Site Agent shall:

- Liaise with the Contractor and Environmental Officer (EO) on environmental matters, as well as any pertinent engineering matters where these may have environmental consequences.
- Oversee the general compliance of the Contractor with the EMP and other pertinent site specifications.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 26 of 104

DISCLAIMER

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- Familiarise him/herself with the EMP specifications and further monitor the Contractor's compliance with the Environmental Specifications daily through the Site Diary and enforce compliance.
- Ensure that Monthly Audits reach the contractor before Monthly Progress Meeting.
- Ensure proper rehabilitation is undertaken before site closure.

4.6 Project Engineer /Inspectors (PE/PI) shall:

- Ensure that there is a sufficient budget for complying with all EMP conditions at the tender stage.
- Ensure sufficient budget is provided for rehabilitation/ Reinstatement.
- Ensure proper rehabilitation is undertaken before site closure.
- Ensure of all specifications and legal constraints specifically with regards to the environment are highlighted to the Contractor(s) so that they are aware of these.
- Ensure that Contractor(s) are made aware of all stipulations within the EMP.
- Ensure that the EMP is correctly implemented throughout the project by means of site inspections and meetings. This will be documented as part of the site meeting minutes.
- Be fully conversant with the EIA for the project, the EMP, the conditions of the Environmental Authorisation (if applicable), and all relevant environmental legislation.
- Ensure compliance monitoring of contractors on a day-to-day basis.
- Ensure adherence and implementation of the tender requirements.
- Ensure reference of specific non-compliance/non-conformance issues to the responsible units and/or contractors.

4.7 Environmental Officers shall:

- Be responsible for informing the contractors of any decisions that are taken concerning environmental management during the project phase.
- This would also include informing the contractors of the necessary corrective actions to be taken, issuing stop work orders and rehabilitation and remediation instructions if necessary.
- Liaise with environmental authorities where necessary.
- Review all the environmental documents submitted by the Contractor, including sign off.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 27 of 104

DISCLAIMER

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- Review all the environmental documents from the Contractor, including sign off.
- Conduct environmental monthly audits of all contractors' work on site where necessary
- Maintain site documentation of related to environmental management (EMP, Method statements, audit reports, monitoring results, receipts of waste removal etc.). Documents to be maintained on the relevant site Documents Control Systems.
- Inspect and report on environmental incidents and check corrective actions.
- Conduct environmental incidents enquiries.
- Review and sign off method statements prepared by Contractors.
- Ensure that an environmental compliance monitoring strategy/framework is implemented.

4.8 Environmental Control Officer (ECO)

The role of the ECO shall be to:

- Act as site 'custodian' for the implementation, integration, and maintenance of the EMP in accordance with the contractual requirements.
- Ensure successful implementation of the EMP; and
- Ensure that the Contractor, his employees and/or Subcontractors receive the appropriate environmental awareness training prior to commencing activities.

The responsibilities of the ECO will be to:

- Liaise with the JW Environmental Section and Project Engineer on the level of compliance with the EMP achieved by the Contractor on a regular basis for the duration of the contract.
- Advise the Project Engineer on the interpretation and enforcement of the Environmental Specifications (ES), including evaluation of non-compliances.
- Enforce compliance with the EA and EMP through audit report and checklist
- Supply environmental information as and when required.
- Review and approve Method Statements produced by the Contractor, in conjunction with the PM and EO.
- Monitor any basic physical changes to the environment because of the construction works according to an audit schedule.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 28 of 104

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- Attend regular site meetings and project steering committee meetings.
- Undertake regular monthly audits of the construction works and to generate monthly audit reports. These reports are to be forwarded to the JW EO who will communicate the results and conclusions with the principal Contractor.
- Submit audit reports to the authority as per the requirement of issued Environmental Authorisation.
- Communicate frequently and openly with the Contractor and the Project Engineer to ensure effective, proactive environmental management, with the overall objective of preventing or reducing negative environmental impacts and/or enhancing positive environmental impacts.
- Advise the Project Engineer on remedial actions for the protection of the environment in the event of any accidents or emergencies during construction, and to advise on appropriate clean-up activities.
- Review complaints received and made instructions as necessary; and
- Identify and make recommendations for minor amendments to the EMP as and when required.

4.9 Environmental Representative (Environmental Rep) shall:

- Review the effectiveness of environmental measures in the workspace/construction environment for which he/she was appointed.
- Identify potential impacts in the workplace.
- Investigate environmental incidents and identify root causes.
- Investigate Environmental Complaints.
- Conduct Awareness training.
- Participate in Environmental inspections.
- Ensure compliance with JW EMP and other environmental management related legislations.
- Ensure Proper Rehabilitation is conducted.
- Attend site SHE meetings where Environmental issues are addressed.
- Guide Construction crew/team on environmental requirements as per JW EMP.
- Assist in day-to-day monitoring of construction activities.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 29 of 104

DISCLAIMER

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- Assist in implementation of ISO 14001:2015 standard.
- Assist the SHE Officer/EO with preparation of audits /inspections.

5. CONTENTS FOR CONTRACTOR'S ENVIRONMENTAL FILE

The following documents must be submitted by the contractor in the Environmental file before Construction commences on site. The file must be submitted to the Environmental Section prior construction for approval. The Contractor should achieve a minimum score of 80% for the file to be approved (**Refer to Annexure B: Environmental File Specification**).

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 30 of 104

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ENVIRONMENTAL MANAGEMENT PLAN

6. ENVIRONMENTAL SPECIFICATIONS

Table 2: Environmental Management and Mitigation Measures that must be implemented during the Design Phase and Construction Phase

Design Phase Measures						
Aspects	ID	Mitigation Measure/Procedure	Responsible	Implementation Timeframe	Monitoring Methods	Performance indicators
Project Planning/Design	1	- Proposed project is submitted to Environmental Section for screening (Project scope/layout/Maps), - CAPEX and Ops must ensure that there is budget allocated for environmental management throughout the project life cycle i.e., planned project and Directives.	Johannesburg Water (CAPEX/Ops)	Before project commences	- Screening report - Tender document	Keep the records of the project screening report and scope of work as per Directives
Authorisation	2	- Appoint Consulting Company - Ensure that all required licences and permits have been obtained before the start of construction. - Ensure that ECO and/or ELO is appointed as per the authorisation and EMP requirement during project execution (as when and required).	Johannesburg Water (CAPEX/ Environmental Section)	Before construction commences	Keep record of all permits, licences and authorisations	Keep record of all permits, licences and authorisations
Project Handover	3	- The scope of a project is outlined by CAPEX Engineer during the handover meeting. - Environmental Management Requirements are outlined during the handover meeting.	Johannesburg Water (CAPEX/ Environmental Section)	Before construction commences	Meeting invite EA/GA/WUL/ Screening report	Keep record of all permits, licences and authorisations
Environmental Awareness Training/Induction s	4	- Environmental awareness training is given to the Project Team Leaders - Environmental File Specification provided to the Contractor. - JW Environmental Management Plan and other procedures are provided to the Contractor.	Johannesburg Water (CAPEX/ Environmental Section)	Before construction commences	Meeting invite	Meeting records

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ENVIRONMENTAL MANAGEMENT PLAN

Environmental File & Evaluation	5	- Contractor submits environmental file for approval prior work commences on site. - Construction activities/work (including site establishment) should ONLY commence when file is approved.	Appointed Contractor/Environmental Section	Before construction commences	Environmental evaluation report.	Approval/ rejection letter records
Construction Phase Measures						
Aspects	ID	Mitigation Measure/Procedure	Responsible	Implementation Timeframe	Monitoring Methods	Performance indicators
Site camp establishment	1	- Invite the Environmental Officer for the site inspection of proposed site camp prior establishment. - Submit a method statement for Site Camp establishment for approval by JW Environmental Officer/ECO prior commencement of works. - Establish a suitably fenced Site Camp at the start of the contract, which will allow for site offices, vehicle, equipment, material, and waste storage areas to be consolidated as much as possible. Locate the Site Camp at a position approved by the JW EO, at least 100m from watercourses and in an area which is not ecologically sensitive. - Provide water and/or washing facilities at the Site Camp for personnel. - Limit construction and lay down areas to areas within the development footprint. - Ensure that environmentally friendly on-site sanitation options are selected, and these facilities are properly managed and maintained. - Designated eating areas shall be provided on site. - These eating areas shall be clearly demarcated and shall be provided with bins with lids.	All Contractors	Before commencement of Project	- Visual inspection - Site establishment checklist/Method statement	Method statements approved by CAPEX and the Environmental Officer - Position of Site Camp approved by ECO - Security and access to Site Camp controlled - Clear demarcation of no-go areas as agreed with JW EO. - Detailed site layout plan - Environmental file approval letter.

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ENVIRONMENTAL MANAGEMENT PLAN

		- Staff will be prohibited from consuming meals anywhere other than at these eating areas and that noise is limited. - All eating areas shall include provision for a water and smoking area.				
Environmental Awareness Training	2	- Provide environmental awareness training to all personnel on site at the start of their employment. Training should include discussion of: - Potential impact of construction waste and activities on the environment. - Suitable disposal of construction waste and litter. - Key measures in the EMP relevant to worker's activities. - How incidences and suggestions for improvement can be reported. - Ensure that all attendees remain for the duration of the training and on completion sign an attendance register that clearly indicates participants' names.	All Contractors	- Before workers start working onsite - Before new activities are undertaken	- Check training attendance register - Observe whether activities are executed in line with EMP requirements	- Proportion of workers that completed. - Environmental training Compliance of workers with EMP
Plant Search and Rescue/Vegetation clearing	3	- From information gathered during the plant marking exercise, establish the size. - Requirements for the plant rescue team workforce, and the methodology to be employed during the rescue to maximise the likelihood of success; Document and motivate which species found on site are considered to be conservation worthy. - Follow a multi-pronged approach to maximise the likelihood of success wherever feasible. In addition to transplanting of whole plants, seed can be collected and sown in situ in suitable habitats and/or in an off-site nursery. - Any plants not suitable for transplantation must be considered for transplanting to existing conservation	All Contractors	Before commencement of activities	Visual Inspection/ inspection by Botanist/Ecologist	- Incidents of harm coming to fauna/ flora. - Number of incidents of disturbance of vegetation outside construction site boundary; and - Size of area cleared relative to

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ENVIRONMENTAL MANAGEMENT PLAN

		areas nearby. This could involve growing these plants on in an off-site nursery for a period of time. - Depending on the conservation worthy species found, the location of suitable existing conservation areas nearby and the location of the off-site nursery, the most appropriate plant rescue options must be detailed in the search and rescue plan, and could be a combination of the following options: - All required permits must be obtained from the appropriate authority covering plants to be affected by the plant rescue operation prior to the removal of the plants. - Demarcate the area for construction prior to each phase and prevent access by construction personnel outside of this area. - Appoint a suitably qualified botanist to undertake search and rescue of key plant species in the development footprint where necessary (Where is applicable. Clearly demarcate sensitive areas, including buffers, with appropriate signage. - Do not allow personnel to enter calcrete vegetation areas. - Do not allow personnel to pick or destroy plants outside of the construction footprint. - Limit clearing to those areas within the footprint of construction for each phase. - Restrict construction vehicles to designated roadways. - Do not allow the temporary storage of building material within sensitive areas. Aftercare and monitoring				development footprint - Size of area disturbed outside of construction site boundary. - Areas of development footprint must be clearly demarcated
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ENVIRONMENTAL MANAGEMENT PLAN

		- Record numbers and diversity of propagated plants and the health of the same, until they can be planted out; - Aftercare of transplanted plants to be done in accordance with the plant search and rescue plan by an appropriate agent (e.g., staff from the commercial nursery or an appropriately trained onsite Contractor), including watering and alien plant control requirements. If done correctly, the frequency of input will decrease with time. - Record numbers and diversity of transplanted plants and the health of the same. - Monitoring must be undertaken as per requirements of the plant search and rescue plan approved by GDARD, including monitoring of alien plants and maintenance of a photographic record; and - Provide a detailed record (including photographic record) that indicates the success of the plant rescue operation. Records of corrective action taken to improve management of transplanted plants, where relevant, must also be completed. Applicable Legislation - National Environmental Management Act: Biodiversity Act (Act 10 of 2004) including Threatened or Protected Species Regulations. - National Environmental Management Act (Act 107 of 1998). - Gauteng Nature Conservation Bill, 2014/Transvaal Nature Conservation Ordinance 12 of 1983; and - National Forests Act (Act 30 of 1998).				
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ENVIRONMENTAL MANAGEMENT PLAN

Excavation	4	- The process of excavation and back filling must be carried out as a sequential process following one another as quickly as possible. - Excavations must only remain open for a minimum period of time and during this time they must be clearly demarcated. If excavations place the public at risk these sites must be fenced. - Where possible, close excavations immediately after pipe is laid. - The residents directly affected by open trenches must be notified of the dangers. This will be done during the site-specific phase. - Danger tape shall not be utilised to prevent personnel from open excavations, orange nets should be used for all open excavations on site. Construction vehicles should avoid creating new roads, use existing roads. - Wet exposed surfaces using a water cart, bowser or use a biodegradable and environmentally friendly soil binder to prevent dust emissions. - Dewater excavations regularly and channel water to areas of grass cover. If dewatering is near/within a watercourse and is to be discharged to a watercourse, ensure a silt fence/net and sandbags are used to reduce silt loads. - Topsoil must be cleared (considered to be the upper 150mm of soil surface) and retained as it contains most inorganic matter and nutrients. Topsoil must be kept separate from subsoil and stored in windrows parallel to excavations. - Harvested grass should be retained and used as a mulch to combat erosion.	All Contractors	Throughout construction	Visual inspection	- Daily site inspection. - Damage to the environment (sensitive environment)
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ENVIRONMENTAL MANAGEMENT PLAN

		• Soil should be exposed for the minimum time possible once cleared of indigenous or invasive vegetation. • Avoid prolonged exposure of soils to wind and water erosion when clearing and grubbing. • The stockpiled topsoil (which will be left standing for more than 1 month) must be covered with suitable fabric, and / seeded, to prevent erosion and weed invasion. • Stockpiled topsoil must be covered with suitable fabric to prevent erosion and weed invasion. • No vehicles are allowed to access onto the stockpiles after they have been placed. • Topsoil and subsoil must be kept separate throughout construction and rehabilitation. • A marsh wire or snow netting shall be erected around the exposed excavations to warn the public. • The contractor must rip and rehabilitate temporal roads after project completion. • The Contractor shall be in possession of an emergency oil and chemical spill kit, drip trays and bioremediation substances/enzymes that must be complete and available on site at all times.				
Topsoil and subsoil	5	• The contractor should remove 150mm of topsoil and stockpile at a height of not more than 1m. • Topsoil should be temporarily stockpiled, separately from (clay) subsoil and rocky material, when areas are cleared. If mixed with clay sub-soil the usefulness of the topsoil for rehabilitation of the site will be lost. • Stockpiled topsoil should not be compacted and should be replaced as the final soil layer. No	All Contractors	During Vegetation clearance	Visual inspection	• Incident of incorrect storage and harvesting. • Manifestation of alien invasive plants. • Incident of erosions.

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ENVIRONMENTAL MANAGEMENT PLAN

		vehicles are allowed access onto the stockpiles after they have been placed. • Stockpiled soil should be protected by erosion-control berms if exposed for a period of greater than 14 days during the wet season and seeded. • Topsoil must be hydro seeded during shut down in December. • Topsoil stripped from different sites must be stockpiled separately and clearly identified as such. • Topsoil obtained from sites with different soil types must not be mixed. • Topsoil stockpiles must not be contaminated with oil, diesel, petrol, waste or any other foreign matter, which may inhibit the later growth of vegetation and micro-organisms in the soil. • Soil must not be stockpiled on drainage lines or near watercourses without prior consent from the Project Manager. • Soil should be exposed for the minimum time possible once cleared of invasive vegetation, that is the timing of clearing and grubbing should be co-ordinated as much as possible to avoid prolonged exposure of soils to wind and water erosion. • Stockpiled topsoil must be either vegetated with indigenous grasses or covered with a suitable fabric to prevent erosion and invasion by weeds. • Limited vehicular access is allowed across rocky outcrops and ridges. • All cut and fill surfaces need to be stabilized with appropriate material or measures when major civil works are complete. • Erosion and donga crossings must be dealt with as river crossings. Appropriate soil erosion and control				
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ENVIRONMENTAL MANAGEMENT PLAN

		procedures must be applied to all embankments that are disturbed and destabilized as per the Authorisation • All equipment must be inspected regularly for oil or fuel leaks before it is operated. Leakages must be repaired on mobile equipment or containment trays placed underneath immobile equipment until such leakage has been repaired. • Soil contaminated with oil must be appropriately treated and disposed of at a permitted landfill site or the soil can be regenerated using bio-remediation methods. • Runoff must be reduced by channelling water into existing surface drainage system.				
Protection of archaeological and heritage resources	6	• Alert the construction workforce of the potential existence of artefacts at the site. • Empower staff to stop works on (chance) discovery of artefacts at the site. • Cease construction on (chance) discovery of archaeological sites of heritage importance or redirect machinery away from finds until an archaeologist is able to make a site inspection and establish the importance of the find and make recommendations for preservation and/or record keeping. • Report the presence of graves or human remains, fragments of fossil bone, ostrich egg and stone fragments to HWC. • Obtain a permit for the removal of artefacts from the site if any are discovered during construction.	All Contractors/Joburg Water	• Before Construction commences • During earthworks	Visual inspection	• Discovery of possible archaeological material • Rescue and reporting of identified material when discovered
Protection of paleontological resources	7	• Identify a stand-by palaeontologist to inspect fossils if they are discovered during construction activities.	Johannesburg Water	Prior commencement	Visual inspection	• Discovery of possible

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ENVIRONMENTAL MANAGEMENT PLAN

		- Empower staff to stop works on (chance) discovery of fossils at the site. - Alert the construction workforce of the potential existence of fossils at the site. - Cease construction on (chance) discovery of fossils and artefacts of paleontological importance or direct machinery away from finds until the identified palaeontologist is able to make a site inspection and establish the importance of the find and make recommendations for preservation, collection or record keeping.	All Contractors	During earthworks		archaeological material. Rescue and reporting of identified material when discovered.
Concrete / cement Work/Batching plant	8	- Use Ready-Mix concrete rather than batching where possible. - Ensure that no cement truck delivery chutes are cleaned on site. Cleaning operations are to take place off site at a location where wastewater can be disposed of in the correct manner. If this is not possible a suitable washing facility is to be developed on site in consultation with the ECO. - Concrete must be mixed only in an area demarcated for this purpose, ideally on an impervious surface (e.g., cement mixing pit). - Batching operations to take place in a designated area, which will be kept clean at all times. - All concrete spilled outside this area, must be promptly removed by the Contractor and taken to a permitted waste disposal site. - After all concrete mixing is complete; all waste concrete must be removed from the batching area and disposed of at an approved dumpsite. - Ensure separation of clean and dirty water from batching plant.	All Contractors	Throughout construction	Visual inspection and JW EO/ECO approval.	- Number of incidents of batching outside works footprint. - Contamination of water and soil; and - Visible litter / waste on site.

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ENVIRONMENTAL MANAGEMENT PLAN

		- Storm water must not be allowed to flow through the batching area. Water laden with cement must be collected in a retention area for evaporation and not allowed to escape the batching area. - Operators must wear suitable safety clothing. - Wastewater from batching operations to be suitably disposed of. - Waste concrete and cement sludge to be removed on a regular basis (to prevent overflowing) and to be disposed of at a suitable facility. - Unused cement bags will be stored in an area not exposed to the weather and packed neatly to prevent hardening or leakage of cement. - Used cement bags will be stored so as to prevent windblown dust and potential water contamination. Used bags will be disposed of adequately at a licenced waste disposal facility. - Limit concrete batching to single sites where possible. - Concrete transportation will not result in spillage. - Cleaning of equipment and flushing of mixers will not result in pollution, with all contaminated wash water entering the wastewater collection system. - To prevent spillage onto roads, ready mix trucks will rinse off the delivery shoot into a suitable sump prior to leaving the site. The Contractor shall ensure such designated concrete wash bay area's/ sumps are created and that all concrete trucks delivering concrete to site first empty and clean their shoots at this point before leaving the site. The dried waste product shall be handled as construction rubble.				
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ENVIRONMENTAL MANAGEMENT PLAN

		- Suitable screening and containment will be in place to prevent windblown contamination from cement storage, mixing, loading and batching operations. - All contaminated water and fines from exposed aggregate finishes will be collected and stored in sumps and will be adequately disposed of. - All visible remains of excess concrete will be physically removed on completion of the plastering or concrete pouring and disposed of in an acceptable manner. - Any spilled concrete to be cleaned up immediately. - In practice all wastes arising from construction activities are to be handled; transported and disposed of in accordance with the relevant regulations. All efforts should be made to minimise, reclaim or recycle waste, and failing that, dispose of it in a manner licensed by the government for that purpose.				
Water Management	9	- Con serve water wherever possible (e.g., ensure that areas are not watered excessively, and all leaking pipes are replaced and repaired immediately). - Adequate erosion, runoff and sedimentation prevention, control and mitigation measures must be instituted at all sensitive areas, such as embankments, slopes, river crossings/watercourses/drainage lines, wetlands, when excavations or disturbance occurs within these areas, within the buffers, beds, and banks. - These control measures must include use of silt fences/traps, sandbags, retention of vegetation, berms, immediate replacement of vegetation. Additionally, reno mattresses, riprap, stone pitching,	All Contractors	Throughout construction/post construction	Visual inspection	- Incidence of storm water contamination. - Visible leaks/ water wastage. - And Visible surface erosion.

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		gabions, use of geotextiles) e.g., biojute must be used at the direction of the JW Engineer. • Adequate sedimentation control measures must be instituted at any river crossings when excavations or disturbance of a riverbanks or riverbeds takes place. • Adequate sedimentation control measures must be implemented where excavations or disturbance of drainage lines of a wetland may take place. • All fuel, chemical, oil, etc. spills must be confined to areas where the drainage of water can be controlled. Use appropriate structures and methods to confine spillages such as the construction of berms and pans, or through the application of surface treatments that neutralise the toxic effects prior to the entry into a water course. • The drip trays and spill kits must be used to contain oil from spilling into the water. Ensure adequate drip trays are available. • During construction through a wetland or watercourse, the majority of the flow of the wetland should be allowed to pass downstream. • Vehicular traffic across wetland and watercourse areas must be avoided. • No dumping of foreign material in streams, rivers and/or wetland areas is allowed. • The wetland area and/or river must not be drained, filled or altered in any way including alteration of a bed and/or, banks, without prior consent from the DWS. The necessary licenses must be obtained in terms of Section 21 and 22 of the National Water Act, 36 of 1998 from DWS. • No fires or open flames are allowed in the vicinity of the wetland, especially during the dry season.				
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ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD

Page Number

VOLUME 2.5 –JANUARY 2022 REVISION 05

Page 43 of 104

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ENVIRONMENTAL MANAGEMENT PLAN

		- No swimming, washing (including vehicles and equipment), fishing or related activity is permitted in a wetland or river. - Disturbances to nesting, breeding and roaming sites of animals in or adjacent to wetland areas must be minimized. - Portable Water shall be the last resort info dust suppression on site.				
Air Pollution	10	- Speed limits must be implemented in all areas, including public roads and private property to limit the levels of dust pollution. - Dust must be suppressed on access roads and construction sites during dry periods by the regular application of water or a biodegradable soil stabilisation agent. Water used for this purpose must be used in quantities that must not result in the generation of run-off. - Where possible the use of potable water should be minimised for dust suppression purposes, preferably recycled or reused water. - The site-specific investigation will quantify the impact of dust on nearby wetlands, rivers and dams in terms of sedimentation. Mitigation measures identified during the site-specific study must be implemented. - The Contractor must notify the principal of all schools within 50m of the site of proposed activities. The principal must in turn ensure that children with allergies and respiratory ailments take the necessary precautionary measures during the construction period. The Contractor must ensure that construction activities do not disturb school	All Contractors	Throughout construction	Visual inspection	Visible air pollution.

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ENVIRONMENTAL MANAGEMENT PLAN

		activities e.g., dust clouds may reduce visibility affecting sports activities. - Waste must be disposed of, as soon as possible at a municipal transfer station, skip or on a permitted landfill site. Waste must not be allowed to stand on site to decay, resulting in malodours. - Noise control measures must be implemented. All noise levels must be controlled at the source. All employees must be given the necessary ear protection gear. IAP's must be informed of the excessive noise factors. - The Contractor must inform all adjacent landowners of any after-hour construction activities and any other activity that could cause a nuisance e.g., the application of chemicals to the work surface. Normal working hours must be clearly indicated to adjacent landowners. - No loud music is allowed on site and in construction camps. - No fires are allowed if smoke from such fires will cause a nuisance to IAPs.				
Social and cultural	11	- Access by non-construction people onto any construction sites must be restricted. The Contractors activities and movement of staff must be restricted to designated construction areas only. - The Contractors crew must be easily identifiable due to clothing, identification cards or other methods. - Rapid migration of job seekers could lead to squatting and social conflict with resident communities and increase in social pathologies if not properly addressed. The Contractor must ensure that signs indicating the availability of jobs are installed.	All Contractors	Throughout construction	Visual inspection	- Community complaints. - Complaints register. - Daily environmental inspection

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ENVIRONMENTAL MANAGEMENT PLAN

	• Criteria for selection and appointment (by the Contractor) of construction labour must be established to allow for preferential employment of local communities. The Local Authority must be actively involved in the process of appointing temporary labourers. • Sub-Contractors and their employees must comply with all the requirements of this document and supporting documents e.g., the Contract document that applies to the Contractor. Absence of specific reference to the sub-contractor in any specification does not imply that the sub-contractor is not bound by this document. • No member of the construction workforce is allowed to wander around private property, except within the immediate surroundings of the site. • The Contractor must provide suitable sanitation facilities for site staff. Sanitation provided during the construction phase should be managed so that it does not cause environmental health problems. The use of the surrounding veld for toilet purposes is not permitted under any circumstance. • The Contractor must arrange for all his employees and those of his sub-contractors to be informed of the findings of the environmental report before the commencement of construction to ensure: • A basic understanding of the key environmental features of the work site and environments, and • Familiarity with the requirements of this document and the site-specific report. • Supervisory staff of the Contractor or his sub-contractors must not direct any person to undertake any activities which would place such person in				
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ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD

Page Number

VOLUME 2.5 –JANUARY 2022 REVISION 05

Page 46 of 104

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ENVIRONMENTAL MANAGEMENT PLAN

		contravention of the specifications of this document endanger his/her life or cause him/her to damage the environment. - The demand for construction materials and supplies will have an effect on the local economy. This impact can be optimised by sourcing and purchasing materials locally and regionally wherever possible, insofar as the material complies with the design specification. - The Contractor must maintain a detailed complaints register. This must be forwarded, together with solutions, to the authorities when requested.				
Aesthetics	12	- Scenic Quality - Damage to the natural environment must be minimized. - The contractor may not remove any trees. If trees are in the way of the pipe route or with the development sites, the contractor must inform the environmental section who will then liaise with city parks for permission or recommendation. - Trees and tall woody shrubs must be protected from damage to provide a natural visual shield. Excavated material must not be placed on such plants and movement across them must not be allowed, as far as practical. - The clearing of all sites must be kept to a minimum and surrounding vegetation must, as far as possible, be left intact as a natural shield. - No painting or marking of natural features must be allowed. - Above-ground Structures (reservoirs, water hammer tanks, valve chambers, pump stations etc.)	All Contractors	Throughout construction	- Visual inspection. - Way-leaves	- Daily inspection - Environmental incident.

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		- All above ground structures should be located in areas where the visual impact from roads, houses etc. is minimised. - All above ground structures could be treated or painted to blend in with the natural environment. - Cut and fill areas, river and stream crossings and other soil stabilisation works must be constructed to blend in with the natural environment. - Natural outcrops, rocky ridges and other natural linear features must not be bisected. Vegetation on such features must, as far as possible, not be cut unless absolutely necessary for construction. - Excavated material must be flattened (not compacted) or removed from site. No heaps of spoil material must be left on site once the Contractor has moved to a new construction site. - Any complaints from IAP's regarding the appearance of the construction site must be recorded and addressed promptly by the Contractor.				
Fauna and Flora	13	Flora - All suitable and rare flora and seeds must be rescued and removed from the site. They must be suitably stored, for future use in rehabilitation. - The felling and/or cutting of trees and clearing of bush must be minimised. - Bush must only be cleared to provide essential access for construction purposes. - The spread of alien vegetation must be minimized. - Any incident of unauthorised removal of plant material, as well as accidental damage to priority plants, must be documented by the Contractor. - Woody vegetative matter stripped during construction must either be spread randomly	All Contractors	Throughout construction	- Visual inspection - Way-leave from City Parks. - Biodiversity permit from Gauteng Department of Rural and Development	- Environmental incident register - Daily inspection - Number of environmental incidents. - Fauna and flora removal and relocation register

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ENVIRONMENTAL MANAGEMENT PLAN

		throughout the surrounding veld to provide biomass for other micro-organisms and habitats for small mammals and birds, or it may be stockpiled for later redistribution over the reinstated top soiled surface. No vegetative matter must be burnt or removed for firewood other than those removed during the grubbing and clearing phase. Such vegetation can be made available to the local inhabitants to be used as firewood. - No tree outside the footprint of the Works area must be damaged. Fauna - No species of animal may be poached, snared, hunted, captured, or wilfully damaged or destroyed. - Snakes and other reptiles that may be encountered on the construction site must not be killed unless the animal endangers the life of an employee. - Anthills and/or termite nests that occur must not be disturbed unless it is unavoidable for construction purposes. - Disturbances to nesting sites of birds must be minimized. - The Contractor must ensure that the work site is kept clean and free from rubbish, which could attract pests.				
Infrastructure	14	- The relevant authorities must be notified of any interruptions of services, especially the Local Municipality, National Road Agency, Transnet, TELKOM, and ESKOM. In addition, care must be taken to avoid damaging major and minor pipelines and other services. - The integrity of property fences must be maintained.	All Contractors	Throughout construction	- Visual inspection - Wayleaves from different entities.	- Incident register. - Permit/ Way-leave register - Complaints register.

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		- No telephone lines must be dropped during the construction operations, except where prior agreement by relevant parties is obtained. All crossings must be protected, raised or relocated as necessary. - All complaints and/or problems related to impacts on man-made facilities and activities must be promptly addressed by the Contractor and documented. - Proper storage facilities should be provided for the storage of oils, grease, fuels, chemicals and hazardous materials. - The Contractor must ensure that accidental spillage does not pollute soil and water resources. - Fuel stock reconciliation must be done on all underground tanks to ensure no loss of oil, which could pollute groundwater resources. - Cement must be stored and mixed on an impermeable surface. - The Contractor shall ensure that existing services (e.g., roads, pipelines, and power lines and telephone services) are not damaged or disrupted unless required by the contract and with the permission of the RE. - The Contractor shall be responsible for the repair and reinstatement of any existing infrastructure that is damaged or services which are interrupted. - A time limit for the repairs may be stipulated by the RE in consultation with the Contractor.				
Blasting	15	- Blasting must not endanger public or private property. - Noise mufflers and/or soft explosives must be used to minimize the impact on animals.	All Contractors	Throughout construction	Visual inspection/ Engineer report	- Incident register. - Complaints register.

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ENVIRONMENTAL MANAGEMENT PLAN

		- All the provisions of the Explosives Act, 26 of 1956 and the Minerals Act, 50 of 1991 must be complied with. - The Contractor must take measures to limit fly rock. - Certificate of competence. In file - Blasting permit must be obtained from the South African police station issued in terms of section 9 of explosive Act, Act 26 of 1956) prior blasting. - Method statement for drilling and blasting (NB: Submitted for acceptance before any works) in file - Provide the MSDS's for the chemicals are to be used. - Proof of notification to the affected community. - The Appropriate PPE.				Permit register.
Workshops, storage areas and materials handling	16	- These areas shall be chosen so as to cause the least impact on the biophysical and social elements of the area. - The siting of workshops, maintenance and refuelling sites and materials storage areas shall not be in the vicinity of sensitive sites e.g., wetlands, cultivated fields or drainage lines, or where local landowners can be disturbed. - Storm water shall be diverted around the storage area. Storm water falling on the storage area shall be discharged if it meets the required water quality standards. - Proper storage facilities, placed on an impermeable surface, shall be provided for the storage of oils, grease, fuels, chemicals, and other hazardous materials to be used during the construction phase of the project. If fuel is required on site, it shall be stored in a secure area in a steel tank supplied and	All Contractors	Throughout Construction	- Visual inspection - Method statement for handling hazardous substances. - MSDS	- Hazardous substances register. - MSDS file - Spill register - Incident register.

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ENVIRONMENTAL MANAGEMENT PLAN

		maintained by the fuel suppliers. Leakage of fuel shall be avoided. • An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any spillage or overflow from these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil. • In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or container and Material Safety Data Sheets (MSDS's) will be made available for all hazardous chemicals. Before containers or storage facilities are erected, emergency procedures in the event of misuse or spillage that may negatively affect an individual or the environment will be in place. • The storage facilities (including any tanks) shall be surrounded by a bund wall, in order to ensure that accidental spillage does not pollute local soil or water resources. • The storage areas shall not be utilised for accommodation purposes and shall be access controlled. • The storage area shall be kept tidy, and the area shall be rehabilitated after use. • An inventory of any hazardous chemicals/substances (including that within equipment) kept on site, along with a description of possible ill effects and treatment of health-related afflictions resulting from accidents, shall be kept in the storage area as well as by the appropriate manager. These areas shall be securely fenced.				
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ENVIRONMENTAL MANAGEMENT PLAN

		• Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area. • A notice board with the contact details of the responsible party shall be displayed at the gate to the storage area. • The contractor shall ensure that any delivery drivers are informed of all procedures and restrictions required to comply with the EMP. Someone with an adequate understanding of the CEMP shall supervise drivers during delivery and off-loading. • All vehicles and machinery will be inspected for any leaks or malfunctions regularly. Vehicle servicing or repairs is prohibited from site, unless in an emergency. • Drip trays shall be inspected and emptied daily and serviced when necessary. In particular drip trays shall be closely monitored during rain events to ensure that they do not overflow. The contents must be disposed of at a recognised site. • All repairs done on machinery using hydrocarbons as fuels or lubricants shall have a drip tray placed strategically to avoid incidental spillage. • Workers shall be made aware of the health risks associated with any hazardous substances used (e.g., smoking near refuelling depots), and shall be provided with appropriate protective clothing / equipment in case of spillages or accidents. • Cement and other potential environmental pollutants shall be stored and mixed on plastic sheeting or ready-mix trucks shall be used. There shall be no opportunity for environmental contamination.				
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		- Workshop areas shall be monitored for oil and fuel spills and such spills shall be cleaned and remediate to the satisfaction of the EO. - The Contractor shall be in possession of an emergency spill kit that must be always complete and available on site.				
Waste Management	17	Methods for waste management and waste minimisation shall be implemented from the outset of the contract as per the Waste Management Plan to be submitted to Client. All personnel shall be instructed to dispose of all waste in the proper manner. A waste avoidance and minimisation approach will be encouraged for the duration of the project. The following steps in order will be applied. - Prevention – avoid and minimise waste - Recycle – reuse and recover all general waste - Treat – treatment to reduce toxicity reduce waste quantities - Dispose – waste removal into a registered landfill facility Solid waste Waste with the potential for market re-use will be stored in separate containers, this includes, scrap metal, used tyres and paper. This waste will be recycled wherever possible. Solid waste shall be temporarily stored in tip – poof metal drums or waste skips at an approved area on site for collection and disposal. This area shall be away from drainage lines or water courses. - All general waste drums or skips will be appropriately labelled GENERAL WASTE	All Contractors	Throughout Construction	- Visual inspection/Environmental inspection checklist. - Legal Documents: Transport certificate obtained from GDARD for transporting general or hazardous waste. - Transport certificate obtained from City of Johannesburg for transporting general waste within COJ. - Waste manifest/	- Littering - Soil contamination - Water pollution.

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ENVIRONMENTAL MANAGEMENT PLAN

		- A refuse control system shall be established for the collection and removal of refuse to the satisfaction of Client and ECO. - No waste shall be burned at the site offices or anywhere else on the site. - All building rubble shall be a) removed from the site and disposed of at an appropriate dumping site, or b) temporarily stored in a clearly demarcated area on site for future use. - All waste shall be disposed at an appropriate waste disposal facility. Litter - No littering by construction workers shall be allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site shall be kept free of litter. - Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. - Littering, discarding or burying of any materials shall not be allowed on site. Hazardous waste - Hazardous waste shall be temporarily stored in tip – poof metal drums or waste skips at an approved area on site for collection and disposal. This area shall be away from drainage lines or water courses. - All hazardous waste drums or skips will be appropriately labelled.			waste disposal certificate/ weighbridge slip.	
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ENVIRONMENTAL MANAGEMENT PLAN

	- Hazardous waste must not be temporary stored on site for a period exceeding 90 days as per the National Environmental Management Waste Act (Act 59 of 2008) as amended in 2014) (Schedule 19 (2)). HAZARDOUS WASTE. - Hazardous waste such as bitumen, tar and oil shall be disposed of at a registered waste disposal facility. Special care shall be taken to avoid spillage of tar products such as tar prime or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water. - All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced with clean soil. Soil contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials. - Used oil, lubricants, and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and returned to the supplier. Water and oil shall be separated in an oil trap. Oils collected in this manner shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at an approved hazardous waste disposal site. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company. - Sludge should be managed in accordance with the Sludge Guideline 2010.				
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ENVIRONMENTAL MANAGEMENT PLAN

		- Sludge should be kept only at the drying bed and no sludge should be stored at a permeable ground or natural ground. - Hazardous waste shall be disposed of at a registered hazardous waste disposal site, disposal certificates shall be kept in the site file for record. Medical Waste - All medical waste will be contained in the special bins provided. All sharp needles must be separated from other medical waste, - All outdated and disused medicines will be disposed of as a hazardous medical waste or returned to the supplier for disposal. (Tablets and syrups will be crushed and/or dissolved before disposal as hazardous waste), - Medical waste used on personnel coming for treatment at the clinic are to be placed on a demarcated container storage room, - The Occupational Health Nurse (OHN) will notify a service provider for removal of the medical waste prior exceeding 90 days. - The service provider to provide Waste Manifest as well as the Safe Disposal Certificate, to the OHN who will maintain the copies of the waste manifest and safe disposal certificate. - The OHN will arrange for an approved hazardous waste disposal company to collect and dispose of this medical waste. The OHN is responsible for and authorised to keep all records in connection herewith (disposal certificates).				
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ENVIRONMENTAL MANAGEMENT PLAN

Ablution facilities	18	• Provide ablution facilities (i.e., chemical toilets) for all site staff at a ratio of 1 toilet per 15 workers (absolute minimum 1:25). • Secure all temporary/portable toilets to the ground within the Site Camp to the satisfaction of JW EO/ECO to prevent them toppling due to wind or any other cause. • Maintain toilets in a hygienic state (i.e., toilet dispensers to be provided, toilets to be cleaned and serviced regularly (by registered appropriate waste contractor), and toilets to be emptied before long weekends and builders' holidays). • Remove/ appoint an appropriate supplier to remove accumulations of chemicals and treated sewage from the site and dispose of at an approved waste disposal site or sewage plant. • Ensure that no spillages occur when the toilets are cleaned or emptied. Repeated incidents of spillage of chemicals and or waste (i.e., more than one incident), will require toilets to be placed on a solid base with a sump. • Ablution facilities must be located at least 50m from any watercourse. • Ablution facilities shall be provided on site. • The positioning of the ablution facilities shall be done in consultation with Client and shall be placed so that it cannot contaminate the natural streams and rivers. One toilet shall be provided per 10 staff members on site. Toilets shall be positioned within walking distance of wherever employees are employed on the site. Toilets shall be provided with locks and doors shall be secured to prevent the toilets from blowing over.	All Contractors	Throughout construction	• Visual inspection • Records of waste manifest/disposal certificates/ weighbridge slip	• Incidence of staff not using Facilities • Incidence of pollution
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ENVIRONMENTAL MANAGEMENT PLAN

	• The toilets shall be placed outside of areas susceptible to flooding. • Chemical toilets shall be serviced regularly by an authorised service provider and removed to a registered wastewater treatment works and disposal certificates shall be obtained from the waste disposal facility for each disposal and retained on site. • Polluted run-off must be discharged in the local sewerage main and not overland or into public streams. In instances where a sewerage main is not available, polluted run-off will be collected in sub-surface tanks and a reputable effluent removal contractor will be contracted to dispose of the waste in an environmentally acceptable manner. Official documentation shall be obtained from the waste disposal facility for each disposal and retained on site. • Toilets situated close to the site boundaries or within sight of residential areas shall be hidden behind screens or other cover as approved by the Engineer. • Discharge of waste from toilets into the environment and burial of waste is strictly prohibited. • Only flushable toilets should be utilised on site. • If the Ablution facilities are to be connected to the Municipal sewer line, method statement and a letter for municipal tax and rates should be submitted to JW Environmental section and responsible Depot for approval. • A letter or agreement for disposing waste must be obtained from the applicable WWTW; this must be provided by service provider. Waste manifests, disposal certificates and service certificates are				
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ENVIRONMENTAL MANAGEMENT PLAN

		required; these must be provided by service provider. The contractor shall not appoint service providers who do not have registration certificates with GDARD and CoJ for transporting hazardous (and general waste), and copies of permits for landfills, and agreement letter from WWTW, to be used for disposals. The contractors themselves are encouraged to register as general and hazardous waste transporters, and open accounts with Pikitup, so disposal slips may be obtained.				
Access road and traffic control	19	Access Roads - The Contractor and the affected landowner must collaborate on the planning and construction of new access routes and the repair or upgrading of existing routes. - Access to the site must be controlled such that only vehicles and persons directly associated with the work gains access to the site. - Temporary access roads must not be opened until required and must be restored to its former state as soon as the road is no longer needed. Traffic Control - All reasonable precautions must be taken during construction to avoid severely interrupting the traffic flow on existing roads, especially during peak periods. - Before any work can start the Local Traffic, Department must be consulted about measures to be taken regarding pedestrian and vehicular traffic control and obtain proper road signage's	All Contractors	Throughout construction	- Method statement for access road and traffic control. - Way-leave	- Daily Inspection checklist. - Environmental incident. - Incident register.

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Electrical	20	- Measures must be taken during thunderstorms to protect workers and equipment from lightning strikes. - All tall structures must be properly earthed and protected against lightning strikes.	All Contractors	Throughout construction	- Permit - OHS approval letter - Wayleave	- Approval letter - Electrical certificate
Development Footprint	21	- The development footprints and disturbed areas surrounding the proposed project infrastructure should be kept at minimum as possible and the areas cleared of natural vegetation and topsoil must be kept to a minimum. - The extent of all development footprint areas and permanent/ temporary structures must be limited to what is essential. - As far as possible, existing roads are to be utilised, to limit cumulative impacts from roads and traffic. - The height of any temporary structures such as topsoil stockpiles should be kept as low as possible below 1m.	All Contractors	Throughout construction	- Agreement letter. - Wayleave	- Incident register. - Complaints register.
Fire Prevention	22	- The Contractor must take all the necessary precautions to protect the materials on site and to avoid veld fires. - No fires or open flames are allowed on site unless directly used for construction purposes, - Review all SANS standards relating to fire precautions and fire control namely, SANS 0131-3 Section 8 and SANS 089-1 or as amended. - The Contractor must have fire-fighting equipment and a first aid box available on site and on all vehicles working on site. - All waste bins must be kept away from fuel tank installations.	All Contractors	Throughout construction	- Visual inspection - Emergency Response Plan.	- Fire extinguisher inspection checklist. - Incident register - Mock drill report.

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		- All fuel tanks must be installed above ground, depending on the volume of stored fuel, for easy detection of fuel leaks. - Any welding or other sources of heating of materials must be done in a controlled environment, wherever possible and under appropriate supervision, in such a manner as to minimise the risk of veld fires and/or injury to staff. - Fires lit for comfort (warmth) must be actively discouraged by the Contractor, due to the risk of veld fires and the risk to adjacent properties. Also, no waste material must be burnt.				
Noise Pollution	23	- Temporary noise pollution due to construction works should be controlled by proper maintenance of equipment and vehicles and tuning of engines and mufflers. Construction works should be completed in as short a period as possible by assigning qualified engineers and foremen. - It is the responsibility of the Contractor to monitor for the mitigation of such impacts. Noise problems should be reduced to normally acceptable levels by incorporating low-noise equipment in the design and/or locating such mechanical equipment in properly acoustically lined buildings or enclosures. In the presence of adequate buffer zones between the facility and residential areas, noise control measures must be minimized.	All Contractors	Throughout Construction	Random noise measurements	- Results of random noise measurements - Number of registered complaints
Complaints	24	Maintain complaints register for all complaints. The register must list: - Complainant name and contact details. - Date complaint was lodged. - Person who recorded the complaint. - Nature of the complaint.	All Contractors	Throughout construction	Complaints register	- Availability of register on site - Designated person to maintain register

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ENVIRONMENTAL MANAGEMENT PLAN

		• Actions taken to investigate the complaint and outcome of the investigation. • Action taken to remedy the situation. • Date on which feedback was provided to complainant.				• Complaints logged • Complaints followed up and Closed out.
Housekeeping	25	• All construction and operational areas must be kept in a neat and orderly condition at all times. • An efficient removal system of waste and rubble must be ensured during all development phases. • All operational facilities, including vehicles, should be actively maintained. • Any areas for material storage, waste sorting and other potentially intrusive activities must be screened from view as far as considered feasible. • Regularly inspect all construction machinery and holding tanks for leaks or damages. • Place generators on drip trays. • Repair any defects as soon as possible. In the case of leaks, ensure that the leaking water or effluent is captured and not released into the environment. • Service and refuel equipment that uses hydrocarbon fuels, oils, lubricants, and other hazardous chemicals at the designated area at the Site Camp only under conditions approved by JW EO/ECO • Ensure that absorbent pads (or equivalent) and/ or drip trays are available to collect any oil, fluid, etc. in the case of a breakdown or emergency repair outside the designated area. Keep a copy of fuels and hazardous substance inventory on site. • Keep spill containment and clean-up equipment at all work sites and for all polluting materials used at the site.	All Contractors	Throughout	Visual inspection of site camp/ construction site	Regular inspection reports by SHE Officer and JW EO

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ENVIRONMENTAL MANAGEMENT PLAN

		- Prevent discharge of any hazardous substances or pollutants, such as cements, concrete, chemicals, and other contaminated wastewater and fuels into the ground, surface, or storm water systems on site. - Control litter and keep construction areas as clean and neat as possible.				
Transportation and refuelling	26	- Undertake regular maintenance of vehicles and machinery to identify and repair minor leaks and prevent equipment failures. - Undertake any on-site refuelling and maintenance of vehicles/machinery in designated areas. Line these areas with an impermeable surface and install oil traps. - Ensure that oils and lubricants used for maintenance of equipment in the field are correctly contained. - Use appropriately sized drip trays for all refuelling and/or repairs done on machinery – ensure these are strategically placed to capture any spillage of fuel, oil, etc. - Use drip trays under all equipment and plants that are parked overnight or for long periods. - Store and handle fuels, oils and chemicals so as to avoid the risk of spillage, i.e., in waterproof and impervious	All Contractors	Throughout Construction	Visual inspection of vehicles, barges, machinery and refuelling / maintenance areas	- Incidence of non-compliance - Incidence of leaks and spills - Cost of cleaning up spills
Safety and Security	27	- Do not allow any open fires on the site. - Do not allow smoking on the site except within designated areas. Suitable fire-fighting equipment must be readily available in these areas. - Equip all fuel stores and waste storage areas with fire extinguishers.	All Contractors	Throughout construction	- Inspect attendance register for training sessions - Inspect fire extinguishers	- Number of fire incidents - Certified extinguishers in appropriate locations

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ENVIRONMENTAL MANAGEMENT PLAN

		- Ensure that all personnel on site are aware of the location of fire-fighting equipment on the site and how the equipment is operated. - Suitably maintain fire-fighting equipment. - Ensure that emergency procedures (in relation to fire, spills, contamination of the ground, accidents to employees, use of hazardous substances, etc.) are established prior to commencing construction. - Make all emergency procedures available, including responsible personnel, contact details of emergency services, etc. to all the relevant personnel. Clearly demarcate emergency procedures at the relevant locations around the site. - Secure the Site Camp, particularly to restrict - Unauthorised access to fuels and other hazardous substances. - Provide suitable emergency and safety signage on site and demarcate any areas which may pose a safety risk (including hazardous substances, deep excavations, etc.). - Advise the ECO of any emergencies on site, together with a record of action taken.	All Contractors	Before and during construction	and certificates Visual inspection	Number of safety / emergency incidents.
Response to environmental pollution	28	- In the event of environmental pollution, e.g., through spillages, immediately stop the activity causing the problem. - Maintain relevant Material Safety Data Sheets (MSDS) at the site for all potentially hazardous substances (as defined in the regulations for hazardous chemical substances). In the event of an emergency, procedures detailed in the MSDS shall be followed. Clean up any spills immediately, through containment and removal of free product and appropriate disposal of contaminated soils.	All Contractors	Throughout construction	- Maintain register of pollution events and response - Following resumption of activities, frequently inspect repaired	- Number of incidents - Time activities stopped - Number of recurring Incidents - Availability and completeness of register

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ENVIRONMENTAL MANAGEMENT PLAN

		• Immediately remediate and rehabilitate areas in the event of a spill of an environmentally hazardous substance. • Only resume activity once the problem has been stopped or (in the case of spillages) the pollutant can be captured without reaching the environment. Repair faulty equipment as soon as possible. • Treat hydrocarbon spills, e.g., during refuelling, with adequate absorbent material, which then needs to be disposed of at a suitable landfill. • Ensure a quantity of appropriate remedial agent, capable of containing and/or remediating a hydrocarbon spill is available on site at all times in case of an emergency spill. The material shall be capable of handling a spill of at least 200l. • Report all fuel, oil or hydraulic fluid spills to the JW EO/ECO so that appropriate clean-up measures can be implemented. • Report all incidents within 24 hours to JW environmental section. • All environmental incidents must be investigated within seven (7) working days.			equipment to ensure proper functioning	
Storm Water Management	28	Objective • To minimise erosion of soil from site during construction. • To minimise deposition of soil into drainage. • Minimise loss of vegetation cover due to construction related activities. Mitigation Measures • Identify and demarcate construction areas for general construction work and restrict construction activity to these areas. Prevent unnecessary	All Contractors	Throughout Construction	• Visual inspection. • Storm water management Plan. • Way-leave from JRA	• Daily inspection checklist. • Incident register.

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ENVIRONMENTAL MANAGEMENT PLAN

		destructive activity within construction areas (prevent over-excavations) • Stockpile topsoil for re-use in rehabilitation phase. Maintain stockpile shape and protect from erosion. All stockpiles must be positioned at least 50 m away from drainage lines and wetlands. • Erosion control measures: Run-off control and attenuation on slopes (sandbags, logs), silt fences, storm water channels and catch-pits, shade nets, soil binding, geofabrics, hydro seeding or mulching over cleared areas. • Control depth of excavations and stability of cut faces/sidewalls. • Compile a comprehensive storm water management plan as part of the final design of the project and implement during construction and operation.				
Re-vegetation, Rehabilitation, Reinstatement	29	Objective To ensure re-vegetation and rehabilitation of disturbed areas is undertaken Legislation and Standards Conservation of Agricultural Resources Act (Act 43 of 1983) Environment Conservation Act (Act 73 of 1989) National Forestry Act (Act 84 of 1998) National Environmental Management Act 107 of 1998 and Gauteng Nature Conservation Bill, 2014. Mitigation measures In order to meet this goal, the following objective, actions, and monitoring requirements are relevant: • Disturbed areas must be rehabilitated/re-vegetated with appropriate natural vegetation and/or local	All Contractors	Throughout Construction	• Rehabilitation Plan • JW EMP • Visual inspection • Ecologist Specialist report • Environmental Authorisation/ GA • Practical and completion certificate.	• Daily inspection checklist. • Rehabilitation report • Waste management collection report (Waste Disposal Certificate).

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ENVIRONMENTAL MANAGEMENT PLAN

		seed mix. Re-use native/indigenous plant species removed from disturbance areas in the rehabilitation phase as per the re-vegetation and rehabilitation management plan. • Alien/non-native species must not be used. If these are requested/ required by stakeholders, then this must be documented by contractor. • Re-vegetated areas may have to be protected from wind erosion and maintained until an acceptable plant cover has been achieved. • On-going alien plant monitoring and removal within the disturbed project footprint (where the initial clearing for construction took place) must be undertaken on all areas of natural vegetation on an annual basis. • All temporary facilities, equipment and waste materials must be removed from site and appropriately disposed of. • All temporary access road must be rehabilitated to their original condition • Necessary drainage works and anti-erosion measures must be installed, where required, to minimise loss of topsoil and control erosion. • On-going inspection of rehabilitated areas to determine effectiveness of rehabilitation measures implemented. • On-going alien plant monitoring and removal should be undertaken as per the approved Rehabilitation/Re-vegetation plan. Management and Mitigation Requirement • Conduct a detailed search of at the area. As a minimum, this should take place during the			• Community Happy Letters.	
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ENVIRONMENTAL MANAGEMENT PLAN

		spring and summer months prior to impoundment so positive identification of flowering plants can be made. This should be done taking due cognisance of specialist studies already undertaken as part of the EIA process; • Allow time for additional searches if these are deemed necessary, based on progress and diversity of plant species found; • Identify and physically mark all conservation worthy plants found on the ground; and • Capture markers and reference in a retrievable system, so that these can be located again for transplanting (e.g., using a combination of aerial photography, GPS, and GIS, as appropriate).				
Practical and Final completion inspection	30	• Ensure that practical inspection is conducted before the Contractor hands over the project back to JW in order to ascertain if the reinstatement or rehabilitation has been done accordingly. • The snag list is to be compiled and accepted by all parties (JW CAPEX Representatives, JW environmental section as applicable, and appointed Contractor) All responsible personnel including Environmental representative sign both practical and final completion letter.	CAPEX/ OHSE& DM/ All Contractors	During the final stage of project	• Meeting invite • Visual inspection	• Meeting invite • Attendance register • Snag list • Signed practical and final completion inspection letter.
Final close out report	31	• Conduct final audit on site. • EO must ensure that audit reports are signed by RE/Engineer and Contractor. • Environmental File is returned to JW, after rehabilitation has been deemed successful.	OHSE & DM	During the final stage of project.	• Final audit report. • Signing of Audit reports.	• Final Audit report. • Signed Audit report. • Environmental file.

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ENVIRONMENTAL MANAGEMENT PLAN

Table 3: Environmental Management and Mitigation Measures that must be implemented during the Operational Phase

Operational Phase Measures						
Aspects	ID	Mitigation Measure/Procedure	Responsible	Implementation Timeframe	Monitoring Methods	Performance indicators
Waste Management	1	Sanitation Facilities - Ablution facilities shall be provided on site. - The positioning of the ablution facilities shall be done in consultation with Client and shall be placed so that it cannot contaminate the natural streams and rivers. One toilet shall be provided per 15 staff members on site. Toilets shall be positioned within walking distance of wherever employees are employed on the site. Toilets shall be provided with locks and doors shall be secured to prevent the toilets from blowing over. - The toilets shall be placed outside of areas susceptible to flooding. - Chemical toilets shall be serviced regularly by an authorised service provider and removed to a registered wastewater treatment works and disposal certificates shall be obtained from the waste disposal facility for each disposal and retained on site. - Polluted run-off must be discharged in the local sewerage main and not overland or into public streams. In instances where a sewerage main is not available, polluted run-off will be collected in sub-surface tanks and a reputable effluent removal contractor will be contracted to dispose of the waste in an environmentally acceptable manner. Official documentation shall be obtained from the waste	Johannesburg Water	During operation and maintenance activities	- Visual inspection of Waste collection and disposal areas. - Visual inspection of site. - Check waste disposal slips. - Monitor activities against JW Waste Management Plan. - Waste Inventory Register.	- Presence of litter - Availability of waste bins and skips. - Degree to which rubbish bins and skips are filled - Total volume of general and hazardous waste storage capacity - Total volume of general and hazardous waste stored on site - Degree to which different waste is separated. - Frequency of waste collection. - Total volume of recycled and reused waste.

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ENVIRONMENTAL MANAGEMENT PLAN

		disposal facility for each disposal and retained on site. - Any cooking on Site shall be done on well-maintained gas cookers with fire extinguishers present. No cooking shall be permitted to occur on open fires. - Toilets situated close to the site boundaries or within sight of residential areas shall be hidden behind screens or other cover as approved by the Engineer. - No spillage shall occur when the toilets are cleaned or emptied and the contents shall be properly stored and removed from site. - Discharge of waste from toilets into the environment and burial of waste is strictly prohibited. - All building rubble and rubble from the demolished structures, solid and liquid waste must be disposed of as necessary at an appropriately licensed refuse facility. - Ensure that no refuse wastes are burnt on the premises or on surrounding premises. No fires will be allowed on site. Contaminated water - Workshops, refuelling depots and washing areas shall be bunded. - Any wastewater or spilled fuel collected within bunded areas around the refuelling area shall be disposed of as hazardous waste - Wastewater containing hydrocarbons, paints oil etc. shall be treated as hazardous waste				
Protection of Vegetation	2	Limit the footprint of the maintenance and operational activities to the minimum to minimise environmental damage.	Johannesburg Water	During operation and maintenance activities/.	Visual inspection	Incidents of vegetation damage.

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		- Designate vegetated areas outside the development footprint as “No go” areas. - Limit the off-road driving within the Johannesburg Water Sites. - Protected or endangered species of plants shall not be removed unless they are interfering with a structure. - All trees and vegetation cleared from the site shall be cut into manageable lengths. - Big trees with large root systems shall be cut manually and removed, as the use of a bulldozer will cause major damage to the soil when the root system are removed. - Stumps shall be treated with herbicide. - Protected or endangered species of plants shall not be removed unless they are interfering with a structure. - Where such species have to be removed due to interference with a structure, the necessary permission and permits shall be obtained from Provincial Department of Agriculture and Rural Development. - All protected species not to be removed must be clearly marked and such areas fenced off if required. - The use of herbicides shall only be allowed after a proper investigation into the necessity, the type to be used, the long-term effects and the effectiveness of the agent. - No scalping shall be allowed on any part of Johannesburg Water Sites.		When necessary? is		Number of incidents of disturbance of vegetation outside site boundary.
Alien invasive/weeds control	3	Some of the areas of JW area are covered with moderate to very dense invasive alien shrubs and trees. Clearing of such vegetation will be necessary	Johannesburg Water	During operation and maintenance activities	Visual inspection.	- Daily inspections register. - Incident register.

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		to gain access. However, clearing of this vegetation from the entire project area as far as possible will reduce the re-establishment rate of this vegetation over time, and will thus not only benefit the environment but also the proposed project and potential future phases of the project in the long term. • The type of invasive, however, will require regular follow-up eradication of seedlings after clearing, as extensive seedbanks of these species are present underneath present infestations. • Wood from alien vegetation can be used. However, care must be taken not to leave any of the leaf- or seed material on the site where the vegetation was cleared. Rather, identify a particular area that no longer has any indigenous vegetation, demarcate that area and dump excess material of alien species there. • Once the material is sufficiently dry, it should be burned to destroy any regenerating capacity of stems and roots as well as seeds. • Only registered PCO with Certificate for competency to handle the hazardous substances (e.g., Herbicides) is allowed to use herbicide. • Only environmentally friendly herbicide is allowed within JW sites. • MSDS for the herbicides must be kept in the storage area. • Method Statement for applying and handling herbicides and Risk Assessment for applying and handling herbicides. • Appropriate PPE for handling herbicides. • Herbicides stored only in a designated storage.			• Monitoring against Vegetation Management Plan. • PCO certificate.	
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ENVIRONMENTAL MANAGEMENT PLAN

		• Empty containers of herbicides disposed of accordingly to the registered hazardous landfill site. • Proof of disposal provided to JW Environmental Section.				
Sludge Management	4	• The sludge must be managed according to the sludge guideline. • All agreements or Contract must be placed in the file. • The sludge must be kept on a designated bunded and concrete lined drying bed.	Johannesburg Water/Bulk Waste	During operations activities	• Visual inspection according to Sludge SOP. • Monitoring against Sludge Guideline. • Monitoring against WUL.	• Sludge test report • Complaints register. • Sludge spill register. • Environmental Officers Internal WUL Audit Report.
Workshop and storage Area	5	• The siting of workshops, maintenance and refuelling sites and materials storage areas shall not be in the vicinity of sensitive sites e.g., wetlands, cultivated fields or drainage lines, or where local landowners can be disturbed. • Storm water shall be diverted around the storage area. Storm water falling on the storage area shall be discharged if it meets the required water quality standards. • Proper storage facilities, placed on an impermeable surface, shall be provided for the storage of oils, grease, fuels, chemicals, and other hazardous materials to be used during the construction phase of the project. If fuel is required on site, it shall be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers. Leakage of fuel shall be avoided.	Johannesburg Water	During operations and maintenance activities	• Visual inspection • SOP for handling hazardous substances. • MSDS register	• Workshop and storage register. • MSDS register. • Incident register.

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ENVIRONMENTAL MANAGEMENT PLAN

- An adequate bund walls, 110% of volume, shall be provided for fuel and diesel areas to accommodate any spillage or overflow from these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil.
- In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or container and Material Safety Data Sheets (MSDS's) will be made available for all hazardous chemicals. Before containers or storage facilities are erected, emergency procedures in the event of misuse or spillage that may negatively affect an individual or the environment will be in place.
- The storage facilities (including any tanks) shall be surrounded by a bund wall, in order to ensure that accidental spillage does not pollute local soil or water resources.
- The storage areas shall not be utilised for accommodation purposes and shall be access controlled.
- The storage area shall be kept tidy, and the area shall be rehabilitated after use.
- An inventory of any hazardous chemicals/substances (including that within equipment) kept on site, along with a description of possible ill effects and treatment of health-related afflictions resulting from accidents, shall be kept in the storage area as well as by the appropriate manager. These areas shall be securely fenced.
- Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area.

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ENVIRONMENTAL MANAGEMENT PLAN

		• A notice board with the contact details of the responsible party shall be displayed at the gate to the storage area. • All vehicles and machinery will be inspected for any leaks or malfunctions regularly. Vehicle servicing or repairs is prohibited from site, unless in an emergency. • Drip trays shall be inspected and emptied daily and serviced when necessary. In particular drip trays shall be closely monitored during rain events to ensure that they do not overflow. The contents must be disposed of at a recognised site. • All repairs done on machinery using hydrocarbons as fuels or lubricants shall have a drip tray placed strategically to avoid incidental spillage. • Workers shall be made aware of the health risks associated with any hazardous substances used (e.g., smoking near refuelling depots), and shall be provided with appropriate protective clothing / equipment in case of spillages or accidents. • Cement shall be mixed on a plank, metal plate or a plank only or ready-mix trucks shall be used, and other potential environmental pollutants shall be stored at the designated area. There shall be no opportunity for environmental contamination. • Workshop areas shall be monitored for oil and fuel spills and such spills shall be cleaned and remediate to the satisfaction of the EO. • The site shall be in possession of an emergency spill kit that must be complete and available at all times on site.				
Complaints	6	• Maintain complaints register for all complaints. The register must list:	Johannesburg Water	During operations and maintenance activities	• Complaints register.	• Availability of register on site

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ENVIRONMENTAL MANAGEMENT PLAN

		- Complainant name and contact details. - Date complaint was lodged. - Person who recorded the complaint. - Nature of the complaint. - Actions taken to investigate the complaint and outcome of the investigation. - Action taken to remedy the situation. - Date on which feedback was provided to complainant.			- GDARD complaints reference number. - Designated person to maintain register - Complaints logged - Complaints followed up and closed out.
Collection of water sample	7	- Water sampling shall be undertaken at the selected sampling points as per the WUL. - Any incident or non-compliance with the WUL parameters or DWS Water Quality Guidelines shall be reported accordingly and investigated - Unused sampling bottle shall be disposed of accordingly.	Johannesburg Water/CDYNA	During operation activities	- Visual inspection. - Online Lab reports - Daily water sample report. - Incident register.
Environmental Incident reporting and Emergency Response and Preparedness	8	NEMA Section 30 and 30A emergency incidents and situations must be reported to GDARD or DEA immediately after as an incident or situation occurs. NWA Section 20 emergency must be reported to DWS, mostly by Operations Department. This can be done via phone, fax, or email. JW must implement measures to contain the incident or situation immediately. Thereafter the Emergency Incident Report (EIR) or Emergency Situation Report (ESR) must be submitted to the authorities ASAP. The reports must provide as much information as possible, if not; the reports can be updated later as the investigation progresses. Not reporting an incident could result in the authorities issuing a directive or a compliance notice to the responsible person.	Johannesburg Water Sites	During operation and maintenance activities.	- Visual inspection. - Flash report/ Incident investigation report. - Section 30A Annexure A. - JW Environmental Emergency Preparedness - Incident register - Bioremediation report. - Section 30A Directive. - Corrective Action Plan

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ENVIRONMENTAL MANAGEMENT PLAN

		- Important Note: For Section 30A Emergency Situation, an oral or written directive must be obtained from GDARD or DEA before works can be undertaken in the watercourse to avoid undertaking listed activities without obtaining EA. - Johannesburg Water takes responsibility in order to effectively respond to emergency incidences such as fire, hydrocarbon and sewer spills or leakages, disturbance of wildlife and archaeological artefacts. The SHE Rep must conduct daily inspections to ensure that the required equipment needed to handle environmental incidents/ emergencies are readily available and in working condition. Quick response to an incident prevents escalation to an emergency:			ess and Response Procedure.	
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9. Water Management

- Water is a scarce resource and water shall be conserved wherever possible.
- Improved and protected watercourses to Class C classification which is moderately modified in terms of determined class of water resource and resource quality objectives of chapter 3 (Part 2) of National Water Act (Act 36 of 1998).
- Demand reduction/ Alternative sources.
- Building a water sensitive city.
- Well managed and maintained water infrastructure networks.

Water Usage	9.1	- The site must be kept tidy and hygienic at all times with special reference to sanitation & water management. - Maintain a monthly water usage. - Reporting of water pipe burst and damaged meters	Johannesburg Water Sites	During operation	- Visual inspection - Meter readings	Records of Monthly water Usage.
Reduce water demand	9.2	Implement effective demand-side management practices while exploring investment into smart infrastructure and alternative supplies to increase levels of net water savings.	Johannesburg Water (Network)	During operation	- Monthly Monitoring - Monthly water	- Records of percentage reduction on non-revenue water. - Records of Percentage

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ENVIRONMENTAL MANAGEMENT PLAN

		- Establish Task Team with different law enforcement agencies to develop and implement solution for infrastructure abuse problem. - Promote the implementation of Sustainable Urban Drainage System practice.			managem ent report	reduction of Rand Water system input volume.
Incentivise water saving interventions across domestic and economic sector users.	9.3	- Implementation of command-and-control base mechanism that promote water saving (CoJ By-laws). - Implementation of incentives base mechanism - Develop partnerships beyond the City to encourage water savings. - Expand current CoJ drought policy to build greater resilience of the water system. - Integrate water conservation requirements in conditions of planning approval. - Develop an awareness and communications campaign using available technology.	Johannesburg Water	CoJ/Operations	Monthly water managem ent report	- Records of reduction in annual water consumption per capita - Water from alternative sources as % of total water supply
Rehabilitation/ Reinstatement	10	- Clean up and remove any spills and contaminated soil in the appropriate manner. - Ensure that no discarded materials are buried on site or on any other land not designated for this purpose. - Rehabilitate any disturbed areas as soon as maintenance or construction in the area is complete. - If disturbed areas are left to rehabilitate naturally, they must be frequently monitored and interventions put in place immediately should it become necessary. Special attention must be given to the potential for soil erosion and the associated environmental degradation. It is also essential to undertake alien vegetation control and management.	Johannesburg Water	During operation and maintenance activities	- EO complianc e monitoring - Visual inspection. - Complianc e inspection against rehabilitati on plan.	- Inspection report. - Audit report by External Auditor. - Photos before and after.

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ENVIRONMENTAL MANAGEMENT PLAN

					• JW EMP.	
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ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 80 of 104

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6.1 Method Statement

The objective is to ensure all construction activities are undertaken with the appropriate level of environmental awareness to minimise environmental risk. The environmental specifications are required to be underpinned by a series of Method statements, within which the Contractors and Service Providers are required to outline how any identified environmental risks will practically be mitigated and managed for the duration of the contract, and how specifications within this EMPr will be met. That is, the Contractor will be required to describe how specified requirements will be achieved through the submission of written Method Statements to Johannesburg Water Environmental Section and ECO.

Method Statement is defined as “a written submission by the Contractor in response to the environmental specification or a request by the Site Manager, setting out the plan, materials, labour and method the Contractor proposes using to conduct an activity, in such detail that the Site Manager and Environmental Officers are able to assess whether the Contractor's proposal is in accordance with the Specifications and/or will produce results in accordance with the Specifications”. The Method Statement must cover applicable details with regard to:

- Construction procedures
- Materials and equipment to be used
- Getting the equipment to and from site
- How the equipment/material will be moved while on-site
- How and where material will be stored
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur
- Timing and location of activities
- Compliance/non-compliance with the Specifications, and
- Any other information deemed necessary by the Johannesburg Water.

The Contractor may not commence the activity covered by the Method Statement until it has been approved by the Site Manager, except in the case of emergency activities and then only with the consent of the Site Manager. Approval of the Method Statement will not absolve the Contractor from their obligations or responsibilities in terms of their contract.

Failure to submit a method statement may result in suspension of the activity concerned until such time as a method statement has been submitted and approved. The EO and ECO should monitor the construction activities to ensure that these are undertaken in accordance with the approved Method Statement.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 81 of 104

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6.2 Monitoring

- Regular inspections of the site by EO/SHE and Environmental Reps
- Immediate reporting of ineffective sediment control systems.
- Public complaints register must be developed and maintained on site.

6.2.1 Monitoring Program

OBJECTIVE: Monitor the performance of the control strategies employed against environmental objectives and standards

A monitoring programme must be in place not only to ensure conformance with the EMP, but also to monitor any environmental issues and impacts which have not been accounted for in the EMP that are or could result in significant environmental impacts for which corrective action is required. The period and frequency of monitoring will be stipulated by the environmental authorisation (once issued). Where this is not clearly dictated, Johannesburg Water will determine and stipulate the frequency of monitoring required in consultation with the relevant authority. The contractor project manager will work with the site manager of the contractor to ensure that monitoring is conducted and reported.

The aim of the monitoring and auditing process would be to routinely monitor the implementation of the specified environmental specifications, in order to:

- Monitor and audit compliance with the prescriptive and procedural terms of the environmental specifications.
- Ensure adequate and appropriate interventions to address non-compliance.
- Ensure adequate and appropriate interventions to address environmental degradation.
- Provide a mechanism for the lodging and resolution of public complaints.
- Ensure appropriate and adequate record keeping related to environmental compliance.
- Determine the effectiveness of the environmental specifications and recommend the requisite changes and updates based on audit outcomes, to enhance the efficacy of environmental management on site.
- Aid communication and feedback to authorities and stakeholders.

6.2.2 Method of Monitoring

The Environmental Officer will ensure compliance with the EMP and will conduct monitoring activities. The EO will undertake site inspections monthly or as specified in the environmental authorisation once issued.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 82 of 104

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6.2.3 Monitoring Reports

Environmental Monthly reports will be compiled by the EO monthly and must be submitted to Environmental Specialist. The report should include details of the activities undertaken in the reporting period, any non-conformances or incidences recorded, corrective action required and details of these non-conformances or incidents which have been closed out.

A document handling system must be established to ensure accurate updating of EMP documents, and availability of all documents required for the effective functioning of the EMP. The compiled environmental file must be ISO14001:2015 conformant as per JW environmental file specification (Annexure B). Supplementary EMP documentation could include:

- Method Statements.
- Environmental Action Plan
- Environmental File Site instructions.
- Emergency preparedness and response procedures.
- Record of environmental incidents.
- Non-conformance register
- Training records.
- Site inspection reports.
- Waste Register
- Water Usage Register
- Fauna and Flora Register
- Hazardous chemical Inventory list
- Monitoring reports.
- Auditing reports; and
- Public complaints register (single register for maintained for overall site).

Table 4: Monitoring Programme

ISSUE	FREQUENCIES OF MONITORING	RESPONSIBLE PERSON
WATER		
Prevention of water pollution	Weekly in rainy season	Contractor's Representative (CR)/ Johannesburg Water
Prevention of stagnant water on site.	Weekly in rainy season	
Proper functioning of sanitation facilities	Weekly	

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 83 of 104

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ENVIRONMENTAL MANAGEMENT PLAN

ISSUE	FREQUENCIES OF MONITORING	RESPONSIBLE PERSON
SOIL		
Surface or gully erosion on site	Weekly in rainy season	CR/JW
Soil contamination with oils	Monthly	CR/JW
If small, clean up. If large, appoint a suitable contractor for clean-up.	Immediately	CR/JW
Air		
Control domestic fires.	Weekly	CR/ JW
Heavy vehicle emission control.	Monthly	CR/JW
Dust control of access roads. Wetting when required.	Weekly inspection	CR
WASTE		
Efficiency of domestic waste collection.	Weekly	CR/JW
Prevention of burning of solid/liquid wastes on site.	Weekly	CR/JW
Proper collection and containment of liquid wastes (petroleum, oils, paints, resins & cooking oils)	Monthly	CR/JW
The recycling and/or disposal thereof.		
The collection and disposal of construction waste (concrete, wood, steel)	Biweekly	CR
	Monthly Biweekly	CR/JW
Collection of hazardous waste.		CR/JW
WILDLIFE		
Weed Control	On-going	CR/JW
Control of illegal hunting or snaring of game, birds, or other wild animals.	On-going	CR/JW
SOCIAL		
Inspect overall appearance of site.	Weekly	CR

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ISSUE	FREQUENCIES OF MONITORING	RESPONSIBLE PERSON
(Paint work, cleanliness & housekeeping)	Daily	CR/JW
Resolve complaints	Daily	CR/JW
Monitor behaviour of labourers		
SAFETY		
Inspect road signs, pedestrian, and vehicle behaviour	At least once a week	CR/JW

6.3 Internal Audits and Reporting

Typically, an audit analyses the results obtained from monitoring, assesses whether objectives and targets have been met and whether there are variances from the stipulated EMP and legal requirements. In addition, the audit assesses whether EMP implementation has been undertaken according to planned arrangements and that the EMP itself is being appropriately updated. The audit should confirm that identified corrective actions have been undertaken and then assess the effectiveness of such actions. The timing of audits should be included in the implementation schedule in the EMP.

The key steps in a successful audit are:

- Establish audit procedures.
- Determine the frequency of audits.
- Ensure that the auditors are competent, in that they must be able to undertake the audit objectively and competently. Audits may be undertaken by internal or external parties, although certain I&AP requirements may define a need for external auditors.
- Maintain records of audits.

A procedure is to be developed by the project management team for conducting EMP audits, and should incorporate processes for scheduling and reporting, as well as the timing and frequency of the audits. This procedure should also address responsibilities and required resources. The EO is usually responsible for the maintenance of the environmental audit information that is required prior, during and

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 85 of 104

DISCLAIMER

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after an audit. Internal audits must be undertaken by Johannesburg Water Environmental Section on monthly basis.

6.3.1 Monthly compliance rating

A monthly compliance rating will be calculated for each Principal Contractor as per a formula determined by Johannesburg Water SOC Ltd focussing on or incorporating outcomes of assurance (e.g., monthly audit), operational assessments and other requirements, as necessary. Johannesburg Water SOC Ltd reserves the right to adjust the monthly compliance calculation formula as and when required – each revision of the monthly compliance calculation formula will be communicated to the Principal Contractor before implementation (**Each Principal Contractor is required to maintain a minimum compliance rating of 93% (Ninety-Three Percent).**)

Table 5: Compliance Rating Protocol

Classification	Scoring	Classification description
Good	93 – 100%	Substantial compliance
Average	80-92%	Compliance status needs to be improved
Poor	61-79%	Methods to ensure compliance require substantial improvement
Very poor	<60%	Methods to ensure compliance failed completely - no system in place

6.3.2 Work Stoppage

Work stoppages will be identified for 2 (two) types of work stoppages to be implemented:

- Overall work stoppage – the Principal Contractor and its Contractors are not allowed to continue with any type of construction / site work up until the work stoppage has been closed-out.
- Activity work stoppage – The Principal Contractor and its Contractors are not allowed to continue with the specific activity / task / job up until the work stoppage has been closed-out (**Overall work stoppages will be issued where non-conformances are identified against the criteria in Annexure C).**

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6.4 Environmental Awareness Plan

OBJECTIVE: Ensure all operation personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and on-going minimisation of environmental harm (Environmental Awareness Plan).

To achieve effective environmental management, it is important that Contractors and site employees are aware of the responsibilities in terms of the relevant environmental legislation and the contents of this EMP. Johannesburg Water is responsible for informing its employees and contractors (transportation contractor) of their environmental obligations in terms of the environmental specifications, and for ensuring that employees are adequately experienced and properly trained in order to execute the works in a manner that will minimise environmental impacts. Johannesburg Water's obligations in this regard include the following:

- Employees must have a basic understanding of the key environmental features of the depot and its surrounding environment.
- Ensuring that a copy of the EMP is readily available on-site and that all site staff is aware of the location and has access to the document.
- Employees must be familiar with the requirements of the EMP and the environmental specifications as they apply to the operation of the facility.
- Ensuring that, prior to commencing any new site works, all employees have attended an Environmental Awareness Training course. The course must provide the site staff with an appreciation of the project's environmental requirements, and how they are to be implemented.
- Awareness of any other environmental matters, which are deemed to be necessary by the depot manager.
- Ensure that construction workers have received basic training in environmental management, including the storage and handling of hazardous substances, minimise of disturbance to sensitive areas (wetland), management of waste and prevention of water pollution
- Records must be kept of those that have completed the relevant training.
- Training should be done either in a written or verbal format but must be in an appropriate format and language for the receiving audience

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 87 of 104

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- 1.Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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- Refresher sessions must be held to ensure the operating staffs are aware of their environmental obligations.

Therefore, prior to the commencement of construction activities on site and before any person commences with work on site thereafter, adequate environmental awareness and responsibility are to be appropriately presented to all staff present onsite, clearly describing their obligations towards environmental controls and methodologies in terms of this EMP. This training and awareness will be achieved in the following ways:

6.4.1 Environmental Awareness and Training

Environmental Awareness and Training must be undertaken by the Environmental Officer or SHE/ELO and must take the form of an on-site talk and demonstration by the Environmental Officer before the commencement of construction activities on site. A record of attendance of this training must be maintained by the Environmental Liaison Officer/SHE Officer on site.

6.4.2 Formal Environmental Training

NB: JW must ensure that there is a budget allocated for environmental formal training in CAPEX projects for the skills development of contractor staff, development of community where project is being undertaken. The principal Contractor shall identify short courses and include them on the training matrix that can be done on site during project duration. The following are some of the trainings that can be done on site:

- ISO14001:2015 Environmental Management System Awareness
- Handling of beehives
- Snake awareness and handling
- Environmental legal Liability.
- Waste Management
- Environmental Site Representative
- Recycling
- Grass cutting training

The principal Contractor must ensure that they are appointing a registered company that meet all the requirements and before appointment of service provider, the files shall be submitted to Environmental Section for evaluation.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 88 of 104

DISCLAIMER

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6.4.3 Induction Training

Environmental induction training must be presented to all persons who are to work on the site, be it for short or long durations. Contractors or Engineers staff, site staff, sub-contractors, or visitors to site. This induction training should include discussing Johannesburg Water's environmental policy and values, the function of the EMP and the importance and reasons for compliance to these. The induction training must highlight overall dos and don'ts on site and clarify the repercussions of not complying with these. The reporting procedure must be explained during the induction as well. Opportunity for questions and clarifications must form part of this training. A record of attendance of this training must be maintained by the SHE officer on site.

6.4.4 Toolbox Talks

Toolbox talks should be held on a scheduled and regular basis (at least once a month) where the foreman/site supervision manager, environmental and safety representative and all employees on site hold talks relating to environmental practices and safety awareness on site. These talks should also include discussions on possible common incidents occurring on site and the prevention of reoccurrence thereof. Records of attendance and the awareness talk subject must be kept on file.

6.5 Erosion Management Plan

The objective to control soil erosion from an ecological perspective is:

- To reduce the effects of raindrop splash erosion on exposed soil surfaces.
- To keep rainwater on the soil surface for as long as possible to increase the infiltration rate and reduce surface runoff.
- To reduce the speed of surface runoff to reduce the erosion effect of the soil surface.
- To provide methods to retain soil, debris, seed banks and organic matter being carried away by runoff.
- To improve water retention of the area (Coetzee, 2005).

a) Areas with a high soil erosion potential on the site

Areas identified as being of high soil erosion potential on the site include:

- Any areas without vegetation cover

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 89 of 104

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- Excavated areas
- Steep areas
- Areas which undergo overland flow of water.
- Areas close to water
- Irrigated areas
- Compacted areas
- Rivers
- Drainage lines
- Any areas where developments cause water flow to accelerate on a soil surface.

If any erosion features are present as a result of the activities mentioned above the ELO must:

Assess the situation.

- Take photographs of the soil degradation.
- Determine the cause of the soil erosion.
- Inform and show the relevant contractors the soil degradation.
- Inform the contractor that rehabilitation must take place and that the contractor is to implement a rehabilitation method statement and management plan.
- Monitor that the contractor is taking action to stop the erosion and assist them where needed.
- The progress of the rehabilitation must be monitored weekly and recorded in the site diary.
- All actions with regards to the incidents must be reported on in the monthly Audit report.
- If the erosion incident has not been addressed by the contractor within 14 days of you reporting it, the Johannesburg Water 's Environmental Section must be informed.

The contractor/ developer (with the EO's consultation) must:

- Select a system to treat the erosion
- Design the treatment system
- Implement the system
- Monitor the area to see if the system functions like it should, if it the system fails adapt or adjust the system to ensure erosion is controlled.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 90 of 104

DISCLAIMER

- 1.Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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- Monitoring must continue until the area has been stabilized

b) General Erosion

The civil works contractor may use the following instruments to combat erosion when necessary:

- Reno matrices
- Slope attenuation
- Shade catches nets
- Mulching
- Hydro-seeding or transplanting
- Re-vegetating
- Tilling (roughing the surface)

c) Erosion Management control measures

- Areas susceptible to erosion must be protected by appropriate measures and repair of any damage caused by erosion due to construction activities must be undertaken as soon as possible.
- Minimise erosion and sedimentation into water courses through effective stabilisation (gabions and reno-mattresses) and re-vegetation of disturbed riverbanks (Refer to rehabilitation specifications and erosion control measures below).
- Stabilisation of sandy, dispersive slopes or slopes steeper than 1:3 will be required. Ensure that bare soil is covered, and hydro seeded to reduce topsoil loss.
- Ensure that all soil surfaces are protected by vegetation or a covering to avoid the surface being eroded by wind or water.
- Ensure that heavy machinery don't compact areas that are not meant to be compacted as this will result in compacted hydrophobic, water repellent soils which increase the erosion potential of the area.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 91 of 104

DISCLAIMER

1. Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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d) Surface water control measures

- Prevent the concentration or flow of surface water or storm water down cut or fill slopes or along pipeline routes or roads and ensure measures to prevent erosion are in place prior to construction.
- Storm water and any runoff generated by hard surfaces should be discharged into retention swales or areas with rock riprap.
- These areas should be grassed with indigenous vegetation.
- These energy dissipation structures should be placed in a manner that flows are managed prior to being discharged back into the natural water courses, thus not only preventing erosion, but also supporting the maintenance of natural base flows within these systems, i.e., hydrological regime (water quantity and quality) is maintained.
- Mitigate against siltation and sedimentation using the above-mentioned structures and ensure that all structures do not cause erosion.
- Ensure that all storm water control features have soft engineered areas that attenuate flows, allowing for water to percolate into the local aquifers.
- Minimise and restrict site clearing to areas required for construction purposes only and restrict disturbance to adjacent undisturbed natural vegetation.
- Vegetation clearing should occur in parallel with the construction progress to minimize erosion and/or run-off. Large tracts of bare soil will either cause dust pollution or quickly erode and then cause sedimentation in the lower portions of the catchment.
- Minimise the diversion of flows into different catchments.
- If implementing dust control measures, prevent over-wetting, saturation and run-off that may cause erosion and sedimentation.
- Water course (stream) crossings should not trap any run-off, thereby creating inundated areas, but allow for free-flowing water courses.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 92 of 104

DISCLAIMER

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e) Environmental Incident/Accident

All environmental related incidents should be reported to environmental section. The ELO should compile and keep an Incidents and Accidents Register on the file/book in which all environmental related incidents and accidents are recorded, e.g., chemical spills, fires, accidents involving workers and vehicles, etc.

The following information must be recorded in the Incidents Register:

- The name and contact details of the persons involved
- The person recording the incident
- The date and time of incident
- The nature, extent, and cause of the accident
- The name and contact details of any persons notified of the incident
- The actions taken to deal with the incident and whether the accident has been sufficiently
- Dealt with additional steps required to prevent recurrence of the incident.

7. RECORD KEEPING, COMPLIANCE AND PENALTIES

Various records will be kept on site for monitoring purposes these include but not limited to:

- Copy of Environmental Management Plan
- Approved Environmental Method Statements
- Environmental Authorisation
- Environmental induction attendance register
- Hazardous chemicals register
- Waste disposals register and disposal certificates
- Oil/fuel spill register

Records of non-compliance shall also be kept on record and will include the nature and magnitude of the non-compliance in a register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. External complaints received regarding activities on the construction site pertaining to the environment shall be recorded in public complaints register and

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 93 of 104

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the response noted with the date and action taken. This record shall be submitted with the monthly reports and a verbal report given at the monthly site meetings. A score of 90% is required for the Monthly Audit undertaken by the Johannesburg Water 's Environmental Officers.

8. DECOMMISSIONING

Objective

- To avoid and or minimise the potential environmental and social impacts associated with the decommissioning phase

Mitigation Measures

Mitigation measures as detailed in the construction phase on the EMP regarding impacts on flora, fauna, habitats, and wetlands would be applicable to this phase.

- Rehabilitation to be undertaken in terms of specifications outlined in the Rehabilitation section of this EMP as well as in terms of any specific requirements applicable at the time.
- Johannesburg Water EO will need to supervise and monitor all decommissioning activities as per the snag list.
- All disturbed areas should be rehabilitated closer to its original state and more.

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 94 of 104

DISCLAIMER

- Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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Retainable Annexure A (Ref: Annexure 5 of JW 6.4): Acknowledgement of EMP specification by the Contractor.

Environmental Requirement for Contractors and Suppliers working for Johannesburg Capital Expenditure (CAPEX) projects	Unique no	JWEMP:122017
	Revision no	00

I, the undersigned, hereby acknowledge that I have obtained copies of the following listed documentation and confirm that I fully understand the contents thereof and the consequences of non-compliance. The Contractor furthermore reiterates its commitment to compliance of the requirements contained within the following provided documentation:

Name of the Contractor	
Vendor Number	
Project Number	
Scope of Work	
Declaration by Capital Expenditure Projects Contractor	
- I undertake to adhere to the requirements as set out in: - Johannesburg Water Environmental Management Plan and Waste Management Plan - Environmental requirements for Contractors working on Capital Expenditure Projects - I undertake to comply with all applicable environmental legal and other requirements. - Undertake to comply with Johannesburg Water 's environmental standards, policies, and procedures where applicable. - I pledge to inform all staff of their role in managing environmental impacts on site. - I am fully aware that incidents must be reported within 24 hours of occurrence. - I pledge to always implement environmental best practice on site during the contract. - I pledge that all non-conformances issued to us will be addressed promptly.	

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 –JANUARY 2022 REVISION 05	Page 95 of 104

DISCLAIMER

- Should there be any other Environmental related activities issued as non-compliance during construction, the contractor is liable to comply with those requirements
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ENVIRONMENTAL MANAGEMENT PLAN

I hereby acknowledge that I have obtained copies of Johannesburg Water Environmental Management Plan and Waste Management Plan and confirm that I fully understand the contents thereof and the consequences of non-compliance. The Contractor furthermore reiterates their commitments to compliance of the requirements contained within the following provided documentations and conform to all above mentioned requirements.

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

Contractor Representative Name:	Signature:	Date:
Designation:		
JW Project Engineer/Manger (Witness) Name:	Signature:	Date:

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ENVIRONMENTAL MANAGEMENT PLAN

Annexure B: Contractors Environmental File Evaluation Form

  a world class African city		CONTRACTORS ENVIRONMENTAL FILE EVALUATION FORM	
		A minimum score of 80% is required on all sections for the approval of the submitted Environmental file System. Failure to achieve the required score will result in non-approval of the Environmental file, and the project will not commence prior file approval.	
ENVIRONMENTAL SYSTEM EVALUATION OUTCOME			
AVERAGE SCORE OBTAINED			0.00%
APPROVED/REJECTED			
EVALUATED BY:	REVIEWED BY:	APPROVED/REJECTED BY:	ACKNOWLEDGED BY:
DESIGNATION:	DESIGNATION:	DESIGNATION:	DESIGNATION:
SIGNATURE:	SIGNATURE:	SIGNATURE:	SIGNATURE:
DATE:	DATE:	DATE:	DATE:
PROJECT DETAILS			
Contract Number			
Project Title			
Name of Contractor			
Is the project screened?	YES/NO	IF NO	Construction activities/work (including site establishment) should ONLY commence when after the project is Screened

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ENVIRONMENTAL MANAGEMENT PLAN

Specialist Studies/Report		
Environmental Authorisation (If applicable)		
Water Use Licence /General Authorisation (If applicable)		
SCORE ANALYSIS		
	Satisfactory (Approved)	Requirements have been met
0.00%	Unsatisfactory (Not Approved)	Requires substantial improvement / partially achieved
ENVIRONMENTAL REQUIRED DOCUMENTS		
1	Copy EMP and signed acknowledgement letter for JW EMP	0
2	SHE/ELO appointment letter	0
3	Contractor Environmental Induction presentation	0
3	Environmental Toolbox talk and copy of attendance register template	0
5	Environmental Objective (Site specific)	0
6	Environmental Policy Statement	0
7	Registers	0
3	Legal Register (Site specific)	0
9	Environmental Aspect and Impact register (site specific)	0
10	Permit register	0
11	Non-Conformance Register	0
12	Waste register template	0
13	Complaint register	0
14	Incident register	0

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ENVIRONMENTAL MANAGEMENT PLAN

15	Method statement register	0
16	Hazardous substances register	0
17	Daily Environmental checklist/ weekly checklist and spill kit checklist	0
18	Spill kit checklist	0
19	Method statements or procedures	0
20	Document control procedure	0
21	Storm water management plan/ Erosion control	0
22	Alien invasive and weeds control plan	0
23	Hazardous Management Plan/ Procedure (i.e., handling of hazardous substances)	0
24	Method statement for the activities to be undertake/ (include environmental aspects on the technical MS)	0
25	Waste management plan/ Method statement for waste management	0
26	Incident report template (Flash report/Investigation report)	0
3	Emergency Response Plan	0
28	Training Matrix	0
29	Dust Management Plan or Method Statement for dust suppression	0
30	Contractor Audit procedure/template	0
31	Rehabilitation Plan or Method Statement for Rehabilitation/Reinstatement	0
TOTAL		0

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Annexure C: Environmental Work instruction

ENVIRONMENTAL MANAGEMENT (EM) SITE INSTRUCTION	  a world class African city
Document No: JW- EMS-HO—R014 1. All JW rules and regulation including JW Environmental Management Plan and other applicable legislation, standard and by-laws must be adhered to at all times. 2. Copies of Environmental Authorisation, Water Use License/General Authorization, Rehabilitation plan, EMP shall be kept on site (where applicable). 3. All JW sites must have waste bins, drip trays, spill kit and designated hazardous storage (where applicable). 4. Only registered Waste Service providers who comply with National Environmental Management Waste Act and Municipal By-laws shall be appointed. 5. No burning or burying of waste is allowed on site. 6. The conservation of water and the use of energy efficiently shall be implemented in all JW sites. 7. The letter from City Parks for occupying the open space shall be received and kept in the file and if the land belongs to the private owner, the copy of an agreement letter shall be kept in the file (where applicable). 8. The photos are taken before and during and after the project (where applicable). 9. The Environmental file must be approved before the commencement of works on site (where applicable). 10. The Environmental file will be kept on site all the times and shall be made available to competent authority and JW environmental representative (where applicable). 11. Rehabilitation/ reinstatement of the site must be done as per the JW EMP, rehabilitation method statement. 12. The hazardous waste must only be stored not more than 90 days on site as per the legislation. 13. Only asbestos registered service providers shall be appointed to handle and dispose asbestos to registered landfill site. 14. No mixing of general and hazardous waste will be allowed. 15. No cutting of trees is allowed on site without permit. 16. If archaeological artefacts or anything of heritage importance are found at JW sites/ servitude Environmental Section must be informed. 17. Everyone working within JW sites shall familiarize with the EMP requirements and other applicable JW environmental procedures. 18. All the environmental incidents shall be reported within 24 hours to JW environmental Section.	

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD

Page Number

VOLUME 2.5 –JANUARY 2022 REVISION 05

Page 100 of 104

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ENVIRONMENTAL MANAGEMENT PLAN

19. Ensure that all JW employees and its service providers or suppliers receive environmental induction.
20. All work must be carried out under close supervision by the competent persons.
21. Repetitive findings or non-compliances shall be avoided.
22. Topsoil stockpile shall be protected by erosions control berms if it is exposed to a period of 14 days during wet season (where applicable).
23. Only 150mm of topsoil shall be removed and stockpile at a height of not more than 1m.
24. All hazardous material must be stored on a bunded and ventilated storage, and MSDS must be available for all of them.
25. No painting or marking of natural features is allowed on site.
26. Pollution of the environment shall be prevented all the times.
27. No leaking mobile plant is allowed on site.
28. Dust control measures shall be implemented on site (where applicable).
29. No sewer spillage shall spill into the storm water or the watercourse.
30. All environmental related incidents and/or emergencies shall be investigated within 48 hours from the date of notice.
31. Killing of fauna and/or Avifauna is prohibited.
32. Alien invasive and weeds must be eradicated.
33. Fumigation shall be done by trained personnel that is registered with DAFF.
34. No smoking is allowed in restricted areas. All such areas are posted appropriately.
35. Personal protective equipment is required to be worn at all times in production areas.
36. Maintain good housekeeping in your work area.
37. Keep fire lanes, roadways, walkways, and aisles free and clear of material.
38. The use of unsafe or defective equipment or tools is not permitted.
39. A contractor or subcontractor shall leave no unused materials on site. At the completion of a project the contractor shall remove all unused material and all waste shall be properly disposed of at a registered landfill site.
40. Any contractor or subcontractor found to be in violation of any EH&S rules can be ejected or escorted off premises if deemed necessary.
41. This file shall be kept on site and will be available at all times to the JW Reps and authorities (upon request).

ACKNOWLEDGEMENT BY MANAGER/CONTRACTOR

I, _____ the Manager/Contractor, do hereby declare that my site/company

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_____ acknowledges having read and understood the conditions contained in this document and furthermore, the employees agree to abide by these conditions.

CONTRACTOR/FACILITY		REP.	SIGNATURE	DATE
ENVIRONMENTAL SITE INSTRUCTION			Document No: JW- EMS-HO- R014	  a world class African city
Name of Contractor/Facility				
Responsible Manager/ Engineer				
Project No. <i>(where applicable)</i> :		Date Issued:	Date of Inspection:	
Environmental Representative:		Designation:		
<i>Should the responsible persons fail to comply with any term of this instruction, JW may demand compliance in writing from the defaulting party. Should the defaulting party fail to comply within the stipulated time frames, JW shall take the necessary steps to remedy the situation.</i>		PROJECT DESCRIPTION		
Reference No. of Non-Conformances		Action Required		
EM-1.				
EM-2.				

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EM-3.		
EM-4.		
EM-5.		
EM-6.		
EM-7.		
EM-8.		
EM-9.		
EM-10.		
Received & Acknowledged by	Signature	Date
Responsible Manager/Contractor		
Responsible Consultant (<i>where applicable</i>)		
JW Environmental Representative		
JW Project Inspector / Engineer (<i>where applicable</i>)		
Contractor SHE/EL Officer (<i>where applicable</i>)		
COMMENTS BY RESPONSIBLE MANAGER/ENGINEER:		Target date for corrections
		Accepted/Acknowledged by Manager/Contractor

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COMMENTS BY CONTRACTOR (<i>WHERE APPLICABLE</i>):	Follow up comments by JW Environmental Representative

ENVIRONMENTAL MANAGEMENT PLAN – JOHANNESBURG WATER SOC LTD	Page Number
VOLUME 2.5 – JANUARY 2022 REVISION 05	Page 104 of 104

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