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City of Johannesburg

Johannesburg Water SOC Ltd

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REQUEST FOR PRICING (GOODS AND SERVICES)	Form No: JW SCM Dev MBD1 Revision No: 02 Effective Date: February 2023
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RFP NUMBER	RFP 17/03/2026	CLOSING DATE:	31 March 2026	CLOSING TIME:	14:00
DESCRIPTION:	SUPPLY, DELIVERY AND OFFLOADING OF HELICAL GEARBOX UNITS FOR NORTHERN WASTEWATER TREATMENT WORKS				
BRIEFING SESSION DATE AND TIME	23 March 2026 at 13:00	Is the meeting compulsory?	Yes		
BRIEFING SESSION VENUE	Northern Wastewater Treatment Works (NWWTW) <ul style="list-style-type: none"> Area: Diepsloot / Northern Johannesburg Northern Works: Situated 35 km North of Johannesburg on the Provincial Road P79-1 from Johannesburg to Hartbeespoort Dam.				
ISSUE DATE	17 March 2026				

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:			
Bidding procedure enquiries <u>must</u> be sent to the below Official		Technical enquiries must be directed to	
CONTACT PERSON	Ishmael Kuduza	CONTACT PERSON	Thabiso Thabeng
TELEPHONE NUMBER	011 688 1772	TELEPHONE NUMBER	011 510 2602
E-MAIL ADDRESS (Submissions must be made to this address)	Ishmael.kuduza@jwater.co.za	E-MAIL ADDRESS	thabiso.thabeng@jwater.co.za

Mr Dineo Majavu (Chairperson), Mr Ntshavheni Mukwevho (Managing Director and Executive Director),
 Mr Kgaugelo Mahlaba (Chief financial Officer and Executive Director) Mr Sipho Mthembu, Ms Zandile Meeleso, Mr Pholoso Matjele,
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SUPPLIER INFORMATION				
NAME OF BIDDER				
POSTAL ADDRESS				
STREET ADDRESS				
TELEPHONE NUMBER	CODE		NUMBER	
CELLPHONE NUMBER				
E-MAIL ADDRESS				
VAT REGISTRATION NUMBER		CIDB GRADING		N/A
SUPPLIER COMPLIANCE STATUS		TAX COMPLIANCE SYSTEM PIN:	CENTRAL SUPPLIER DATABASE No:	MAAA
B-BBEE VERIFICATION CERTIFICATE		[TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No	B-BBEE SWORN AFFIDAVIT (EMEs OR QSEs)	[TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No
BID SUBMISSION:				
<p>BID DOCUMENTS MUST BE DEPOSITED IN THE TENDER BOX SITUATED AT GROUND FLOOR IN JOHANNESBURG WATER</p> <p>ADDRESS: TURBINE HALL, 65 NTEMI PILISO STREET, NEWTOWN, JOHANNESBURG, 2001</p> <p>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.</p> <ul style="list-style-type: none"> • TIMES: THE BUILDING WILL OPEN 7 DAYS A WEEK FROM 06:00AM UNTIL 18:00PM Late bids will not be accepted for consideration. • All pricing/quotation must be submitted by completing the attached or on the official company letterhead, signed and accompanied by the returnable documents stated below. <p><input type="checkbox"/> 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 member's persons in the service of the state.</p>				

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1. BACKGROUND OF THE PRODUCT

Background

Helical gearboxes serve as indispensable power transmission components in bulk wastewater treatment works, powering essential electromechanical systems such as aerators and mixers. Renowned for their helical gear configuration which delivers superior torque capacity, efficiency, and durability under prolonged, high-load operations, these units are pivotal to maintaining seamless process flows, regulatory compliance, and operational resilience at Johannesburg Water facilities.

The current fleet in Northern WWTW has surpassed its design lifespan, manifesting in heightened failure frequencies, diminished performance, and elevated risks of process interruptions. This tender addresses the urgent imperative for replacement with thirty-three (33) units, precisely matched to existing installations, to avert costly breakdowns and uphold uninterrupted wastewater treatment critical to public health and environmental protection.

Bidder Responsibilities and Mandatory Site Acquaintance

Bidders bear full and unequivocal responsibility to thoroughly acquaint themselves with all site conditions, including but not limited to existing equipment configurations, mounting arrangements, spatial limitations, environmental factors (e.g., corrosive atmospheres and vibration profiles), and integration with ancillary systems. This constitutes a mandatory requirement for bid eligibility.

Failure to confirm full comprehension of these site-specific requirements through physical site inspections, liaison with Johannesburg Water representatives, and submission of a detailed site understanding verification form will render the bid non-responsive and subject to disqualification.

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Bidders must explicitly acknowledge this obligation in their submission, providing evidence of site visits and a signed confirmation of compatibility assurances. This rigorous mandate ensures selected suppliers deliver zero-disruption replacements, safeguarding operational continuity.

1.1 SCOPE OF WORK

Supply, Delivery, and Offloading

The primary scope of this project encompasses the procurement, supply, delivery, and offloading of thirty-three (26) helical gearboxes, each precisely matched to the specifications of existing site installations to ensure seamless compatibility and operational integration. All supplied items must strictly adhere to Johannesburg Water's approved standards, technical specifications, and quality assurance protocols.

The required gearbox sizes, categorized by motor power rating and quantity, are detailed in the table below:

No	Motor Power (kW)	Qty
1	7.5	3
2	75	3
3	90	10
5	110	10
TOTAL		26

Delivery shall be executed at designated Johannesburg Water sites, with offloading performed in a manner that minimizes disruption to ongoing operations.

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The Contractor shall provide all necessary documentation, including material certificates, test reports, and compliance certifications, prior to final acceptance.

1.2 SPECIFICATIONS

Gearboxes are site-specific, with installation designs varying between units—even those of the same power output—due to differences in the bioreactors they serve. These bioreactors, designed and commissioned at different times, result in non-identical setups influenced by historical engineering practices, site constraints, and process needs. It's essential for bidders to appreciate these site-specific requirements during replacement projects. This ensures compatibility, minimizes retrofit risks, and maintains operational reliability in bulk wastewater treatment.

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GEARBOXES EQUIPMENT SPECIFICATIONS

No	Power output	Description	Design	Mounting	Performance	Features and operating conditions
1	7.5 kW	Hansen or equivalent Helical Gear Units	Compact two/three-stage helical parallel shaft gear unit	To be verified on site by the Contractor before making an offer	As per JW approved Standards	Pressure lubrication ready, dual output oil seals, standard breather with valve, oil sight glass, dry well drain valve.
2	75 kW	Hansen or equivalent Helical Gear Units	Compact two to four-stage helical parallel shaft gear unit			Pressure lubrication with shaft-end pump, 1 grease nipple each.
3	90 kW	Hansen or equivalent Helical Gear Units	Compact two to four-stage helical parallel shaft gear unit			Pressure lubrication with shaft-end pump. Rotex-style coupling compatibility.
4	110 kW	Hansen or equivalent Helical Gear Units	Compact two to four-stage helical parallel shaft gear unit			

NB: Operating conditions of 24h duty, -10 to 45°C no radial/axial forces, direct sunlight, high humidity. Gearboxes to be suitable for motor mounting position V1

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1.3 Gearboxes Design and Operating Principles

- **Helical Gearing:** Angled teeth for gradual mesh, high efficiency ($\geq 98\%$ /stage), low noise/vibration, high torque capacity via multiple contact points. Parallel shafts ensure compact horizontal layout.
- **Power Transmission:** High-speed input (1400-1480 rpm) reduces via 2-4 stages to low-speed output; EBD design integrates agitator loads.
- **Lubrication:** Pressure system, shaft-driven pump circulates oil bath to gears/bearings; monitored by flow switch, dipstick, sight glass, level protection; prevents overheating in 24h service.
- **Mounting:** Site specific. Contractor to verify these details before making an offer to Johannesburg Water. Motors are all vertically mounted (downward)
- **Gearbox/Motor Couplings:** Gearbox and motor couplings must be the same as existing in the targeted bioreactor (Contractor to verify these details before making an offer). Aerator gearboxes may require a mild steel spacer ring between the IEC adapter housing and the electric motor.
- **Gearbox Output Couplings:** Couplings must be the same as existing in the targeted bioreactor (Contractor to verify these details before making an offer).

1.4 Typical Mounting Dimensions

The typical mounting dimensions of the gearboxes and motors are as provided below. However, as stated and specified above, the Contractor has the responsibility to verify the dimensions before making an offer to JW. Errors which may result in cost implications will not be entertained at the implementation stage and all the additional cost implications due to errors will be for the account of the Contractor. The information provided below should be treated as typical and not definitive or accurate and does not in any way remove the responsibility from the Contractor to verify the details before making an offer to JW.

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Gearbox	Typical Dimensions					
	Motor PCD or IEC Adapter PCD	Impeller/Turbine PCD	Mounting Frame	IEC Adapter Height	Mild Steel Spacer Ring	Motor/Gearbox Coupling
110kW Aerator for Unit 4	500mm (IEC 280 V1)	380mm	750mm x 750mm (hole to hole)	approx. 340mm	30 to 35mm	Pin type, PN235
75kW Aerator for Unit 4 (RNE)	500mm (IEC 250 V1)	360mm	750mm x 920mm (hole to hole)	approx. 300mm	30 to 35mm	Pin type, PN200
75kW Aerator for Unit 4 (RNF)	500mm (IEC 250 V1)	360mm	875mm x 1020mm (hole to hole)	approx. 400mm	30 to 35mm	Pin type, PN200
7.5kW Mixer for Unit 4	265mm (IEC 132 V1)	205mm	approx. 250mm (PCD)	approx. 130mm	N/A	No details at this stage
110kW Aerator for Unit 3 Module 1 and Module 3	600mm (IEC 315 V1)	480mm	750mm x 750mm (hole to hole)	approx. 375mm	30 to 35mm	Ecoflex135

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Gearbox	Typical Dimensions					
	Motor PCD or IEC Adapter PCD	Impeller/Turbine PCD	Mounting Frame	IEC Adapter Height	Mild Steel Spacer Ring	Motor/Gearbox Coupling
90kW Aerator for Unit 3 Module 1 and Module 3	500mm (IEC 280 V1)	480mm	750mm x 750mm (hole to hole)	approx. 345mm	30 to 35mm	Ecoflex135
110kW Aerator for Unit 3 Module 2	500mm (IEC 280 V1)	480mm	750mm x 750mm (hole to hole)	approx. 340mm	30 to 35mm	Ecoflex135
90kW Aerator for Unit 3 Module 2	500mm (IEC 280 V1)	480mm	580mm x 580mm (hole to hole)	approx. 350mm	30 to 35mm	Ecoflex135
7,5kW Mixer for Unit 3 Module 2	265mm (IEC 132 V1)	210mm	approx. 410mm (PCD)	approx. 265mm	N/A	Rotex28, bore 38
110kW Aerator for Unit 5 Module 1	500mm (IEC 280 V1)	360mm	750mm x 750mm (hole to hole)	approx. 345mm	30 to 35mm	Ecoflex135
90kW Aerator for Unit 5 Module 1	500mm (IEC 280 V1)	360mm	590mm x 590mm (hole to hole)	approx. 350mm	30 to 35mm	Ecoflex135

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1.5 Applicable Johannesburg Water Particular Specifications

No	JW Standard or Specification	Applicability
1	M06 – Gearboxes	7.5kW to 110kW gearboxes
2	G01 – Colour Coding	Mechanical units/equipment

1.6 Offered Equipment Datasheets

The below datasheets for the offered equipment must all be completed by the Tenderers and submitted together with their bids. Failure to complete the datasheets in full, and failure to complete all the datasheets will result into disqualification. The minimum technical requirements as per the datasheets must be met by the offered equipment or the tenderer’s bid will be disqualified. Tenderers are also requested to submit together with their bids the copies of the OEM technical datasheets for the offered gearboxes; *tenderers will not be disqualified for failure to submit the copies of OEM technical datasheets.*

1.6.1 Gearbox Datasheet for the 110kW Gearbox

110kW Gearbox			
Item No.	Category	Requirement / Specification	Service provider Specification/Offer
1	Design		
1.1	Brand offered	-	
1.2	Model offered	-	
1.3	Ambient Temperature	-10°C to +45°C	
1.4	Gear Type	Case-hardened helical gears	
1.5	Efficiency	≥95% (3-stage)	
1.6	Noise Level	≤90 dBA at 1 m	
1.7	Output speed [rpm]	26rpm +/-5%	
1.8	Rotational direction	bidirectional	
1.9	Type of driving machine	AC motor	
1.10	Motor power, nominal PM [kW]	110	

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110kW Gearbox			
Item No.	Category	Requirement / Specification	Service provider Specification/Offer
1.11	Motor mounting code	IM V1	
2	Mechanical Construction		
2.1	Housing Material	High strength cast iron	
2.2	Shafts	Stainless steel with replaceable sleeves	
2.3	Bearings	Roller bearings with taper bearings for thrust loads	
2.4	Gear Life	$\geq 2 \times$ bearing life	
3	Bearing Design Life		
3.1	Aerators	$L_{10} \geq 100\,000$ hours	
4	Lubrication		
4.1	System	Oil lubrication with dry well for low-speed shaft	
4.2	Monitoring	Oil level indicator (sight glass), dipstick, oil level protection and oil flow switch	
4.3	Drain	Stainless steel valve with extension pipe	
5	Couplings & Drives		
5.1	Motor connection	Motor adapter	
5.2	Adapter type	IEC	
5.3	Flexible Couplings	Same as existing	Same as existing
5.4	Output Coupling	Same as existing	Same as existing
6	Service Factors		
6.1	Aerator Gearbox SF	Minimum 2.25	

1.6.2 Datasheet for the 90kW Gearbox

90 kW Gearbox			
Item No.	Category	Requirement / Specification	Service provider Specification/Offer
1	Design		
1.1	Brand offered	-	
1.2	Model offered	-	
1.3	Ambient Temperature	-10°C to +45°C	
1.4	Gear Type	Case-hardened helical gears	

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90 kW Gearbox			
Item No.	Category	Requirement / Specification	Service provider Specification/Offer
1.5	Efficiency	≥95% (3-stage)	
1.6	Noise Level	≤90 dBA at 1 m	
1.7	Output speed [rpm]	33rpm +/-5%	
1.8	Rotational direction	bidirectional	
1.9	Type of driving machine	AC motor	
1.10	Motor power, nominal PM [kW]	90	
1.11	Motor mounting code	IM V1	
2	Mechanical Construction		
2.1	Housing Material	High strength cast iron	
2.2	Shafts	Stainless steel with replaceable sleeves	
2.3	Bearings	Roller bearings with taper bearings for thrust loads	
2.4	Gear Life	≥2 × bearing life	
3	Bearing Design Life		
3.1	Aerators	L10 ≥ 100 000 hours	
4	Lubrication		
4.1	System	Oil lubrication with dry well for low-speed shaft	
4.2	Monitoring	Oil level indicator (sight glass) and dipstick	
4.3	Drain	Stainless steel valve with extension pipe	
5	Couplings & Drives		
5.1	Motor connection	Motor adapter	
5.2	Adapter type	IEC	
5.3	Flexible Couplings	Same as existing	Same as existing
5.4	Output Couplings	Same as existing	Same as existing
6	Service Factors		
6.1	Aerator gearbox SF	Minimum 2.25	

1.6.3 Datasheet for 75kW Gearbox

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75 kW Gearbox			
Item No.	Category	Requirement / Specification	Service provider Specification/Offer
1	Design		
1.1	Brand offered	-	
1.2	Model offered	-	
1.3	Ambient Temperature	-10°C to +45°C	
1.4	Gear Type	Case-hardened helical gears	
1.5	Efficiency	≥95% (3-stage) or higher	
1.6	Noise Level	≤90 dBA at 1 m	
1.7	Output speed [rpm]	36rpm +/-5%	
1.8	Rotational direction	bidirectional	
1.9	Type of driving machine	AC-motor	
1.10	Motor power, nominal PM [kW]	75	
1.11	Motor mounting code	IM V1	
2	Mechanical Construction		
2.1	Housing Material	High strength cast iron	
2.2	Shafts	Stainless steel with replaceable sleeves	
2.3	Bearings	Roller bearings with taper bearings for thrust loads	
2.4	Gear Life	≥2 × bearing life	
3	Bearing Design Life		
3.1	Aerators	L10 ≥ 100 000 hours	
4	Lubrication		
4.1	System	Oil lubrication with dry well for low-speed shaft	
4.2	Monitoring	Oil level indicator (sight glass) and dipstick	
4.3	Drain	Stainless steel valve with extension pipe	
5	Couplings & Drives		
5.1	Motor connection	Motor adapter	
5.2	Adapter type	IEC	
5.3	Flexible Couplings	Same as existing	Same as existing
5.4	Output Couplings	Same as existing	Same as existing

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Registration Number: 2000/029271/30



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75 kW Gearbox			
Item No.	Category	Requirement / Specification	Service provider Specification/Offer
6	Service Factors		
6.1	Aerator gearbox SF	Minimum 2.25	

1.6.4 Datasheet for 7.5kW Gearbox

7.5 kW Gearbox			
Item No.	Category	Requirement / Specification	Service provider Specification/Offer
1	Design		
1.1	Brand offered	-	
1.2	Model offered	-	
1.3	Ambient Temperature	-10°C to +45°C	
1.4	Gear Type	Case-hardened helical gears	
1.5	Efficiency	≥95% (3-stage) or higher	
1.6	Noise Level	≤90 dBA at 1 m	
1.7	Output speed [rpm]	36rpm +/-5%	
1.8	Rotational direction	bidirectional	
1.9	Type of driving machine	AC-motor	
1.10	Motor power, nominal PM [kW]	7.5	
1.11	Motor mounting code	IM V1	
2	Mechanical Construction		
2.1	Housing Material	High strength cast iron	
2.2	Shafts	Stainless steel with replaceable sleeves	
2.3	Bearings	Roller bearings with taper bearings for thrust loads	
2.4	Gear Life	≥2 × bearing life	
3	Bearing Design Life		
3.1	Mixers	L10 ≥ 100 000 hours	
4	Lubrication		
4.1	System	Oil lubrication with dry well for low-speed shaft	
4.2	Monitoring	Oil level indicator	
4.3	Drain	Stainless steel valve with extension pipe	
5	Couplings & Drives		

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7.5 kW Gearbox			
Item No.	Category	Requirement / Specification	Service provider Specification/Offer
5.1	Motor connection	Motor adapter	
5.2	Adapter type	IEC	
5.3	Flexible Couplings	Same as existing	Same as existing
5.4	Output Couplings	Same as existing	Same as existing
6	Service Factors		
6.1	Mixer gearbox service factor	Minimum 2	

2. DELIVERABLES

The successful bidder shall be required to provide:

- **Inspection:** Site-specific survey reports/sheets/information documenting bioreactor dimensions, mounting configurations, and interface requirements
- **Supply:** Site-specific gearboxes per technical drawings, with quality certificates and OEM warranties.
- **Factory Acceptance Inspection:** Organise a factory inspection meeting before the gearboxes are delivered. At this meeting, the gearboxes and the required documentation will be inspected against the specifications in this contract, JW particular specification (enclosed herein) and the agreed to QCP.
- **Delivery:** Timely transport to site (e.g., bioreactors), including packaging for heavy equipment and proof of delivery notes.
- **Offloading:** Contractor responsibility using cranes/forklifts, with site safety method statements and inspection handover protocols.
- **Site Acceptance Inspection:** Organise a site inspection meeting after offloading on site. At this meeting, the gearboxes and the required documentation will be inspected against the specifications in this contract, JW particular specification (enclosed herein) and the agreed to QCP.

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3. LOCATION AND DELIVERY:

The service provider will be required to render services at the following address which is given in good faith and may change to suit JW's operational requirements.

Northern WWTW

William Nicol Ext

(R511+/- 8km north of Fourways)

5 STATUTORY, REGULATORY AND OHSA REQUIREMENTS

The Service provider shall comply fully with:

- The Occupational Health and Safety Act, 85 of 1993, and all applicable regulations.
- Johannesburg Water's safety policies, procedures, and site rules.

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4. TENDER FORM AND PRICE SCHEDULES

To: Johannesburg Water (SOC) Ltd.

Having examined the Tender documents including Addenda Nos _____ [insert numbers], the receipt of which is hereby duly acknowledged, we, the undersigned, offer **Supply, delivery and offloading of helical gearboxes for Northern WWTW** as specified in conformity with the said RFP documents and as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Tender.

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

We undertake, if our Tender is accepted, to execute the contract in accordance with the requirements as specified.

We agree to abide by this Tender for a period of ninety (90) days from the date fixed for Tender opening, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

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.

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.

Should my/our tender be successful, it be understood that a contract will come into existence as a once off contract which will commence from the date indicated in the letter of acceptance.

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PRICING INSTRUCTIONS

The tenderers must quote a single, all-inclusive price (excluding VAT) covering the manufacture, supply, insured delivery to site, 12-month warranty and offloading of all equipment, materials, and components as specified in the Scope of Works, with Johannesburg Water assuming responsibility for all subsequent installation, testing, commissioning, and related works.

Prices must be clearly itemized in the Bill of Quantities (BoQ) must remain firm for the contract duration, and account for all risks, overheads, profit, and compliance with all the requirements, municipal by-laws, and SANS standards; no claims for variations will be entertained based on tenderer misunderstanding of the requirements.

All rates must be inclusive of every related cost, no exclusions allowed. Tenders quoting provisional or excluded items risk disqualification as per JW SCM policies. Specifically include:

Supply Costs: Manufacturing/fabrication of site-specific gearboxes (materials, OEM parts, custom adaptations per engineering drawings), quality certifications (ISO 9001, SANS compliance), warranties (min. 12-24 months), packaging for transport, and profit/overheads (10-15% typically).

Delivery Costs: Freight/haulage to Johannesburg Water sites (e.g., Northern Wastewater Treatment Works), insurance during transit, delivery notes, and compliance with road transport regs (e.g., abnormal load permits for heavy units >30 tonnes).

Offloading/Handling Costs: On-site unloading via contractor's cranes/forklifts, site access preparations (e.g., matting for soft ground), safety gear/PPE, waste removal (packaging), and handover inspections.

Associated Costs: Engineering approvals, meetings, document preparation, site surveys, motor interface adapters, painting/coatings (anti-corrosive for wastewater environment), and escalations.

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Evaluation process

The evaluation on price alteration will be conducted as follows:

- 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 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.

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Tenderer to complete in full the Bill of Quantiles below:

Item No	Description	Unit	Quantity	Rate	Amount
1	CONTRACTUAL AND OHS REQUIREMENTS				
1.1	OHS file and compliance	Sum	1		
1.2	Other Contractual Requirements	Sum	1		
2	SUPPLY, DELIVERY AND OFFLOADING OF HELICAL GEARBOX UNITS				
2.1	7.5kW helical gearbox as per specifications c/w input and output couplings	No.	3		
2.2	75kW helical gearbox as per specifications c/w input and output couplings	No.	3		
2.3	90kW helical gearbox as per specifications c/w input and output couplings	No.	10		
2.4	110kW helical gearbox as per specifications c/w input and output couplings	No.	10		
SUB TOTAL					
15% VAT					
TOTAL					

Signature of person authorized to sign this tender (Pricing Schedule Sign-off):

Name: _____

Signature: _____

Date: _____

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5. AWARD AND ALLOCATION STRATEGIES

5.1.1. Award Strategy

Contract is to be awarded to the highest scoring Tenderer.

5.1.2. Allocation Strategy

Work is to be allocated to the highest preference ranking Tenderer.

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6. EVALUATION CRITERIA

6.1. EVALUATION PROCESS

Tender evaluation process to be as follows:

STAGE	DESCRIPTION
Stage 1	Mandatory evaluation
Stage 2	Administrative compliance evaluation
Stage 3	Technical Evaluation
Stage 4	Price and preference evaluation

6.1.1. Stage 1: Mandatory evaluation

EVALUATION CRITERIA: (GATE KEEPERS)			
#	CRITERIA	DOCUMENTARY EVIDENCE	COMPLY (YES/NO)
1	Attendance of Mandatory Tender Briefing Meeting		Yes
2	Signed and completed Pricing Schedule.		Yes
3	Certified copy of OEM/Approval Certificate: Authorization to assemble/distribute/supply/maintain related equipment		Yes
5	Tenderer fully completed all the technical datasheets, and all the offered units comply with the technical requirements and specifications as per the datasheets		Yes

NB: Bidders that fail to comply with the above mandatory requirement will not be evaluated further.

6.1.2. Stage 2: Administrative evaluation

Price related MBD forms applicable for this tender.

NO.	REFERENCE TOTENDER DOCUMENT	DESCRIPTION	REQUIREMENT
3.	CSD	Central Supplier Database Registration	Provide proof of CSD registration. Complete MAAA number on cover page or copy of CSD report.
4.	MBD 5	Declaration of Procurement Above R10m (All Applicable Taxes Included)	Complete and signed MBD 5 Form.
5.	MBD 6.1	Preference Points Claim in Terms of The Preferential Procurement Regulations 2022	Complete and signed MBD 6.1 Form.
6.	MBD 8	Declaration of Bidder's Past Supply Chain Management Practices	Complete and signed MBD 8 Form.
7.	MBD 9.	Certificate of Independent Bid Determination	Complete and signed MBD 9 Form.
8.	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

6.2. Stage 3: Technical Requirements

The technical evaluation criteria will be conducted as follows:

- i. Tender's Experience (weighting: 60%)
- ii. Financial Capacity (weighting: 40%)



Technical Evaluation

#	CRITERIA	EVIDENCE	SUB-CRITERIA/CLAUSE	WEIGHT	SCORE
1	<p>Tenderer's experience with respect supply, delivery and offloading of gearboxes for various applications.</p> <p>The rated power must range from 7.5 to 110 kW</p>	<p>Supporting Documents Required include Contactable Reference Letter (Or on Client Letter Head with all required Information)</p> <p>Note: This reference letter must be completed by the referee/previous client of the tenderer and included in the tender submission. Alternatively, the Clients letterhead may be used provided it complies with the functional requirements. A separate form must be completed for each reference as a requirement in the evaluation criteria. The information provided will be verified and if found to be false or misrepresented, punitive measures will be instituted against the respective party including blacklisting in participating in any future government tenders.</p>	<p>The tenderer shall provide reference letter(s) as evidence of successfully completed projects related to the scope of work as outlined in the criteria.</p>	60	
			<p>Less than two (2) completed projects.</p>		0
			<p>Two (2 to three (3) completed project</p>		45
			<p>Three (3) or more completed projects</p>		60

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#	CRITERIA	EVIDENCE	SUB-CRITERIA/CLAUSE	WEIGHT	SCORE
2	Tenderer's financial capacity in respect of supply, delivery and offloading of gearboxes for various applications. At least one project must have a value of R10 000 000	<p><i>Supporting Documents Required include Contactable Reference Letter (Or on Client Letter Head with all required Information)</i></p> <p>Note: This reference letter must be completed by the referee/previous client of the tenderer and included in the tender submission. Alternatively, the Clients letterhead may be used provided it complies with the functional requirements. A separate form must be completed for each reference as a requirement in the evaluation criteria. The information provided will be verified and if found to be false or misrepresented, punitive measures will be instituted against the respective party including blacklisting in participating in any future government tenders.</p>	The tender shall provide reference letter(s) as evidence to demonstrate rand value of successfully completed projects of the scope as per the criteria.	40	
			All projects have a value below R10 000 000.		0
			At least one project has a value of R10 000 000 or above, but not more than R15 000 000.		30
			At least one project has a value above R15 000 000.		40
MINIMUM QUALIFYING SCORE				75	
TOTAL				100	

THE TENDERER MUST ACHIEVE THE MINIMUM OF 75 POINTS IN ORDER TO BE CONSIDERED FOR FURTHER EVALUATION

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CONTACTABLE REFERENCE

To Johannesburg Water (SOC) Ltd

I, the undersigned being duly authorized to do so, hereby furnish a reference to Johannesburg Water relative to the **Supply, delivery and offloading of helical gearboxes for Northern WWTW**

Name of Tenderer:

Description of Services provided in relation to scope of work or criteria 1 of evaluation

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

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

Contract/Project Value:

Name of authorised person (Client):

Signature:**Date**

Telephone/Mobile:

Email:

Completed on behalf (Name of Client)

NB: This document must be completed by the referee and included in the tender submission. Alternatively, the client's letterhead may be used for this purpose provided it complies with the functional criteria requirements. A separate form must be completed for each reference as required in the evaluation criteria. Information provided will 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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Name of Tenderer:

Description of Services provided in relation to scope of work or criteria 1 of evaluation

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

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

Contract/Project Value:

Name of authorised person(Client):

Signature: **Date**

Telephone/Mobile:

Email:

Completed on behalf (Name of Client)

NB: This document must be completed by the referee and included in the tender submission. Alternatively, the client's letterhead may be used for this purpose provided it complies with the functional criteria requirements. A separate form must be completed for each reference as required in the evaluation criteria. Information provided will 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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6.2.1. Bidders are required to meet a minimum of 75 points on the functionality evaluation to be further evaluated on the preference points. Bidders that do not meet a minimum of 75 points will be disqualified and will not be evaluated further.

6.3. Stage 3: The responses will be evaluated on the **80/20 preference point's principle**. 80 Points Price and 20 Points Specific Goals. Pricing schedule to be completed fully by the bidder. Bidders who failure to quote or complete the pricing schedule as per this requirement will be disqualified.

The required proof for claiming points for specific goals is as follows:

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)
Business owned by 51% or more –Women	10	
SMME (EME or QSE) owned by 51% or more - Black People	10	
Total	20	

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SPECIFIC GOALS – ANY ONE OR A COMBINATION OF ANY	MEANS OF VERIFICATION THAT MUST BE SUBMITTED OR A COMBINATION THEREOF TO PROVIDE POINTS CLAIMED
Business owned by 51% or more-Women	<ul style="list-style-type: none"> • Valid construction sector BBBEE Certificate issued by SANAS accredited verification agency or construction sector Affidavit sworn under oath, OR • CIPC registration document showing percentage of ownership and share certificate where applicable • ID copy
SMME (EME or QSE) owned by 51% or more - Black People	<ul style="list-style-type: none"> • Valid construction sector BBBEE Certificate issued by SANAS accredited verification agency or construction sector Affidavit sworn under oath, OR • CIPC registration document showing percentage of ownership and share certificate where applicable • ID copy

Note: A tenderer failing to submit proof of specific goals claimed as per the tender conditions may not be disqualified but only points for price will be allocated and zero points for specific goals.

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7. AWARDING STRATEGY

This request for pricing will be awarded to the highest scoring bidder in terms of price and points scored for specific goals.

8. RETURNABLE DOCUMENTS

The following documents **must** be returned together with this Request for Pricing:

- 8.1. This request for pricing document must be completed and submitted with pricing or quotation.
- 8.2. Proof of points claimed for specific goal must be submitted in order to qualify for Specific Goals points.
- 8.3. Complete and sign the following Municipal Bidding Documents (MBD).
 - 8.3.1. MBD 3.1 Firm Price(s) Purchase
 - 8.3.2. MBD 4 form (Declaration of Interest).
 - 8.3.3. MBD 6.1 Form (Preference points claim form).
 - 8.3.4. MBD 8 (Declaration of Bidder's Past Supply Chain Management Practices)
 - 8.3.5. MBD 9 (Certificate of Independent Bid Determination).
- 8.4. Latest municipal account/statement not older than three months or valid lease agreement for both the company and all active Directors.
- 8.5. The required documentary evidence for functionality or technical evaluation (where Applicable).
- 8.6. CIDB Certificate

9. GENERAL TERMS AND CONDITIONS

Price(s) quoted must be valid for ninety (90) days from date of your offer.

Price(s) quoted **must** be **firm for the duration of the contract** and must be exclusive of VAT.

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Bidders will be afforded a period of two (2) days to complete the following returnable documents (MBD 4, MBD 8 and MBD 9) in instances where such forms are incomplete.

Bidders who did not submit municipal statement of account or valid lease agreement for both the company and all active directors will be afforded a period of two (2) days to submit. In a case where the company or active Directors have municipal commitments overdue for more than 90 days they will be offered three (3) days to settle their overdue amounts or submit proof of an arrangement agreed to between that municipality and that company or Director.

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SPECIAL CONDITIONS

GENERAL

NB The attention of the tenderer is drawn to the fact that “Conditions of a General Nature and General Conditions of Contract for the Supply and Delivery of Goods and Services” 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 authorized representative.

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

1.4 “WWTW” shall mean the Wastewater Treatment Works.

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 rate of exchange insurances, services, labour, equipment, materials, transportation and be the net price after all discounts and settlement discount have been deducted. The net price/s shall be without any extra or additional charges to JW whatsoever.

2.3 All tenderers shall indicate the applicable Rate of Exchange and shall give a breakdown of their tender prices; stipulating the Imported Content of each Item.

2.4 The base rate of exchange (ROE) to calculate any adjustment will be based on that applicable (as published by the South African Reserve Bank) on closing date of the tender.

e.g: 1 Euro = 15 South African Rands.

2.5 The Tenderer shall at his own cost, within twenty-one (21) days of the date of the written notification of acceptance of his tender, obtain Forward Exchange cover from a bank

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approved by JW to safeguard himself against fluctuations in the rate of exchange of foreign currencies. The Tenderer shall then continue to purchase such Forward Exchange cover on a quarterly (three-monthly) basis, for the duration of the contract. All fluctuations between the tendered prices based on the Rate of Exchange given in clause 2.4 and that of the price based on the Forward Exchange cover rates shall be for the account of the Tenderer.

3.SURETY BOND

3.1 No surety bond shall be required in terms of this contract.

4.COMPLIANCE WITH LEGISLATION AND 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 specification.

5. EMPLOYMENT OF LABOUR:

5.1 The Contractor must ensure that all relevant legislation is complied with in the employment of labour.

5.2 The Contractor shall provide a dedicated technical team to JW on an as and when required basis at no extra cost to JW. This team will be required to monitor the performance of their product as well as technical assistance to JW where required.

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.

6.2 A current certificate of good standing in terms of the Compensation for Occupational Injuries and Diseases Act must be furnished by the Contractor within 21 days of notification of acceptance of the tender, but before any site work is performed including deliveries and offloading.

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

- 6.3 The Contractor shall be liable for any damages or injury of whatever nature caused directly or indirectly as a result of his operations, to any of JW's or Municipal Government or Private Property or to his own vehicles and personnel.
- 7.1 If the Contractor 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:
- 7.2.1 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

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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 or relaxation or suspension, which is so given or made, shall be strictly construed as relating to the matter in respect whereof 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 award of the arbitrator 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 WORK:

- 9.1 The Contractor shall be required to supply, deliver and offload helical gearboxes as per specification in this document.
- 9.1.1 The Tenderer will be required to complete an assessment on the existing equipment to verify the mounting dimensions and interfaces

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requirements before supplying the gearboxes.

- 9.1.2 An Authorised JW Representative will issue the Contractor with a Purchase Order / Purchase Instruction detailing the scope of works that must be undertaken.
- 9.1.3 For site tasks, the Tenderer's personnel will be required to complete a daily time sheet which shall be required to be signed by the JW Representative at the start and end of each day.
- 9.4 After completion of Works, the Contractor is required to submit O&M manuals of the equipment supplied. The O&M manuals contents will be agreed to with JW beforehand.

10. PAYMENT:

- 10.1 Payment on this contract will be as follows:
 - 10.1.1 The Contractor is required to submit a comprehensive invoice. Copies of signed delivery notes and QCP's for all items claimed for shall be attached to the Contractor's Invoice. Failure to provide these documents will result in non-payment of the invoices.
 - 10.1.2 Invoices must be submitted within 7 days from the date of delivery of the repaired equipment to JW.
 - 10.1.3 The contractor shall submit by the invoice for work done to the relevant JW site for which services were rendered for. Payment will be based on the invoices subject to any adjustment by the JW Representative in respect of errors, downtime, penalties or any other claim that 'JW' may have in respect of this contract.
 - 10.1.4 Payment will be made within approximately 30 days from the Regional Maintenance Manager approving the invoice.
 - 10.1.5 Invoices for payment must be submitted under the contractor's name.

11. WARRANTY:

- 11.1 The provisions of this contract shall be subject to the warranties that apply to new equipment supplied by the

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contractor. Therefore, if the rectification of a defect in these assets or the replacement of a part is covered by warranty, such rectification/replacement shall be done at no cost to JW.

- 11.2 The warranty period referred herein clause 11.1 above, will be for a period of at least twelve (12) months from the time that the equipment has been delivered to JW's site and accepted by JW in a form of a QCP.

12. REPLACEMENT OF EQUIPMENT:

- 12.1 In the event that any machinery supplied or deployed by the Contractor becomes defective or unserviceable while under the warranty, the Contractor shall, at its own cost, replace such faulty machinery within three (3) days of notification or within a period agreed to between the Contractor and JW for items with longer lead times. The replacement machinery shall be of the same type, capacity, and technical specification, or better, and shall be acceptable to the Employer (JW). A comprehensive technical failure report shall be compiled by the Contractor and sent to JW within ten (10) working days.

13. DURATION:

- 13.1 The tenure of the contract shall be with effect from the date of signing the contract for a period of six (6) months.

14. QUANTITIES:

- 14.1 The required quantities are given in the BoQ. However, the quantities are all re-measurable and not fixed and may be decreased or increased by JW as per the needs at the time of implementation.

15. DAMAGED GOODS

- 15.1 Any stock items ordered, which in the opinion of JW are deemed to be damaged, whether in transit, offloading or stacking, will be the total responsibility of the Contractor and will not be accepted on site.

16. PLACE AND TIME OF DELIVERIES:

- 16.1 Delivery shall be made to any of the WWTW operated by JW and during normal working hours, Monday to Friday 07:30 hours to 15:30 hours.
- 16.2 The delivery and offloading of the gearboxes must be done at the locations prescribed below, to the satisfaction of Johannesburg Water (JW):

Northern Works: Situated 35 km north of Johannesburg on Provincial Road P79-1 from Johannesburg to Hartebeespoort Dam.

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**17. TENDER
VALIDITY:**

17.1 The Tender shall be valid for a period of 90 days from the date of closing of Tenders.

**18. ADJUDICATION
OF TENDERS:**

18.1 The highest, lowest or any tender will not necessarily be accepted by JW.
JW reserves the right to adjudicate the Tender to JW's best interest and it is not necessarily intended to award the Contract to only one Contractor. The scope of may be split between Contractors.

**19. ACCEPTANCE
OF TENDER:**

19.1 A valid and binding contract shall be concluded at the time that the Contractor signs an official Contract Document at the offices of JW after the Contractor is in possession of the letter of acceptance.

**20. PENALTIES
FOR DEFECTIVE
QUALITY:**

20.1 Should the quality of work, performance requirement, or acceptance criterion be falling outside the tolerances specified in the approved scope of work, specifications, or contractual requirements, Johannesburg Water (JW) reserves the right to impose penalties as follows:

The invoiced amount for the order, or the affected portion of the works in which the substandard quality was identified, shall be reduced by twenty-five percent (25%), exclusive of VAT.

**21. PENALTIES
FOR DELIVERIES**

21.1 If the Contractor fails to deliver the required full scope by the due date, a penalty of 1 (one) per cent of the total current order value of the contract for each day's delay in delivery of the scope shall be applied.

21.2 No liability in terms of Clause 21.1 shall attach to the Contractor if he shall prove to the satisfaction of the Regional Maintenance Manager \ Duly their authorised representative that the delivery has been delayed or become impossible due to fire, war, riot, strikes, act of God, lockout, accident or other unforeseen occurrence or circumstances beyond the Contractor's control, provided, however, that in all cases the Contractor has notified Johannesburg Water in writing within 24 (twenty-four) hours

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of it first coming to the Contractor's notice, that delivery will be delayed or become impossible for the abovementioned reasons.

21.3 Due to the nature of JW's license conditions for operating the various JW Wastewater Treatment works, should the Contractor supply JW with poor quality products or should the product supplied fail to comply with the JW technical specifications during the tenure of the contract, JW may immediately terminate the contract.

21.4 Where the contract is terminated as referred to herein clause 21.3 above, JW may request the services of the alternative recommended tenderer.

22. ADDITIONAL INFORMATION

22.1 Any additional information may be obtained from Thabiso Thabeng on 011 510 2602 or email thabiso.thabeng@jwater.co.za

23. NOTICE

23.1 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: -

23.1.1 Sent by prepaid registered post (by airmail if appropriate) in an envelope correctly addressed to it at an address chosen as its *domicilium 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

23.1.2 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

23.1.3 Sent by telefax to its chosen telefax number stipulated in 16.1, in which event such notice shall be deemed to have been received on the date of dispatch (unless the contrary is proved).

23.2 notwithstanding anything to the contrary herein contained a written notice or communication actually received by a party shall be adequate written notice or communication to it

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notwithstanding that it was not sent to or delivered at its *domicilium citandi et executandi*.

**PART B
TERMS AND CONDITIONS FOR BIDDING**

1. BID SUBMISSION:

- 1.1. BIDS MUST BE SUBMITTED BY THE STIPULATED TIME . LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION
- 1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR ONLINE**
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

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

3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

- 3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?
 YES NO
- 3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA?
 YES NO

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- 3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?
 YES NO
- 3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?
 YES NO
- 3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?
 YES NO

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

GENERAL CONDITIONS OF CONTRACT (GCC) WILL BE APPLICABLE TO THIS RFP.

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

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:

Mr Dineo Majavu (Chairperson), Mr Ntshavheni Mukwevho (Managing Director and Executive Director),
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City of Johannesburg

Johannesburg Water SOC Ltd

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JOHANNESBURG WATER POPIA PRIVACY STATEMENT

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

1. Privacy Notice applies to:

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

2. Definitions of personal information

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

3. About the Public Entity

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

3.1 The information we collect

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

3.2 How Johannesburg Water use your information

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

3.3 Disclosure of information

We may disclose your personal information to our Shareholder, the City of Johannesburg, and other Government agencies such as National

Directors:

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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.

Directors:

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Tel +27(0) 11 688 1400
Fax +27(0) 11 688 1528

www.johannesburgwater.co.za

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:.....

Directors:

Ms Gugulethu Phakathi (Chairperson), Mr Ntshavheni Mukwevho (Managing Director and Executive Director), Mr Johan Koekemoer (Financial Director and Executive Director), Mr Phetole Modika, Mr Siphamandla Mnyani, Mr Siyabonga Mthembu, Mrs Zandile Meeleso, Mr Pholoso Matjele, Mr Kgaile Mogoye, Mr Molate Mashifane, Ms Pamela Mabece, Mr Lunga Bernard

Ms Kethabile Mabe (Company Secretary),
Johannesburg Water SOC Ltd
Registration Number: 2000/029271/30

**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:



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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.

ACKNOWLEDGEMENT OF BID CONDITIONS

(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.



ACKNOWLEDGEMENT OF BID CONDITIONS



(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.



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ACKNOWLEDGEMENT OF BID CONDITIONS

(V) 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:



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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.

ACKNOWLEDGEMENT OF BID CONDITIONS

- (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 Ntomi 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 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.

ACKNOWLEDGEMENT OF BID CONDITIONS

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.



ACKNOWLEDGEMENT OF BID CONDITIONS

- 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 rations and industry norms. The following rations 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)

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, hareholder²):.....

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.



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DECLARATION OF INTEREST

MBD 4

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

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

Full Name	Identity Number	State Employee Number

.....
Signature

.....
Date

.....
Capacity

.....
Name of Bidder



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DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (VAT INCLUDED)

MBD 5

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)**

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

.....
.....



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MBD 5

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

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;
- 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

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

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 PREFERENTIAL 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)
Business owned by 51% or more- Women.	10	
SMME (EME or QSE) owned by 51% or more - Black People	10	
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 –



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

- (a) disqualify the person from the tendering process;
- (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
- (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
- (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
- (e) forward the matter for criminal prosecution, if deemed necessary.

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

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT 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	<p>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?</p> <p>(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).</p> <p>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.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		
4.2	<p>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)?</p> <p>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.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>



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DECLARATION OF BIDDER'S PAST SUPPLY CHAIN PRACTICES

MBD 8

4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	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 <input type="checkbox"/>	No <input type="checkbox"/>
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 <input type="checkbox"/>	No <input type="checkbox"/>
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

CERTIFICATE OF INDEPENDENT BID DETERMINATION

MBD 9

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.

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Municipality / Municipal Entity)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: _____ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a bid;



CERTIFICATE OF INDEPENDENT BID DETERMINATION

MBD 9

- (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 GOODSTANDING WITH MUNICIPALITY ACCOUNTS

The tenderer is to affix to this page:

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

Note:

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

PROOF OF GOODSTANDING WITH MUNICIPALITY ACCOUNTS

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

a) Municipal Account

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

b) Proof of Trusteeship

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

c) Affidavit by the Director

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

JOHANNESBURG WATER (SOC) Ltd.
BULK WASTEWATER

PARTICULAR SPECIFICATION
M08: MECHANICAL GEARBOXES



Johannesburg Water (SOC) Ltd.
PO Box 61542
Marshalltown
2107

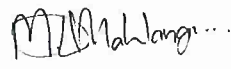


DOCUMENT CONTROL SHEET

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DOCUMENT APPROVAL

ACTION	FUNCTION	NAME	DATE	SIGNATURE
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Reviewed	Project Manager (Hatch)	Johan Prinsloo, Pr Eng.	01.06.2022	
Approved	JW Best Practice Manager	Rendani Davhana	13/06/2022	

RECORD OF REVISIONS

Date	Revision	Author	Comments
2021-10-11	5	J Prinsloo	Detailed Review
2013-10-23	4	J Ritchie	Minor updates and re-issued
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2009-05-12	1		Review of Mechanical / Electrical and Control / Instrumentation Standards, plus New Design

PARTICULAR SPECIFICATION: M08: MECHANICAL GEARBOXES

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M08.1 SCOPE

This specification covers the detailed design parameters, manufacture, supply, off-loading installation, test and commissioning of complete Gearboxes. The Specification shall be read in conjunction with the Project Specification and other relevant Particular Specifications.

M08.2 INTERPRETATIONS

This specification shall be interpreted as follows:

- For the Employer design components, it shall be regarded as a specification.
- For the Contractor design components obligations, it shall be regarded as an Employer's requirements.

M08.2.1 Definitions

For the purpose of this Specification the following definitions are used:

- a) "**Manufacture**" includes, as applicable, the purchase of materials or goods, fabrication and assembly, any specified corrosion protection measures and any off-site inspection or testing of materials or parts.
- b) "**Supply**" includes, as applicable, the purchase of materials or goods, manufacture and fabrication, any specified corrosion protection measures and all required off-site inspection or testing.
- c) "**Installation**" includes, as applicable, all handling and transport from storage, erection and aligning of Works.
- d) "**Factory Acceptance Test (FAT)**" shall refer to all tests done on Plant or Plant items at the factory to ensure its functionality

M08.2.2 Abbreviations

In this Specification the following abbreviations will apply: -

°C	: Temperature in degrees Celsius
A	: Current
AC	: Alternating Current
AGMA	: American Gear Manufactures Association
ANSI	: American National Standards Institute
API	: American Petroleum Institute
ASCE	: American Society of Civil Engineers
ASME	: American Society of Mechanical Engineers
ASTM	: American Society for Testing and Materials
BFP	: Belt Filter Press
BS	: British Standards Institution
BSPT	: British Standard pipe thread
CAD	: Computer Aided Drawing
CAM	: Computer Aided Manufacturing
CIP	: Cleaning in Place
COC	: Certificate of Conformance
D	: Diameter
DB	: Air Dry Bulb temperature
dB(A)	: Sound pressure level, "A" weighed in decibels
DCS	: Distributed Control System
DFT	: Dry Film Thickness

DIN	: Deutsch Industry Normen
DN	: Nominal diameter
DO	: Dissolved Oxygen
DP	: Differential Pressure
Eff.	: Filter efficiency in %
EPDM	: Ethylene Propylène Diène Monomer
ERW	: Electrical resistance weld
ETP	: Effluent Treatment Plant
FA	: Flange adaptor
FAT	: Factory Acceptance Tests
FBE	: Flanged both ends
FOE	: Flanged one end
FW	: Field weld
HDPE	: High Density Polyethylene
ID	: Inside diameter
ISO	: International Organisation for Standardization
JW	: Johannesburg Water
ℓ/s	: Flow in litres per second
LV	: Low Voltage
m	: Distance in metre
m.a.s.l	: Metres above (mean) sea level
m/s	: Air speed in metres per second
MCC	: Motor Control Centre
mm	: Dimension in millimetres
MPVC	: Modified Polyvinyl Chloride Pipes
MV	: Medium Voltage
N+1	: N units in operation + 1 installed spare
Nm ³ /hr	: Normal cubic meters per hour
O&M	: Operation and Maintenance
OD	: Outside diameter
OHS	: Occupational Health and Safety
Pa	: Pressure in Pascals
PBE	: Plain both ends
PE	: Plain end
PN	: Nominal pressure (Rating)
PPE	: Personal Protective Equipment
PQP	: Project Quality Plan
PSV	: Pressure Safety Valve
QCP	: Quality Control Panel
RFA	: Restrained flange adaptor
rpm	: Rotational speed in revolutions per minute
SAECC	: South African Electrolytic Corrosion Committee
SANS	: South African National Standards
SAT	: Site Acceptance Tests
SAW	: Submerged arc weld
SCADA	: Supervisory Control and Data Acquisition
SIS	: Swedish Institute of Standards
SOC	: Slip-on coupling
SS	: Soft Starters
SS	: Soft Starters
SS	: Stainless Steel
SST	: Secondary Settling Tank

STP	: Standard Temperature and Pressure (i.e. T = 20°C, P = 101, 3 kPa).
t	: Wall thickness of pipes
TDS	: Total Dissolved Solids
uPVC	: Unplasticised Polyvinyl Chloride
VSD	: Variable Speed Drive
WB	: Air Wet Bulb temperature
WB	: Air Wet Bulb temperature
WP (B)	: Weld preparation (Butt)

M08.2.3 Standards

All design standards for the mechanical gearboxes shall be subject to the latest amendments and editions of the following standard specifications: -

PD 5304:2014	: Guidance on safe use of machinery
SANS9606-1: 1994	: Testing of welders, where applicable to the type of welding required
BS ISO1312-1:2018	: Rolling bearings. Accessories for sleeve type linear ball bearings. Boundary dimensions, geometrical product specifications (GPS) and tolerances for series 1 and 3
SANS 10162-4	: Structural use of Steel Part 4: The design of cold-formed stainless steel structural
SANS 15614-1	: Specification and qualification of welding procedures for metallic materials - Welding procedure test Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys
SANS 10064	: The preparation of steel surfaces for coating
SANS 10111-2-1	: Engineering Drawing Part 1: General principles Engineering Drawing Part 2: Geometric Tolerancing Section 1
SANS 10341	: Installation and maintenance of bearings – General guidelines
SANS 1700-5-9	: Fasteners Part 5: General requirements & material properties Section 8: Corrosion resistant stainless steel fasteners-Bolts, Screws & Studs
SANS 1700-5-10	: Fasteners Part 5: General requirements & material properties Section 8: Corrosion resistant stainless steel fasteners-Nuts
ISO 281	: Rolling bearings -- Dynamic load ratings and rating life
BS 4999-141	: General requirements for rotating electrical machines. Specification for standard dimensions
SIS 05 59 00	: Pictorial Surface Preparation Standards for Painting Steel Surface

M08.2.4 Other Particular Specifications

This specification must be read in conjunction with the following specifications: -

- G01: Particular Specification for Colour Codes
- G02: Particular Specification for Corrosion Protection
- M01: Particular Specification for Screening Equipment

M02: Particular Specification for Degritter Equipment
M03: Particular Specification for Primary Tanks
M05: Particular Specification for Sludge and Wastewater Mixing Equipment
M05: Particular Specification for Surface Aerator Equipment
M09: Particular Specification for Archimedean Screw Pumps
M10: Particular Specification for Secondary Clarifier Tanks
M15: Particular Specification for Filter Belt Press Equipment
M16: Particular Specification for Conveyor Equipment
M17: Particular Specification for Actuators
M20: Particular Specification for Valves
M34: Particular Specification for Sluice Gates, Adjustable Weirs
M36: Particular Specification for Diffused Aeration Equipment
Volume 1: Automation and Control Design Standards SCADA
Volume 6: Automation and Control Design Standards Cabling
Volume 8: Automation and Control Design Standards Flow Measurement
Volume 9: Automation and Control Design Standards Level Measurement
Volume 11: Automation and Control Design Standards Temperature Measurement
Volume 23: Automation and Control Design Standards Pressure Measurement

M08.3

GENERAL DESIGN PARAMETERS

The gearbox or speed reducer equipment shall be designed such that the following requirements are met: -

- To ensure reasonable standards of engineering in design, materials selection and construction processes: -
- To facilitate manufacture, inspection, installation, maintenance, cleaning and repairs;
- To ensure safe and satisfactory operation for an acceptable life expectation of 15 years under the ambient conditions prevailing at the Site;
- The offered equipment shall be support in forms of spares by the original equipment manufacturer for at least 15 years in alignment with the specified life expectation of 15 years from project installation,
- To prevent undue stresses being produced by expansion due to temperature changes;
- To keep maintenance costs to a minimum that represent the value for money in both the initial purchase and subsequent running costs;
- To facilitate inter-changeability of units and/or sub-parts throughout the Contract works with regard to new equipment and equipment and/or sub-parts currently being used on the existing JW Wastewater Treatment Works;
- To operate without undue vibration and excessive noise. Maximum of 75dBA measured at 1 metre from operating equipment;
- To comply with the legal requirements in respect of safety such as the Occupational Health & Safety Act, 1993 and Regulations as well as the prevention of water and air pollution;
- To satisfy any specific requirement contained in the latest editions of the published statutory codes and legislation;

- To be suitable for operation 365 days per year, 24 hours per day under specified design conditions; and
- The minimum availability of the equipment shall be 99 %.

M08.4 SPECIFIC DESIGN PARAMETERS

The Tenderer shall submit with their Tender a catalogue of the make of gearbox offered and indicate how the selection of gearboxes was made.

Unless otherwise stated, the gearboxes shall be directly mounted to the motor. The gears shall be helical gears which are used in applications with high speeds, large power transmission and low noise levels.

Gear drives shall be sized to ensure that the running load peak does not exceed the endurance limits of the components.

Gearboxes shall have an efficiency of not less than 96% on two stage reduction and 95% on three stage reduction.

Simple cooling may be by convection from the gearbox casings but without assistance from cooling fins or fans. Adequate other cooling means shall be provided as applicable. The exterior of the gearbox shall be free from dust or moisture traps. Access for inspection purposes shall be allowed for in the design of the gearbox casing. Maintenance free oil lock seals on the high speed shafts shall be a standard design feature.

The tenderer shall provide with his tender all information on oil circulation for gearboxes that incorporate the use of oil circulating pump.

A stainless-steel ball valve and extension drainpipe and plug shall be provided to facilitate oil changes by the maintenance staff. The termination of this drain shall be accessible from the operating platform. The drain provision shall be a rigid design with due consideration to handling, installation and maintenance activities. The baseplate shall be design such that the driving shaft is accessible for inspection, while at the same time allow access to the drainage pipe, without decommissioning and dismantling the gearbox from the transmission assembly.

Where the lubrication system requires the use of an oil pump then the circulation system will be fitted with an oil flow detection system/ device such as an oil flow switch in order to ensure gear protection when operational by detecting any no flow or low flow conditions which shall further be monitored on the works SCADA system. The oil flow detection system shall be capable of switching off the drive unit in the least time as recommended by the original gearbox Manufacturer.

The bearing span shall be suitably selected for vertical gearbox application and shall promote shaft support for the intended application. Rigid lateral load distribution shall be by means of a standardized pinioned arrangement reducing noise and vibration.

A rigid half coupling shall be shrunk onto the output shaft of the gearbox and shall be secured by an additional keep plate and bolted connection in a recognised manner.

Substantial eye bolts shall be provided for all reasonable lifting purposes.

The gearboxes shall carry the manufacturer's identification details together with the rated shaft speeds, rated shaft torque, output power and maximum ambient operating temperature.

The gearboxes shall conform to the relevant British Standards and AGMA ratings with respect to the following requirements:

- (a) The design ambient temperature shall be 45°C unless otherwise specified in the project specification.
- (b) The noise at 100% of the full output power and 45°C ambient shall not exceed 75 dBA as measured 1 m in distance from the equipment.
- (c) The gearing shall give double the life of the bearings when subjected to similar loadings.

The design of the gearbox shall be such that the following calculation shall be adhered to: -

$$\frac{\text{Actual Radial Load}}{\text{Permissible Actual Radial}} + \frac{\text{Actual Axial Load}}{\text{Permissible Axial Load}} \text{ shall be } \leq 1,0$$

Calculations shall be submitted. Failure to do so may render the Tender invalid.

M08.4.1 Gears

The gears shall be high efficiency case hardened helical gears and rated in accordance with the AGMA Code of Practice 420.04 for continuous operation.

Semi-hardened and subsequently machined gears will not be accepted.

M08.4.2 Service Factor

The minimum service factors indicated in the table below shall be based upon the installed power unless otherwise specified in the project specification: -

Process Units	Service Factor
Rotating Bridges: Sedimentation & Clarifier Tanks	1.5
Rotating Scraper System: WAS Thickeners, Primary Sedimentation & Fermentation Tanks	1.75
Aerators	2.25
Mixers	2
Screw & Plunger Pumps	2.25
Centrifugal and Positive displacement Pumps	2
Turbo Centrifugal Blowers	2.25
Dosing Pumps	2
Mechanical Screens	2
General speed reducing applications	2

M08.4.3 Bearings

Roller bearings shall be used throughout. Taper roller bearings shall be used to sustain radial and thrust loads. Bearings shall be designed for a design life in excess of the indicated hours in the table below, in accordance with ISO.281. Bearings for the output shaft shall be designed to withstand bending, up thrust, down pull and radial loads imposed by the equipment being driven. Tenderers shall indicate what

these forces are and how these shall be accommodated.

The Contractor shall ensure the lubricant used for the initial filling and specified in the maintenance manual, is adequate for prolonged operation in ambient temperatures of up to 45°C without overheating.

Process Units	Design Life	Operation
Rotating Bridges: Sedimentation & Clarifier Tanks	L10 for 100 000	Continuous
Rotating Scraper System: WAS Thickeners, Primary Sedimentation & Fermentation Tanks	L10 for 100 000	Continuous
Aerators	L10for 100 000	Continuous
Mixers	L10 for 100 000	Continuous
Screw & Plunger Pumps	L10 for 100 000	Continuous
Centrifugal and Positive displacement Pumps	L10 for 100 000	Continuous
Dosing Pumps	L10 for 100 000	Continuous
Mechanical Screens	L10 for 100 000	Continuous

M08.4.4 Lubrication

The gearboxes shall be constructed with a dry well for the low speed shaft bearing to avoid complete drainage of oil in the event of an oil seal failure. Provision to monitor the oil level must be provided. The bearing shall be grease lubricated with the greasing point easily accessible, where greasing point are not accessible due to gear orientation / auxiliaries attached to the gearbox, stainless steel extension pipes shall be used to ensure that points are accessible, the position of the extended grease lubrication points shall be subject to approval by the Employer's Agent / Employer's Representative. A stainless-steel ball valve and extension drainpipe and plug shall be provided to facilitate oil changes by the maintenance staff. The termination of this drain shall be accessible from the operating platform.

M08.4.5 Gearbox / Motor Coupling

The coupling shall be fully rated to transmit the motor full load power and tested to prove static and dynamic balance. The coupling shall accommodate small axial, lateral and angular misalignments without imposing undue stresses on the shaft and bearings. All coupling shall be suitable for standard motor IEC dimensioning (universal gearbox connection). The coupling shall be enclosed in a stationery solid-plate guard to the Employer's Agent / Employer's Representative satisfaction.

M08.4.6 V-belt

V-belts shall be designed to withstand the high tension and high-power drives, shall be long wearing, tough and trouble free. The V-belt cover shall be oil, heat and ozone resistant in order to protect the inner components. The compression section shall provide excellent gripping action and a high coefficient of friction but shall also allow an initial start-up clutching action in order to eliminate power spikes and excessive bearing loading. The moulded cogs shall provide optimum flexibility with minimal build-up of heat.

M08.4.7 Flexible Couplings

Flexible couplings consist of two types: gear type and multiple disc/diaphragm type. The gear type uses gear teeth to make them flexible and is either grease lubricated,

or oil lubricated depending upon their size. Diaphragm couplings do not require any form of lubrication and the flexibility is created by a series of multiple discs or a diaphragm made of spring steel and flexes as the shaft rotate.

Misalignment of the coupling is to be prevented by proper alignment of the coupling by means of a taper gauge or set of feeler gauges and a straight edge or dial indicator. Two types of misalignments are encountered by flexible couplings: Angular misalignment and parallel misalignment. Any adjustment to correct the misalignment in one direction may affect the other direction and both the angular and parallel alignment shall be checked after each adjustment.

A periodic check of the coupling alignment shall be performed as recommended by the Original Equipment Manufacturer during commissioning, testing and trial operation as specified in the project specification.

M08.4.8 Housing

The gearbox shall be manufactured of high strength cast iron which enables the gearbox to be used in harsh environments. The gearbox housing design shall incorporate a breathing plug and means of checking oil level.

All gearbox with a mass more than 25kg shall have lifting hooks or eyes integrally cast on the housing. All gearbox with a mass greater than 100 kg shall either have two removable eye bolts of the required strength securely attached to the valve body or lifting eyes forming an integral part of the valve body to facilitate easy handling during transport and installation

The breather plug shall be designed to effectively prevent pressure build-up inside the gearbox and also prevent dust and moisture ingress. Breather unit allowing continued oil spillage due to the overfilling of the gearbox shall not be accepted.

Oil level sight glasses (fully protected and UV resistant) shall be provided with levels marked for running and filling minimum and maximum positions respectively. These shall be arranged for easy viewing and shall take into account the angle of the gearbox mounting to ensure that the correct oil level in the gearbox is always visible. The filler cap and drain plug must be easily accessible without the need to remove any other part of the gearbox or connected equipment such as motor and belt drive covers & pulleys to get access to it. All gearboxes with motor of 110kW and above shall be provided with oil level protection. The design and installation configuration of the level protection shall be submitted to the Employer's Agent or Representative for review and acceptance.

M08.4.9 Shaft

The Input and output shafts shall be of sufficient dimension in order to avoid excessive torsional or bending stresses and deflection. The driven equipment (e.g. impeller) shall be secured to the shaft in such a way that it can be readily removed without any damage to the equipment or the shaft.

The shafts shall be protected by replaceable sleeves manufactured from non-corrosive material. The shaft shall be manufactured from stainless steel.

M08.5 **FASTENERS**

Nuts, bolts, studs and washers for incorporation in the Works shall conform to the requirement of the appropriate approved standard.

Bolts shall be of such standard length that a minimum of two to four complete threads

shall protrude beyond the nut when in the fully tightened condition. The same shall apply to stud units. Mating surfaces shall be adequately protected against corrosion whilst awaiting assembly of the faces and bolting, all to the approval of the Employer's Agent or Employer's Representative.

All high tensile bolts and studs used in the Works shall bear the letter HTS stamped or engraved on the end.

Washers shall be provided under all bolt heads and nuts. The threads of bolts and studs shall be lubricated before assembly with a lubricating substance subject to the approval of the Employer's Agent or Employer's Representative. Washers, locking devices and anti-vibration arrangements shall be provided where necessary and shall be subject to the approval of the Employer's Agent or Employer's Representative.

Stainless steel bolts, nuts and washers shall be in accordance with SANS 1700 A70, and the grade of stainless steel shall be subject to the approval of the Employer's Agent or Employer's Representative. Hot Dip Galvanised fasteners shall comply with the requirements of SANS 121. High strength friction grip (HSFG) bolts, nuts, load indicator washers and washers shall be subject to the approval of the Employer's Agent or Employer's Representative and shall be hot dip galvanised. High strength friction grip bolts shall be tightened in accordance with the manufacturer's recommendations and the tension shall be re-checked not less than 3 hours after first tightening and then the bolts shall be retightened to the initial load all to the approval of the Employer's Agent or Employer's Representative.

All stainless steel holding down bolts, nuts and washers in contact with a dissimilar material shall be of stainless steel and provided with isolating washers and sleeves (insulating kit) where appropriate to prevent galvanic corrosion, unless otherwise specified in the project specification. The bed plates and machinery shall be provided with means of adjustment for line and level to maintain the items of Plant in correct alignment during grouting. Packers used for adjustment shall be of non-corrosive material to the approval of the Employer's Agent or Employer's Representative. Holding down bolts which are to be tightened after grouting shall be provided with bond breakers where they pass through the grout.

Where there is a risk of corrosion, bolts and studs shall be designed so that the maximum stress in the bolt and nut does not exceed half of the yield stress of the bolt material under all conditions. The shear value of high strength friction grip bolts shall be reduced in proportion to the reduced tensile stress compared with the normal design stress.

No tapped holes in mild steel shall be allowed. Where tapped holes are unavoidable, this shall be done in stainless steel.

Where bolts and nuts are required to be removed and re-assembled on a regular basis, these shall be of stainless steel.

Metal coatings and other treatments applied to fasteners shall be carried out in a manner which will not cause hydrogen embrittlement of the parent material.

M08.6 MATERIAL OF CONSTRUCTION

The equipment unit components shall be constructed using the critical material specified in the table below:

<u>COMPONENT</u>	<u>MATERIAL</u>
Gears	High cast iron to BS 1542 Class 220 or an equivalent standard.
Pinions	AGMA 390.02 class 12.
Housing	Epoxy coated high strength cast iron
Input and output shaft	Stainless steel or similar approved
Oil drainpipe (external to the housing)	304L stainless steel
Oil level sight glass	UV and chemical resistant glass
Base Plate	Hot dip galvanized mild steel
Fasteners	316 stainless steel
All other accessories shall be of the manufacturer's standard, industry approved, and corrosion protected.	

M08.7 RECOMMENDED SPARES AND SPECIAL TOOLS

The Tenderer must submit on the appropriate schedule a priced list of spare parts which it is recommended should be kept by Johannesburg Water for maintenance of the plant. Spares which the Management decides to order must be manufactured simultaneously with the rest of the equipment and be subject to the same tests for dimensions, tolerances, strength, etc. All spares must be packed separately, and the cases appropriately marked. All spares must be new and unused.

Tenderers must submit a provisional price (if requested in the Bill of Quantities) for a complete set of special spanners, keys and tools required for the operation, adjustment and overhaul of the plant supplied. All spanners, keys and tools shall be new and unused.

M08.8 GUARANTEE OF PERFORMANCE

The Contractor shall guarantee the output and efficiency of all equipment, which guarantees shall be binding under the Contract. Where guaranteed performance is specified, certified test curves shall be drawn from the test data obtained from the purchased equipment and shall include efficiency (%), power consumption (kW), speed in rpm and speed/torque (rpm/kNm).

The Defects liability period shall extend over a period of 12 months calculated from the Completion as defined in the Contract Document. However, should a portion or all of the plant and equipment fail / or require rectification during this period, the Employer's Agent / Employer's Representative reserves the right to extend the Defects Liability Period in respect of such portion or all of the plant and equipment for a further period of not more than 12 months calculated from the date of Commissioning of such plant and equipment after rectification.

M08.9 CORROSION PROTECTION

Refer to Particular Specification G02: Corrosion Protection

M08.10 COLOUR CODES

The standard final colour codes for equipment supplied under this Contract shall be in accordance with Particular Specification G01: Colour Codes.

M08.11 QUALITY MANAGEMENT (QM) AND QUALITY ASSURANCE

M08.11.1 General

QM shall be categorised as 'critical and major' for this section of the Project.

The Contractor's Quality Management System shall be in accordance with industry standard.

The Contractor shall implement a comprehensive Quality Control programme and accept full responsibility for the quality of his workmanship and material used, irrespective of any quality surveillance that may be carried out by the Employer's Agent / Employer' Representative.

In keeping with the basic principles Quality Management System, the Contractor and Subcontractor(s) shall:

- Be responsible for compliance with all the requirements of the Specification in every respect;
- Carry out all inspections and tests called for in the Specification in the presence of the Employer's Agent / Employer' Representative. The cost of these inspections and tests shall be carried out at the sole expense and under the responsibility of the Contractor;
- Draft a Quality Control Plan for manufacture for approval by the Employer's Agent / Employer' Representative and comply with the approved Quality Plan during manufacturing process of all components indicating all the intended stages of testing during manufacture, cleaning and preparation for application as well as necessary hold points for independent quality surveillance;
- Draft a Quality Control Plan for corrosion protection for approval by the Employer's Agent / Employer' Representative and comply with the approved Quality Plan during corrosion protection process of all components indicating all the intended stages of testing during corrosion protection as well as necessary hold points for independent quality surveillance;
- Draft a Quality Control Plan for installation for approval by the Employer's Agent / Employer' Representative and comply with the approved Quality Plan during installation process of all components indicating all the intended stages of testing during installation as well as necessary hold points for independent quality surveillance; and
- Draft Quality Control Plans for any other construction process as may be required for approval by the Employer's Agent / Employer' Representative and comply with the approved Quality Plan during the execution of the process indicating all the intended stages of testing as well as necessary hold points for independent quality surveillance.

The Quality Control Plans will not be compromised once approved and shall be adhered to at all times. The Contractor shall operate approved quality assurance and control programmes in the Supplier's and Manufacturer's premises and on Site in order to verify that the Works comply with this Section. Prior to the commencement of any work, the Contractor shall prepare and submit to the Employer's Agent / Employer' Representative for approval, quality plans describing the procedures,

standards of acceptance, hold point inspections, routine and type tests to be carried out for each component both during manufacture and on Site.

Although it shall remain the responsibility of the Contractor to ensure that the Works conform to the Specification, the Employer's Agent / Employer' Representative shall be entitled to inspect, examine and test the materials, workmanship and performance of every item of Plant. The Employer's Agent / Employer' Representative will notify the Contractor which tests or inspections, detailed in the quality plan, he will attend.

Approval by the Employer's Agent / Employer' Representative of materials, workmanship, etc., during manufacture or at Site will not relieve the Contractor of his obligations to comply with all the requirements of the Contract.

All instruments and appliances necessary for the complete inspection and testing shall be provided by the Contractor. Calibration certificates for instruments shall be produced to the Engineer for review prior to the commencement of any tests and, if required by the Employer's Agent / Employer' Representative, instruments shall be re-calibrated at the Contractor's own account before commencement of the tests.

In general, Quality Management System should be bench marked in accordance with the relevant ISO 9000 requirements.

M08.11.2 Material Tests

The Manufacturer's material test data and the Contractor's quality records shall be subject to examination by the Employer's Agent / Employer' Representative. Reasonable samples of the cleaning and coating materials to be used may be taken for testing.

Rejection of the samples shall place a hold on the use of the materials of the same batch number and any components that have already been cleaned/coated with rejected material shall be re-cleaned and coated.

M08.11.3 Type of Tests

Where the Contractor offers Plant selected from the standard range of products from a specialist manufacturer, type tests in accordance with a recognised international standard are required on one unit of each type to prove satisfactory design and quality of manufacture of that Plant.

The Employer's Agent / Employer' Representative may waive the requirement for type tests if he is satisfied that tests have previously been performed on identical Plant. The Contractor shall submit the data and results with his Quality Plan in sufficient time to allow for repeat tests without delaying the Works should the Employer's Agent / Employer' Representative not approve the evidence submitted.

M08.11.4 Quality Control Records

Accurate and detailed quality control records shall be kept by the Contractor for all stages of the work.

All the quality control records shall be available for inspection by the Employer's Agent / Employer' Representative.

The collection of record documents for each item of Plant shall be collated and bound in a logical manner and retained by the Contractor as proof of quality achieved. These shall be available on demand for quality control and part payment releases.

The records shall be neatly filed and handed over to the Employer's Agent /

Employer' Representative. on completion of the work in the form of a Data Pack together with all relevant material and test certificates. Only after the Data Pack has been approved and signed off by the Employer's Agent / Employer' Representative. shall Plant be dispatched to Site.

M08.11.5 Substandard Quality Control

All material, certification and records of the Contractor shall be subject to examination by the Employer's Agent / Employer' Representative.

This shall include the checking and testing of the Plant at the Works and on Site, installation and pre-acceptance testing. If any deviation is found, additional testing and quality surveillance shall be carried out at the Contractor's own costs until approved by the Employer's Agent / Employer' Representative.

If the additional testing confirms inaccurate quality control by the Contractor on an item of Plant, all work shall be stopped on that item of Plant and shall only proceed after remedial action in the quality control system has been implemented.

M08.11.6 Access for Surveillance

For the purpose of carrying out quality surveillance, the Employer's Agent / Employer' Representative shall be granted access to any part of the Contractor's premises relevant to the work being carried out, at any reasonable time.

M08.11.7 Manufacture

Tenderers shall submit with their tender a detailed Project Quality Plan, stating how they control the flow of paperwork from commencement of the Project through final handover to the Client, a sample of their Quality Control Plan, (QCP) and Project Quality Plan, (PQP) both during the course of the Project, manufacture and finally, installation.

The successful Tenderer shall submit a QCP covering all aspects of the manufacturing process, indicating held points to allow the Employer's Agent or Representative opportunities to evaluate the equipment for compliance to this specification.

All items of equipment shall be subject to inspections by the Employer's Agent or Representative during design and manufacture per these QCP's.

In general, it is anticipated that this Project shall be in accordance with the relevant ISO 9000 requirements.

M08.11.8 Installation

The successful Tenderer shall submit a QCP covering all aspects of the installation of each item of equipment to be installed under this Project. The Employer's Agent or Representative shall be afforded every opportunity to certain stages of completion of the installation to ascertain compliance with the Specifications and to witness the Contractor's site activities at the Employer's Agent or Representative's discretion.

M08.12 SYSTEM PERFORMANCE

M08.12.1 Works testing:

All Equipment shall be subject to a Factory Acceptance Test (FAT) by the Manufacturer and witness by Employer's Agent / Employer' Representative at the Manufacturer's premises before despatch. All performance test results shall be made available to the Employer's Agent/ Employer's Representative for verification or when the QCP's require intervention or hold points for inspection.

Gearboxes shall be subject to testing using the selected project motors for at least 12 hours before dispatch to site. All results shall be available for inspection.

Equipment may only be despatch from factory once all relevant "hold points" on QCP's have been signed off by the Employer's Agent / Employer' Representative and/or the Approved Inspection Authority (AIA) in accordance with approved quality control plan.

M08.12.2 Before commissioning

- Check for correct oil level in gearboxes
- Ensure all HD bolts are torqued down correctly.
- Ensure the output shaft is rotating in the correct direction.
- The alignment and levelling of each assembly shall be checked, and the results shall be available for inspection by the Employer's Agent / Employer' Representative.
- The electrical functions and control shall be checked by a responsible inspector prior to attempting to start any motor on this Project.

M08.12.3 During Commissioning

- Ensure all oil pumps. Temperature, level, flow or pressure switches are functional
- Vibration testing and benchmarking.
- Ensure that there no oil leaks or visible damages to the gearbox housing.

M08.13 BEFORE EXPIRY OF THE DEFECTS LIABILITY PERIOD

The Contractor has an obligation to visit the site every quarter to inspect for the correct operation of the installed equipment. A report after each visit shall be submitted in writing within 14 days.

Should the first oil change (based on the original equipment manufacturers recommendation) occurs before the issuing of the certificate of completion of the gearbox equipment to the Employer. The Contractor must carry out the first oil change in each gearbox. The drained oil shall be sieved and inspected for any contamination in the oil. In the event of any unusual contamination, (metal deposits etc) the Contractor, will take the necessary steps, to investigate the cause, and where required to replace and or repair the gearbox (s) at no cost to the employer.

M08.14 EQUIPMENT TRAINING PROCEDURE

Training shall be provided by the Contractor (or specialist equipment suppliers) based on the supplied and approved operation and maintenance (O&M) manuals for all supplied equipment. This training shall be provided to the Operations and Mechanical including other support discipline staff of the Employer along with the Employer's Agent and/or Representatives. The duration of the training period shall be advised by the Contractor and agreed with the Employer's Agent and/or Representatives.

The training structure for the equipment and/or system should include both the theory and practical components of the equipment derived from the O&M manuals.

The preparation of the O&M manuals shall be based on the Johannesburg Water (SOC) Particular specification for Commissioning and Operation.

M08.15 OPERATION AND MAINTENANCE MANUAL SUMMARY

The Contractor shall hand over to the Employer' Agent or Employer's Representative four sets (x2 hard copies and x2 electronic copies on non-locked USB) of the Operation and Maintenance Manual compiled for each installation not later than at the time of commissioning of the installation. These manuals are a prerequisite for final takeover of the plant. A copy of the Operating and Maintenance Manual for each equipment type shall be bound in with the Operating and Maintenance Manual for the project. The manual shall be A4 size and properly bound. Drawings larger than A3 size shall be contained in separate plastic pockets.

The Operation and Maintenance Manual will contain the following:

- Brief description of the plant and installation.
- Concise operating instructions including start-up, operating, shutdown and troubleshooting procedures.
- Routine maintenance instruction this shall include failure mode analysis and preventative strategies.
- Precautionary measures, elementary trouble location, rectifying measures and emergency actions.
- Detailed information on equipment.
- Lists of spare parts including names and addresses of suppliers.
- Schematic Diagram and Drawings
- Risk, Health and Safety Assessment with proposed control measures.

M08.16 DRAWINGS

The drawings included in the Tender Documents are the Employer's Agent or Employer's Representative. 's proposal for the plant layout. Should the Tenderer offer alternative layouts, they shall submit drawings with his Tender in order for it to be evaluated.

Before the Contractor carries out any work, he will submit detailed working drawings to be approved by the Employer's Agent or Employer's Representative. . Approval of these drawings does not relieve the Contractor from his responsibility for the correctness of the drawings.

M08.17 INTERCHANGEABILITY

Where two or more similar types of equipment are required, these units will be identical in all respects.

All similar parts of items supplied will be interchangeable without any additional machining or fitting.

M08.18 MEASUREMENT AND PAYMENT

No separate payment will be made for gearboxes unless otherwise specified in the detail specifications. All direct and indirect costs associated with the gearboxes shall be deemed to be included in the rates tendered for the equipment.

Where separate payment is required for gearboxes and specified as such in the detail specifications, the following payment items shall be applicable:

M08.18.1 General

The following items shall, inter alia, be included in the rates:

- Supply of all design and pre-manufacture documentation and obtaining approval thereof;
- Procurement/manufacture of gearbox equipment with associated items and delivery to Site;
- Installation of gearbox equipment with associated items and testing;
- Services required during period of initial use before handover to the Employer.

Payment under scheduled items shall be made per complete installation as specified, electrical connections, etc and grouting, etc. Measurement and payment will distinguish between supply / delivery; installation and testing; and commissioning and trial operation of the equipment.

M08.18.2 Supply and Delivery to site with Documentation

<u>Item</u>	<u>Unit</u>
Supply and delivery to site with documentation	No

The tendered rates shall include for full compensation of all costs incurred in design, drawings, manufacture, supply, testing at the manufacturers works, inspections, quality control, quality assurance, factory acceptance testing, corrosion protection, packing, delivery to site including transportation costs and offloading on site including any crange requirements. No claims whatsoever for extras will be allowed on the grounds that a necessary piece of equipment or a part thereof is not specifically mentioned. Tender rate shall include any external oil filters, flow and pressure in their offer.

M08.18.3 Installation, Testing and Commissioning of the Gearbox Equipment

<u>Item</u>	<u>Unit</u>
Installation, Testing and Commissioning of the Gearbox Equipment.....	No

The tendered rates shall include for full compensation of all costs incurred in installation, site testing, setting into operation, the supply of O & M manuals, commissioning and maintenance during the warranty period of all equipment specified on Site including the provision of all labour, supervision, instruments, equipment, transport, on-site quality assurance and quality control, inspection and testing (including attendance at tests witnessed by the Employer's Agent / Employer' Representative), materials and Temporary Works necessary to completely install, test and commission and render fully operational gearbox equipment.

The rate shall also include the cost of the installation of all auxiliary equipment not specifically mentioned but obviously required, (e.g. all ancillaries, including all bolts, fastenings and brackets, safety guards and any work or material required for the proper installation of such equipment) to enable the equipment to be installed and/or function safely and correctly as specified until taken over by the Employer; the putting

into service of the complete installation; remedial work and any other work as specified and necessary.

The rate shall also include for all preliminary testing and the provision of testing equipment therefore including all disruptions to installation caused by such testing.

Payment will only be effected after full compliance of the equipment items with this Section and associated documentation has been approved by the Employer's Agent / Employer' Representative

The Contractor shall include in the Tendered rate for straining of the gearbox oil after 600 hours of initial operation. The Contractor shall furnish the Employer's Agent / Employer' Representative with a report recording any irregularities when cleaning the sieves after straining.

M08.18.4 **Trial Operations**

<u>Item</u>	<u>Unit</u>
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Trial Operations.....	No
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This specification allows for a number of calendar days within which the system Trial Operation can be completed after completion of commissioning process. The Contractor shall programme and price for providing full technical and operational support during trail operation.

M08.18.5 **Employer's Operator Training**

<u>Item</u>	<u>Unit</u>
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Training	No
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Payment for Training of the Employer's Operational Staff will be made under this Section as set out in project specification or agreed with the Employer's Agent / Employer' Representative. The lump sum shall be inclusive of all costs associated with the training programme and on-site training of personnel.

M08.18.6 **Spares**

<u>Item</u>	<u>Unit</u>
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Spares	No
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The cost of spares, considered to be necessary by the Contractor other than spares required by the Employer, delivered to Site and handed over will be paid as a lump sum. A Spare Part Schedule subject to approval by the Employer's Agent/ Employer's representative shall be submitted before procurement of spares.

The actual lump sum to be paid shall be based on the unit rates priced in the Bill of Quantity for the actual spares ordered and supplied and the Employer is entitled to purchase all, some or none of the items listed. A provisional sum will be allocated in the Bill of Quantity for the complete list of spare parts as listed by the Contractor.

The rate tendered shall provide for the manufacture, supply, delivery to Site and handing over of the spares ordered and shall include permanent packing for long term storage. The spares shall be manufactured at the same time as the installed items.

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PARTICULAR SPECIFICATION

G01 : COLOUR CODING OF EQUIPMENT

Rev	Date	Description	Signature: JW Wastewater Partnership	Signature: Approval from Johannesburg Water
2	2013-10-23	Minor updates and re-issued	J Ritchie	
1	2009-05-12	Review of Mechanical / Electrical and Control / Instrumentation Standards, plus New Design Guidance		

PARTICULAR SPECIFICATION: VOLUME G01 : COLOUR CODING OF EQUIPMENT

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G01.1 SCOPE

This Specification has been adopted by Johannesburg Water to ensure the colour coding of electrical equipment, mechanical plant and pipework located on Johannesburg Water’s Wastewater Treatment Works shall conform to the ruling Occupational Health and Safety Act.

The Specification comprises of **three** parts, namely:

- (a) SANS Code of Practice 10140-3, Identification colour marking – Part 3 : Contents of pipelines: 2003
- (b) A table (Table 1) which supplements SANS 10140-3, above, in order to provide greater detail or clarity on the colour marking of pipelines conveying fluids commonly found on the treatment works
- (c) A table (Table 2) which gives the colours adopted for certain electrical equipment and mechanical plant.

Throughout the Specification the colours used shall match the corresponding colours given in SANS Specification 1091, National Colour Standards for Paint: 2004 (as amended).

Where a colour code is not covered by this Specification, the matter shall be referred in writing to the Divisional Manager: Investment Delivery for ratification.

Table 1 : Colour Coding of Pipework on Johannesburg Water’s Wastewater Treatment Works

Contents of Pipeline	Basic Colour	Colour Coding Indicator	
		Single Band	Second Band
<u>Water, non-drinkable</u>	Brilliant Green		
Cooling water		White	
Final treated effluent		Black	Dark Violet
Recycled effluent		Black	Dark Violet
Air saturated effluent		Black	Aquamarine
Filtrate		Black	
Wash Water		Black	
Scum water		Black	Dark violet
Dewatering Liquors		Black	Dark Violet
Overflow from P.S.T’s		Black	Crimson
Overflow from Clarifier		Black	Dark Violet
D.A.F Underflow		Black	Crimson
Supernatant Liquor		Black	Avocado
Overflow Gravity Thickener		Black	Crimson
Fire Fighting			
Boiler feed		Cornflower	
Hydraulic power		Salmon Pink	-
Poly-electrolyte		Light Grey	-
Raw sewage		Middle Brown	-
Settled sewage		Mid-grey	-
<u>Thickener overflow from:</u>			
Primary sludge		Crimson	-
Activated sludge		Canary Yellow	-
Digested sludge		Maroon	-
DAF liquors		Canary Yellow	Turquoise Blue
Filtrate		Ultramarine	-
Washwater		Black	-
Scum water		Dark Violet	Crimson
Treated effluent		Dark Violet	-
Dewatering liquors		Black	Ultramarine
<u>Acids</u>	Jacaranda		
Ferric chloride		Crimson	
Ferric sulphuric		Artic Blue	

Contents of Pipeline	Basic Colour	Colour Coding Indicator	
		Single Band	Second Band
<u>Alkalis</u> Lime Slurry	Dove Grey		
<u>Gases</u> Sludge gas Steam Nitrogen Hydrogen Methane (digested) Carbon dioxide Chlorine/Hypochloride Oxygen Compressed Air Ventilated Air Vacuum Air Instrument Air	Light Stone Pastel grey Light Stone Light Stone Light Stone Light Stone Canary Yellow White Artic Blue Artic Blue Artic Blue Artic Blue	Jacaranda Aluminium Black Black Turquoise Blue Light Grey	Clad/lagging Light Grey Signal Red
<u>Sludges</u> Anaerobically digested Anaerobically digested: thickened Raw Sludge Lime treated Primary Primary thickened Digester supernatant liquor Activated : mixed liquor Activated : gravity thickened Activated : return sludge Activated : DAF overflow/float Activated : primary Activated : digested Activated : waste Pasteurised	Middle Brown Dark Violet Dark Brown Dark Brown Dark Brown Middle Brown Royal Blue Royal Blue Royal Blue Royal Blue Royal Blue Royal Blue Royal Blue Light Brown	Maroon Maroon Dove grey Crimson Crimson Salmon Pink Canary Yellow Canary Yellow Canary Yellow Canary Yellow Canary Yellow Canary Yellow Canary yellow	Light Grey Dark Violet Middle Brown Turquoise Blue Crimson Maroon
<u>Oil</u> Diesel oil Hydraulic oil Lubricating Transformer	Black Golden brown Golden brown Golden brown	White Salmon Pink Brilliant Green Crimson	
<u>Other Liquids</u> Polyelectrolyte Cooling liquid	Golden Yellow White	Jacaranda	

Notes: This table supplements SANS 10140-3: 2003

All codes are in relation to SANS 1091: 1975

Table 2: Colour Coding of Electrical Equipment and Mechanical Plant

Item	Colour	Remarks	Code to SANS 1091
Electrical panels : (external)	Light Orange	NOSA	B.26
Electrical panels : (external) emergency power on	Signal Red		A.11
Electrical panels : (Internal)	White		G.80
Coupling guards and motor guards	Golden Yellow	SANS 10140-2	B.4
Motor cowls	Light Orange	Historical	B.26
Electrical motors, pumps and compressors	Deep Pastel Green		H.28
Gearboxes	Navy Light Grey	NOSA: See also "Small Gearboxes"	G.35
Blower	Deep Pastel Green	NOSA	H.28
Baseplates	Olive Drab		
Cranes	Golden Yellow		B.4
Valve bodies		See SANS 10104-3, Clause 4.2	
Valve hand-wheels			
Small gearboxes	To be same colour as prime mover		

G01.1.1 Machined Components

All machined components shall be protected by "Tectyl" or similar proprietary coating after manufacture. The coating shall be sufficiently durable to prevent corrosion during storage and installation and shall be removed using the manufacturers recommended solvent after final adjustment of the equipment. Final painting shall be carried out in accordance with the system specified.

G01.1.2 Records

The contractor and sub-contractors shall maintain records of the application environment, dates of applications, conditions of surfaces before preparation, blast profiles, wet and dry film thicknesses, overcoating times, paint types and batch number, method of application, tests and type of instruments used, which shall be incorporated into the Component Quality Plan and be available to the Engineer or his Representative for review and surveillance. Two copies of the completed Component Quality Plan shall be provided within 2 weeks of completion of the corrosion protection system.

G01.2 **MEASUREMENT AND PAYMENT**

For the purpose of this Contract the electro-mechanical items shall be supplied and installed conforming to this specification. The cosmetic painting application shall be included for and the surface preparation, transporting of equipment to and from the applicator shall be included for. No separate measurement item shall be included for the application of these coatings.