



**SUPPLY, DELIVERY, REPLACEMENT OF  
EXISTING GALVANISED STEEL PIPING TO  
PVCu PIPING FOR THE WATER TEST  
FACILITY AND WATER PUMP, TESTING AND  
COMMISSIONING.**

**311 SOLOMON MAHLANGU DRIVE,  
ROSSBURGH.**

**REFERENCE No: OPS\_LOCO\_DBN\_ESR\_SOW\_066**

**DATE OF RELEASE: JUNE 2023**

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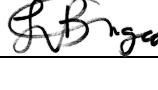
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Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_

## DOCUMENT AUTHORITIES

Department Affected	Facilities and Infrastructure, BT Locomotives
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Signature & Date	 17/10/2023

Signature of Bidder/s: \_\_\_\_\_ Date: \_\_\_\_\_

## 1. INTRODUCTION / SCOPE of Work

#	TASK	REQUIRED
1	Design	
2	Supply	✓
3	Repair	✓
4	Replacement	✓
5	Installation	✓
6	Documentation	✓
7	Testing	✓
8	Training	
9	Commissioning	✓

#	ITEM	REQUIRED
1	Supply, delivery, replacement of existing galvanised steel piping to PVCu piping for the water test facility and water pump, testing and commissioning.	✓
2	Submission of project completion documents.	✓

## 2. SITE INSPECTION

- 2.1 All prospective contractors shall be required to undertake a compulsory site inspection to fully acquaint themselves with all aspects involved.
- 2.2 Arrangements to visit the site and confirmation of the date and time of the site inspection shall be made with Transnet Engineering Contract Manager.
- 2.3 The site inspection certificate shall be completed and countersigned by the Contract Manager on the day of the visit and must be submitted with the tender documents.

## 3. INFORMATION REQUIRED

- 3.1 Offers will not be considered unless full particulars and sufficient literature are provided at the tendering stage to enable Transnet Engineering Technical Officers the opportunity to assess each technical offer properly.
- 3.2 Prospective Contractors will complete the relevant questionnaire in full and must indicate whether their offer complies with each item of the specification
- 3.3 Should there be insufficient space for furnishing full details; contractors shall provide the additional details in their covering letter. The additional details shall be numbered in accordance with the applicable clause specified in the specification.
- 3.4 As prospective contractors are considered to be experts in their field, they are obliged to identify any shortcomings, such as omissions or sub-standard requirements, to the completeness of this specification. These must be brought to the attention of Transnet Engineering at tender stage with alternatives to address these shortcomings. However, each offer shall be quoted for separately.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_

#### 4. TECHNICAL REQUIREMENTS

The following legislation (including all relevant legislations and codes) must be complied with:-

- The Occupational Health and Safety Act – Act 85 of 1993.
- Fittings (inch) EN 1452-3, BS 4346 Part 1
- Fittings (metric) DIN 8063, KIWA 54, UNI 7442/75
- Threaded Fittings BS21, DIN 2999, ISO 7/1
- Solvent Cement BS EN 1462, BS4660 Part 3, WRAS Approved
- Valves EN 1452 Part 3 Din 2999 ISO 7/1
- Pipe BS EN 1452 Part 2

4.1 Except where otherwise provided for in the specification, all equipment offered will comply with the requirements of the relevant standard specifications of the SABS, if published, otherwise with the relevant standard of the British Standards Institution in force at the time of tendering.

4.2 Where equipment offered complies with the recognized standards of the country of manufacture and not specifically with the standards required by this specification, such equipment will be considered at the discretion of Management. In this case, tenders shall state fully all respects in which the equipment departs from the standard laid down in this specification.

4.3 The successful tender will at the conclusion of the installation provide a document along the lines “that the installation complies with national/international requirements and that all selected /designed items are compliant with Act 85 of 1995 and SABS practices applicable to the installation. The equipment has been commissioned/ calibrated and employees as specified have been trained and found competent to operate the plant.”

#### 5. SPECIFIC REQUIREMENTS

**Any person with the intention of tendering for this job shall ensure that the information below is complied with.**

##### 5.1 Scope of work

<u>Item no.</u>	<u>Requirements</u>	<u>Compliance</u> Write “YES” or tick “✓” (if complying ) or Write “NO” (if not complying).
	<b>This specification covers the minimum requirements.</b>	
5.1.1	<p>This scope of work shall be read with Annexure 1 (Transnet Engineering Safety, Health and Environmental Management specification) and contractor management SOP 014.</p> <ul style="list-style-type: none"> <li>• Bidders shall include costs of Health, Safety and Environmental Management compliance.</li> </ul>	
5.1.2	Supply, delivery, replacement of existing galvanised steel piping to PVCu piping for the water test facility and water pump, testing and commissioning.	
5.1.3	The scope of work includes removal of existing piping, transporting it to designated area within the TE main centre complex.	

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_

<u>Item no.</u>	<p style="text-align: center;"><u>Requirements</u></p> <p style="text-align: center;"><b>This specification covers the minimum requirements.</b></p>	<u>Compliance</u> Write “YES” or tick “✓” (if complying ) or Write “NO” (if not complying).
5.1.4	The locomotives water test facility is existing, it consists of galvanised piping. The pipes have rust inside, hence they shall be replaced with PVCu pipes, joints and fasteners.	
5.1.5	<p>Replace the motor and couple it with the existing pump.</p> <p><b>Motor</b></p> <p>Motor shall have the SABS approval and the manufacturer shall have the recognised and valid ISO 9001:Quality certificate.</p> <p>Power output : 22kw</p> <p>Power supply: 3 phase 400V AC 50hz,</p> <p>Power factor :0.9</p> <p>Efficiency of 89% or more</p> <p>Speed: 2930 r/min speed.</p> <p>The electrical contractor shall do the electrical installation, test and issue the certificate of compliance.</p>	
5.1.6	<p><b>Pump specification</b></p> <p>Pump type – centrifugal pump with pedestal oil lubrication</p> <p>Delivery specification – max 6.7 bar @ 100m3/h</p> <p>Pump efficiency – 75-80%</p> <p>Discharge size -65mm</p> <p>Suction size -80mm</p> <p>impellor – cast iron @ 219mm nominal standard diameter</p> <p>Pump casing – cast iron</p>	
5.1.7	Dig 4m (length) x 4m (width) x 0.075m (depth), level and install the 2 x stelcon blocks. Transnet Engineering will issue the stelcon blocks for free.	
5.1.8	<p>Supply a 4500ℓ vertical water tank.</p> <p>The tank shall be green or black in colour.</p> <p>Diameter : 1,8m or less.</p> <ul style="list-style-type: none"> <li>• The water inlet shall be on top of the tank.</li> <li>• UV-resistant.</li> <li>• The tank shall have inner lining that prevents algae growth and keep water fresher for long time.</li> <li>• The tank shall have 10-year guarantee and suitable for commercial use.</li> <li>• The required water tank is a Jojo or Roto or Eco or any equivalent or superior water tank.</li> </ul>	
5.1.9	Re-install the flow meter, piping to the tank and from the tank.	
5.1.10	Use the existing brackets to support new piping.	
5.1.11	Transnet reserves the right to invite the bidders to give presentations on their products, services and/or pricing.	

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_

- 5.2 Site
  - The work shall be done at 311 Solomon Mahlangu Drive, Rossburgh.
- 5.3 Markings
  - All labels and markings shall be indelible and only removable by deliberate intent.
- 5.4 Safety Features
  - The equipment shall have a fail to safety protection system.
- 5.5 Testing
  - All prescribed tests shall be carried out on equipment.
  - Transnet also reserves the right to carry out any check tests on the equipment and installation.
  - Notwithstanding the successful completion of tests, the contractor will still be responsible for the efficient operation of the equipment.
  - Test certificates shall be submitted to Transnet Engineering.
- 5.6 Warranty
  - The contractor shall undertake to repair all faults due to bad workmanship and/or faulty materials during a period of 12 calendar months, calculated from the date that the completed plant installation is accepted by Transnet Engineering.
  - Any latent defects that become apparent during the guarantee period shall be rectified to the satisfaction of Transnet Engineering at the cost of the supplier.
  - The contractor shall undertake work on the rectification of any defects that may arise during the guarantee period within 7 days of being notified of such defects.
  - **The warranty shall be 12 months.**
  - **A maintenance contract for the warranty period shall be included in the quoted price and shall involve Transnet employees to learn.**
- 5.7 After-Sales Service
  - The successful tenderer shall provide Transnet Engineering with acceptable proof that spares/parts can be easily and speedily procured for the equipment within 7 working days through agents locally.
- 5.8 Commissioning
  - **A testing period of 1 month (744 hours for 24/7 shifts and 248 hours for 8 hour shifts) this shall depend on what shift the business requiring the specified items.**
  - **No equipment will be accepted by Transnet without the satisfaction of the conditions above.**

**Note:** All work to be completed in each respect by suitably qualified person.

## 6. CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB) REGISTRATION

The contractor to be appointed under this contract must be registered with the CIDB at grading of **1 ME minimum**. To this end, Transnet Engineering Durban does not award contracts to any company without proof of this registration.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_

## 7. HEALTH AND SAFETY REQUIREMENTS

- 7.1 All repair work whether detailed in this scope of work or not shall comply with the requirements of the Occupational Health and Safety Act 85 of 1993 as amended and all other applicable legislation including specific set of regulations and local authority bylaws where applicable.
- 7.2 All the necessary safety equipment such as guards over rotating equipment shall be supplied and the equipment shall comply fully with all the requirements of the South African Occupational Health and Safety Act, Act 85 of 1993 and all other applicable legislation including specific set of regulations and local authority bylaws where applicable. At all times during the manufacture, assembly and testing of the equipment the contractor will be responsible for the safety of all persons on site and the equipment.

### 7.3 SHE SPECIFICATION

Prior to commencement of contract, the contractor shall be issued with a SHE specification in order to compile a SHE file in line with TE requirements. Prior to establishing on site, it is an explicit requirement of this contract that all of the Contractor's personnel directly involved with this contract, including those of sub-contractors, attend a **Safety induction course**.

Transnet will provide the course free of charge and attendance is compulsory for all personnel under the control of the Contractor who, during the duration of the contract, will be present on site whether on a full time or adhoc basis.

The contractor must allow for all additional charges because of these requirements as no claims for extras will be accepted in connection with the foregoing.

#### 7.4 As part of the legislative and TE SHE requirements.

The successful contractor is required to conduct a Risk assessment to ascertain all potential risks associated with this project.

The completed risk assessment is to be formally submitted to the Risk department via the project manager at least two weeks prior to the commencement of the actual project. A safety file and associated documents will be required from a successful tenderer and such will be communicated by the Risk department.

## 8. SPECIALIST SUB-CONTRACTORS

- 8.1 Only specialist sub-contractors who have previously successfully completed work of the type and extent specified in this document should be engaged.

The tenderer shall provide the technical officer with sufficient proof of having suitable experience regarding the design and manufacturing of similar equipment. To this end, complete and detailed reference list shall be submitted with the tender. Reference list shall include addresses as well as contact person who may be visited for inspection of the equipment during the adjudication period.

- 8.2 The tender shall submit a complete list of proposed sub-contractors and suppliers of major components with his tender.
- 8.3 The tenderer shall be prepared to commit themselves in writing to the technical officer with an adequate, experienced and stable project team for the duration of the contract.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_

8.4 Transnet Engineering will not consider any Tenderer's offer that, in the sole opinion of Transnet

Engineering, does not have adequate experience in the design and manufacture of such equipment.

8.5 Contractors shall do the installation simultaneously with other contractors on-site busy with other work and shall plan work that it integrates with other work performed.

## 9. MATERIAL AND WORKMANSHIP

9.1 The materials shall be offered complete in all respects.

9.2 The materials, as made and supplied, shall be complete in every respect, of modern design, using the most advanced proven technology extensively supported by reputable local companies, and be built to good engineering practices. Tenderers shall supply a list of all the main components proposed as well as the addresses of the local support companies.

9.3 All materials shall be adequately protected against damage and corrosion during shipping, transport and storage.

## 10. GENERAL REQUIREMENTS

Operation will be in the following conditions:

Altitude	Sea level
Ambient temperature	0°C to 45°C
Relative humidity	50% to 100%
Atmosphere	Heavy saline

10.1 Tenderers shall indicate clause-by-clause either that they comply in every respect with the specific requirements, or if not, exactly how it differs.

## 11. DEFINITIONS AND ABBREVIATIONS

CLIENT	Transnet Engineering Durban
TECHNICAL	Project Manager, Transnet Engineering Durban
OFFICER	
CONTRACTOR	Contractor appointed under this scope of work document
SABS	South African Bureau of Standards
SANS	South African National Standards

## 12. GENERAL

12.1 The successful tenderer will be subjected to a workshop inspection by Transnet Engineering, to ensure that the facilities are to the satisfaction of the Transnet Engineering in terms of the quality control and equipment capabilities for manufacturing such type of equipment.

12.2 The tenderers shall guarantee that the rating and size etc. of the equipment offered, will be adequate to perform the duties required.

## 13. SITE ESTABLISHMENT

13.1 The contractor shall be solely responsible for safety of his staff and for providing security to safeguard his works and material on site, until such a time.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_

13.2 The contractor shall be required to attend site meetings when convened by the Project Leader controlling the contract.

13.3 The contractor will be responsible for any damages caused by his staff to the building and civil works on site.

#### **14. PENALTY CLAUSES**

14.1 Due to the criticality of this project, penalties will be levied for late deliveries.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_

**TRANSNET LIMITED**

**15. TENDER EVALUATION CRITERIA ( Refer to Annexure AA)**

**16. VERIFICATION OF COMPLIANCE TO SPECIFICATION**

ITS IS MANDATORY FOR ALL THE SUPPLIERS/BIDDERS TO COMPLETE THIS FORM. AN INCOMPLETE FORM WILL RESULT IN DISQUALIFICATION.

No.	Heading/Subsection	<u>Compliance</u> Write "YES" or tick "✓" (if complying ) or Write "NO" (if not complying).			Comment
		Yes	No	N/A	
1	Scope of work				
4	Technical requirements				
5	Specific requirements				
5.1	Scope of work				
5.2	Site				
5.3	Markings				
5.4	Safety features				
5.5	Testing				
5.6	Warranty				
5.7	After sales service				
5.8	Commissioning				
7	Health and safety requirements				
9	Material and workmanship				
14	Penalty clauses				

Signature of Bidder/s: \_\_\_\_\_ Date: \_\_\_\_\_