



SUPPLY AND DELIVERY OF MATERIAL, REPAIR, TESTING, AND COMMISSION OF THE DIPPING TANK SYSTEM.

**ROTATING MACHINES, 150 EEL ROAD,
UMBILO INDUSTRIAL, UMBILO.**

REFERENCE No: OPS_RM_DBN_ESR_SOW_177

Revision 0

Date of release: JUNE 2026

The information contained herein is the sole property of Transnet Engineering. It may not be used, disclosed or reproduced in part or in whole in any manner, except with the written permission of and in a manner permitted by the proprietors.

DOCUMENT AUTHORITIES

Departments	Facilities and Infrastructure
Effective Date	June 2026

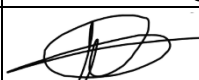
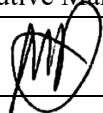
Compiled by	Moloko Mongatane
Designation	Mechanical Engineer
Signature & Date	 03/08/2026
Reviewed by	Khethu Nzuza
Designation	Engineering Technician
Signature & Date	 03/08/2026
Reviewed by	Brendan Dixon
Designation	National Electronics Manager
Signature & Date	 04/08/2026
Review by	Soojith Ramnund
Designation	Engineering Manager
Signature & Date	 06/08/2026
Approved by	Mhlonipheni Nxumalo
Designation	Executive Manager
Signature & Date	 13/08/2026

TABLE OF CONTENTS

1. INTRODUCTION.....	1
2. TECHICAL REQUIREMENTS	1
3. SPECIFIC REQUIREMENTS	2
3.1 Tank Modification Works (Tank dimensions: 4.8 m x 3.3 m x 1.67 m)	2
3.2 Hot-Dip Galvanizing of External Tank Surfaces.....	3
3.3 Control System Restoration.....	4
3.4 Mechanical Piping	7
3.5 Structural Repairs	10
3.6 Extraction Fan.....	13
3.7 Testing and commissioning.....	14
3.7 Documentation and Warranty.....	15
4. OTHER INFORMATION RELATED TO THE SCOPE	16
5. HEALTH AND SAFETY REQUIREMENTS	16
6. GENERAL	16
7. DEFINITIONS AND ABBEVIATIONS	16

1. INTRODUCTION

This document defines the scope of work and technical requirements for the:

No.	TASK	REQUIRED
1	Supply	✓
2	Delivery	✓
3	Installation	✓
4	Documentation	✓
5	Testing	✓
6	Commissioning	✓
7	Training	✓

Of the specified:

No.	ITEM
1	Supply and delivery of material, repair, testing, and commission of the dipping tank system

2. TECHICAL REQUIREMENTS

2.1 The following legislation, regulation and standards must be complied with:

- Occupational Health and Safety Act (Act 85 of 1993), as amended.
- ASME B31.3 – Process Piping.
- ASME B16.5 – Pipe Flanges and Flanged Fittings.
- ASME Section IX – Welding Qualifications
- ISO 3834 – Quality requirements for fusion welding of metallic materials.
- ISO1461-Hot dip galvanized coatings on fabricated iron and steel articles
- SANS 10142-1 – Low Voltage Electrical Installations.

3. SPECIFIC REQUIREMENTS



Figure 1: Dipping Tank

Item No.	Description
3.1 Tank Modification Works (Tank dimensions: 4.8 m x 3.3 m x 1.67 m)	
	Cut 1 – remove tank section (6.64 m cut length) Cut 2 – Remove end plate (6.64 m cut length) SHADED AREA = Existing end plate to be reused and welded onto the shortened tank
3.1.1	Cutting of the tank:

	- The tank shall be modified to reduce the existing tank capacity to approximately 75% of its original capacity by removing a section of the tank body. To achieve the required capacity reduction, the Contractor shall perform two (2) separate U-shaped cuts through the 8 mm thick steel tank plate, each having an approximate cutting length of 6.64 linear metres. - The first U-shaped cut (Cut 2) shall be carried out to remove the section of the tank body required to achieve the reduced tank capacity, as illustrated in Figure 2 - The second U-shaped cut (Cut 1) shall be carried out around the existing end plate to remove the end plate from the tank. The removed end plate shall be retained for reuse during tank reassembly as illustrated figure 2. - The removed end plate shall be retained for reinstallation onto the shortened tank during the reassembly works. - All cut surfaces shall be prepared and finished to ensure proper alignment and fit-up prior to welding.
3.1.2	Welding of the cut end plate: - Reposition the existing end plate onto the shortened tank and permanently weld it to restore the tank structure. - Continuous welds shall be applied around the complete tank perimeter, with an approximate total weld length of 6.64 linear meters - All welds shall be free from cracks, porosity, excessive undercut, lack of fusion, and other unacceptable weld defects.
3.1.3	Inspection and Testing - The modified tank shall undergo a leak test to verify the integrity of all welded joints. - The Contractor shall perform 100% Non-Destructive Testing (NDT) on all critical welds associated with the tank modification. - A formal inspection and test report shall be submitted confirming the structural integrity and leak-tightness of the modified tank.

3.2 Hot-Dip Galvanizing of External Tank Surfaces	
3.2.1	- Remove the existing thermal insulation and external sheet metal cladding from the dipping tank to expose the external steel surfaces for hot-dip galvanizing. - Following completion of all welding, fabrication and leak testing activities, prepare the external tank surfaces for hot-dip galvanizing. - Hot-dip galvanize all external steel surfaces of the dipping tank in accordance with SANS ISO 1461.

	• The internal wetted surfaces of the tank shall not be hot-dip galvanized, as the tank is designed to contain a heated, highly alkaline degreasing solution. Zinc coatings are susceptible to attack in strongly alkaline environments, particularly under continuous immersion at elevated temperatures. • Dipping Tank Dimensions ○ Length: 3 620 mm ○ Width: 3 320 mm ○ Height: 1 670 mm • Approximate External Surface Area (excluding bottom): $\approx 35.5 \text{ m}^2$
3.2.3	Reinstate all insulation and the external metal cladding removed following completion of the galvanizing work and return the tank back into the pit.

3.3 Control System Restoration	
	• The control system shall be restored to fully operational condition by supplying, installing, testing and commissioning all electrical and control equipment required for the operation of the Dipping Tank system. • The control system restoration shall include, but shall not be limited to, the following: ○ Supply and installation of all electrical and control components ○ Replacement of all flood-damaged electrical components. ○ Installation of all field instrumentation. ○ Installation of the heating control system. ○ Installation of motor control components. ○ Installation of protection devices. ○ Installation of indication and alarm devices. ○ Installation of control wiring, panel wiring and panel flexible cables. • The Contractor shall carry out the electrical and control system restoration in accordance with the existing Dipping Tank electrical schematics, which are issued as separate PDF documents together with this Scope of Work. • The following electrical schematics shall be used as the basis for the wiring, connection, integration, testing and commissioning of the control system: ○ Dipping Main Drive Circuit ○ Dipping Tank Control Circuit 1 ○ Dipping Tank Control Circuit 2

	○ Dipping Tank Control Circuit 3		
Item	Description	Specification Number	Qty
Main Incoming Power Distribution			
3.3.1	Supply and install one (1) 400A, 3-pole, 415 VAC, Rotary Main Isolator, IP65 panel-mounted	26AC3040	1
3.3.2	Supply and install three (3) Analog Ammeter, 0–1000A CT operated, AC, 96×96 mm, panel mount.	BEA05AT9/1000	3
3.3.3	Supply and install three (3) 1000/5 A Current Transformers.	IBPI/10	3
Heating Control System			
3.3.4	SCR Power Controller Replacement The Contractor shall remove the existing 400 A Eurotherm SCR Power Controller and supply and install one (1) new DSH6-400 SCR Power Controller, suitable for a 3-phase 400/230 V AC supply, minimum 400 A per phase, minimum 210 kW resistive load, with burst-fire control mode. The Contractor shall modify the existing electrical control system as required to accommodate and integrate the new SCR Power Controller. The existing electrical schematics shall be revised to reflect the installation of the DSH6-400 SCR Power Controller, including all changes to power circuits, control circuits, protection devices, terminal connections and associated wiring.	DSH6-400	1
3.3.5	Supply and install thirty-one (31) Circuit Breaker (MCB), 40 A, 1P, Type C Curve, 400 V AC, 6 kA Breaking Capacity	NF140A	31
3.3.6	Supply and install thirty (30) Over-the-Side Heating Element, Stainless Steel, 1500 mm Length, 7 kW, 240 V AC	-	30
Pump Motor Control and Protection			
3.3.7	Supply and install one (1) Motor contactor, 3-pole, AC-3, rated 9 A @ 400 V, coil 230 VAC	BF0910A230	1
3.3.8	Supply and install one (1) Thermal overload relay, adjustment range ref 2.6A, trip class 10, manual/auto reset	RF380400	1
3.3.9	Supply and install one (1) Motor contactor, 3-pole, AC-3, rated 9 A @ 400 V, coil 230 VAC.	BF0910A230	1
3.3.10	Supply and install one (1) Sump Pump thermal overload relay, adjustment range ref 2.6A, trip class 10A, manual/auto res	RF380400	1

Temperature Measurement and Control			
3.3.11	Supply and install one (1) Ramp/Soak PID Temperature Controller, Thermocouple/RTD Input, Analog + Relay Outputs, 230 V AC Supply, ≤10 Programs, ≤100 Seg	TTM-205-Q-GR-RRRYU	1
3.3.12	Supply and install one (1) Type K Thermocouple, Stainless Steel Sheath, 200 mm Length, Threaded Mounting, Ø20 mm.	SJ105/K520B3	1
3.3.13	Supply and install one (1) Temperature Transmitter Module, PID Temp Controller, Input (Thermocouple / RTD), Supply Voltage up to 260 V AC, SPDT Relay Control Output	TTM-04SP-B-AB	1
3.3.14	Supply and install one (1) Main Tank RTD, PT100 RTD Temperature Sensor, 3-Wire, Stainless Steel Probe, 0–100 °C Range, 150 mm Length, 4–6 mm Diameter	-	1
Level Measurement and Control			
3.3.15	Supply and install three (3) Liquid Level Controller, 230 VAC, Filling Control Logic, SPDT Relay Output, DIN Rail Mount.	LV1230A	3
3.3.16	Supply and install one (1) Heating Tank Conductive Electrode Probe, 2-Rod Configuration, Stainless Steel, Threaded Mount male, Ø70 mm	-	1
3.3.17	Supply and install one (1) Main Tank Conductive Level Probe, Conductive Electrode Probe, 5-Rod Configuration, Stainless Steel, Threaded Mount male, Ø70 mm	-	1
Pressure Measurement			
3.3.18	Supply and install one (1) Circulation Line Pressure Transmitter, Universal Transmitter, mA/V/RTD Inputs, SPDT Relay Output, Auxillary supply 25 V DC	PR4116	1
3.3.19	Supply and install one (1) Circulation Line Pressure Sensor Gauge Pressure Transmitter, 0–1 bar Range, Current/Voltage Output, 24 V DC Supply, Stainless Steel, Threaded Mount, Ø30 mm.	-	1
Control Relays and Monitoring			
3.3.20	Supply and install five (5) Control Relay, 230 V AC Coil, 3 Changeover Contacts (3PDT / 3-Form C)	-	5
3.3.21	Supply and install one (1) Single-Phase Current Load Monitor, Window Comparator Type, 5 A AC CT Input, SPDT Relay Output.	SP-120/SP-123	1
3.3.22	Supply and install one (1) Current Transformer (CT), Ratio 20/5 A, Accuracy Class 1.	IBNP/20	1
Process Control Equipment			
3.3.23	Supply and install one (1) Water Fill Solenoid Valve, (NC) Pilot-Operated Solenoid Valve, 230 V AC Coil, DN40, Stainless Steel	-	1
Operator Indication			

3.3.24	Supply and install five (5) Green Panel Indicator Lights, 230 VAC panel indicator light approx. 60 cd/m ² brightness, and IP40 protection.	AD22-22DSG22	5
3.3.25	Supply and install three (3) Yellow Panel Indicator Lights, 230 VAC panel indicator light approx. 60 cd/m ² brightness, and IP40 protection.	AD22-22DSY22	3
3.3.26	Supply and install two (2) Red Panel Indicator Lights, 230 VAC panel indicator light approx. 60 cd/m ² brightness, and IP40 protection	AD22-22DSR22	2
Panel Accessories			
3.3.27	Supply and install two (2) Axial Panel Cooling Fan, 230 V AC, 172 mm Diameter, Screw-fixed.	FF15A230UF	2
3.3.28	Supply and install six (6) 10 m cable 1C x 95 mm ² flexible Cu XLPE (panel flex).	-	6

3.4 Mechanical Piping		
	- The Contractor shall supply, fabricate, deliver and install all mechanical piping and associated components required to restore the Dipping Tank degreasing solution circulation system between the modified Dipping Tank, the heating tank and the sump system. - The mechanical piping installation shall include, but shall not be limited to, the following: - Circulation piping. - Sump drain piping. - Circulation pump. - Sump pump. - Pipe supports. - Valves. - Flanged joints. - Gaskets - Fasteners.	
Circulation Piping		
Item	Description	Qty
3.4.1	Circulation Pump Supply and install one (1) Centrifugal Pump, 22.5 m³/h @ 5 m Head, DN65 Suction / DN50 Discharge, NPSHr<6.5, 0.55 kW Motor, Horizontal Close-Coupled, for Alkaline Solution.	1
3.4.2	Pump Strainer	1

	Supply and install one (1) Basket-type strainer, DN65, PN10, flanged connection, stainless steel, fitted with a 3 mm perforated screen	
3.4.3	Suction Line connection flanges - Supply and install ASME B16.5 flanges, DN65, Class 150, Slip-On (SO) type, Raised Face (RF), 316L stainless steel. - This includes set connections between piping and the following components: - Pump - Pump strainer - Isolation valve - Isolation valve	12
3.4.4	Gasket - Supply and install ASME B16.21 ring gasket for ASME B16.5 Raised Face (RF) flanges, NPS 2½" (DN65), Class 150, PTFE material. - This includes set connections between piping and the following components: - Pump - Pump strainer - Isolation valve - Isolation valve	12
3.4.5	Buttweld elbows - Supply and install 90° Long Radius Elbow, DN65 (NPS 2½"), butt weld ends, ASTM A312 TP316L SS, Sch 40 to accommodate the change of direction of the piping. - Contractor shall prepare, align and butt weld each elbow to the adjoining pipework using approved welding procedures to provide a complete leak-tight piping system.	4
3.4.6	Shutoff valve Supply and install two (2) Gate valve, NPS 2½" (DN65), ASME Class 150, RF flanged ends to ASME B16.5, body, bonnet and trim material 316L stainless steel.	2
3.4.7	Isolation valve	2

	Supply and install full-port ball valve, NPS 2½" (DN65), ASME Class 150, RF flanged ends to ASME B16.5, body, ball and stem in 316L stainless steel, with PTFE seats.	
3.4.8	Pipes - Supply and install approximately nine (9) metres of DN65 (NPS 2½"), Schedule 40 stainless steel pipe manufactured in accordance with ASTM A312 TP316L and ASME B36.19M, with plain ends - The Contractor shall measure, cut, prepare, fabricate and install the pipework to suit the complete circulation piping arrangement between the Dipping Tank, heating tank and circulation pump. All pipe sections shall be cut to the required lengths, bevelled where necessary, correctly aligned and butt welded to the associated fittings, flanges and equipment to provide a complete, leak-tight circulation system.	9 meters
3.4.9	Bolts Supply and install bolt set, stud bolt to ASTM A193, B7 / 2x hex. Nut to ASTM A194, GR 8, 2x washer to ASTM F436 (5/8" × 90)	48 set
Sump Drain Piping		
Item	Description	Qty
3.4.10	Sump pump Supply and install submersible Pump, 7 m³/h @ 4 m Head, DN 50 Discharge flanged, 0.37 kW Motor, for Alkaline Corrosive Solution.	1
3.4.11	Buttweld elbows - Supply and install 90° Long Radius Elbow, DN50, buttweld ends, ASTM A312 TP316L SS, Sch 10s to accommodate the change of direction of the piping. - Contractor shall prepare, align and butt weld each elbow to the adjoining pipework using approved welding procedures to provide a complete leak-tight piping system.	5
3.4.12	Pipes - Supply and install pipe, DN50, Sch 10s, ASTM A312 TP316L SS, ASME B36.19M, plain ends. - The Contractor shall measure, cut, prepare, fabricate and install the pipework to suit the complete circulation piping arrangement between the Dipping Tank, heating tank and circulation pump. All pipe sections shall be cut to the required lengths, bevelled where necessary, correctly aligned and butt welded to the associated fittings,	6 meters

	flanges and equipment to provide a complete, leak-tight circulation system.	
3.4.13	Non-return valve Supply and install spring-assisted axial (silent) check valve, DN50, ASME Class 150, RF flanged ends to ASME B16.5, 316L stainless steel.	1
3.4.14	Isolation valve Supply and install full-port ball valve, DN50, ASME Class 150, RF flanged ends to ASME B16.5, body, ball and stem in 316L stainless steel, with PTFE seats.	1
3.4.15	Flanges Supply and install ASME B16.5 flanges, DN50, Class 150, Slip-On (SO) type, Raised Face (RF), 316L stainless steel.	6
3.4.16	Gaskets Supply and install ASME B16.21 ring gasket for ASME B16.5 Raised Face (RF) flanges, DN50, Class 150, PTFE material.	4
3.4.17	Bolts Supply and install bolt set, bolt set, stud bolt to ASTM A193, B7 / 2x hex. Nut to ASTM A194, GR 8, 2x washer to ASTM F436 (5/8" × 85)	24

3.5 Structural Repairs
The Contractor shall supply, fabricate, deliver and install a new steel walkway around the Dipping Tank pit in accordance with figure 3 below. The walkway shall consist of: - Steel grating panels - Support angles - Straight support brackets - L-support bracket assemblies and - all associated fasteners

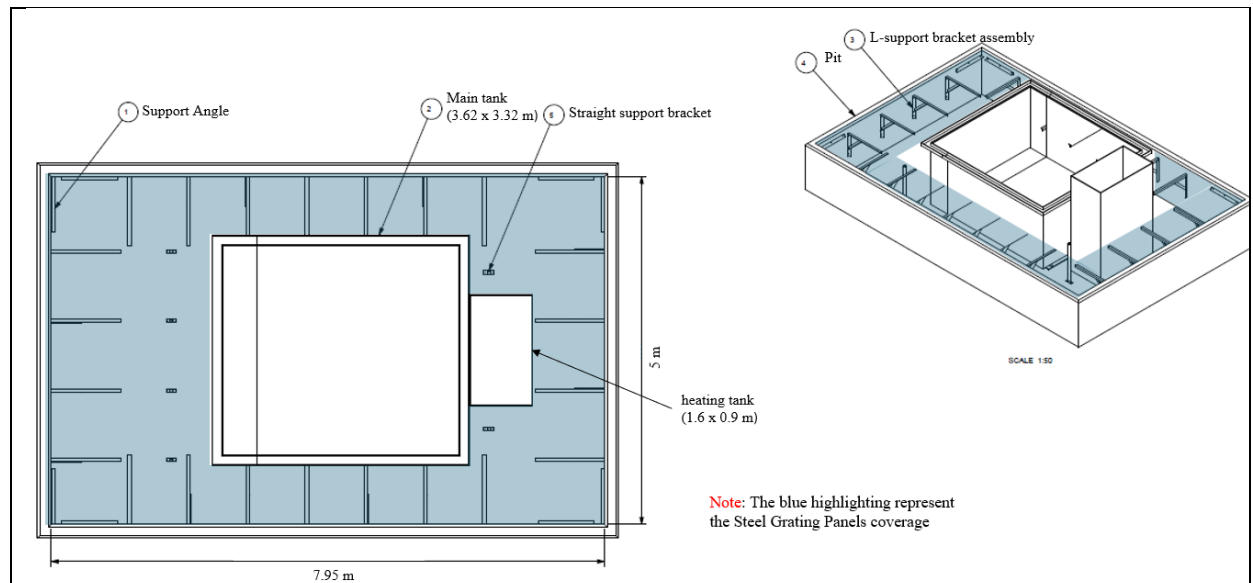
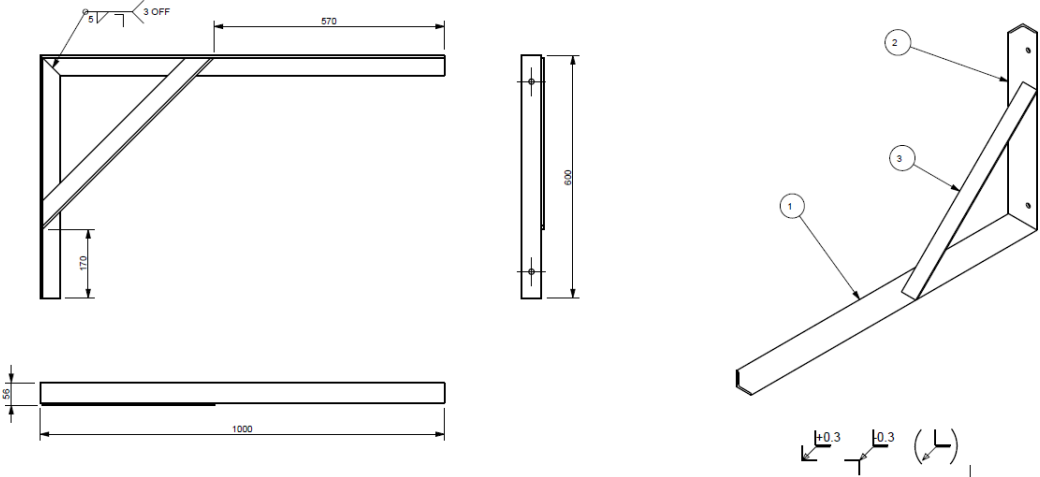
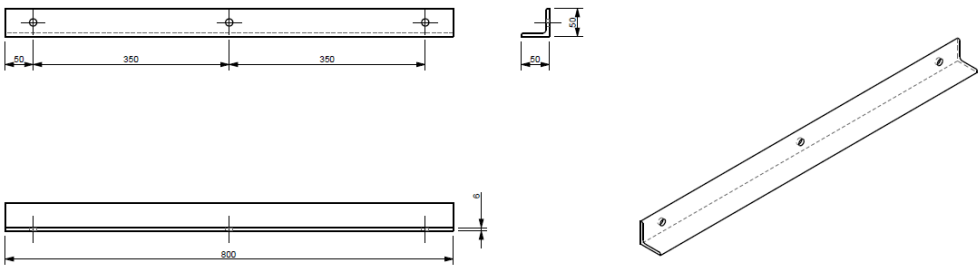
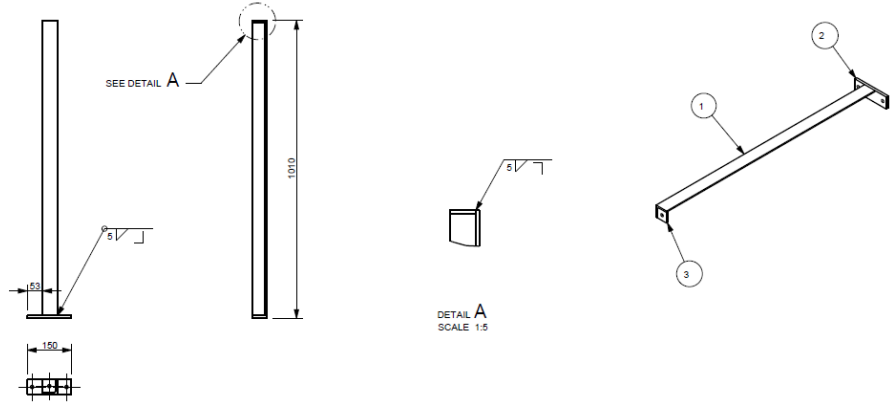


Figure 3: Steel Walkway Layout Around the Dipping Tank Pit.

3.5.1	Steel Grating Installation • The Contractor shall supply and install galvanised steel grating panels around the Dipping Tank pit as shown in Figure 3. • The total steel grating coverage shall be approximately 26.3 m². • The Contractor shall supply approximately eleven (12) steel grating panels, each measuring 1000 mm × 2500 mm, and cut them as required to suit the final installation layout. • All grating panels shall be securely fixed to the supporting steelwork using approved grating clips and associated fasteners. • Grating panels shall remain removable to facilitate future inspection and maintenance of the Dipping Tank and pit services. The steel grating shall have the following minimum specification: • Type: Welded steel bar grating. • Panel dimensions: 1000 mm × 2500 mm. • Material: Mild steel. • Finish: Hot-dip galvanised after fabrication. • Bearing bars: 30 mm × 5 mm flat bars at 30 mm centres. • Cross bars: 6 mm twisted square bars at 100 mm centres. • Surface: Serrated. • Design load: Minimum 5 kPa uniformly distributed load.
3.5.2	L-Support Bracket Installation

	 - Supply, fabricate, deliver and install twenty-two (22) L-support bracket assemblies in accordance with the fabrication Drawing No. DNR688D005. - Each L-support bracket assembly shall have nominal overall dimensions of 1000 mm × 600 mm. - Fabricate the support brackets from the specified structural steel sections shown on the drawings above. - Install each bracket in the locations indicated on Figure 3 to provide intermediate support for the steel grating panels. - Ensure all brackets are correctly aligned and securely bolted to the pit structure before installation of the steel grating.
3.5.3	Support Angle Installation  - Supply, fabricate, deliver and install eight (8) support angles in accordance with the fabrication Drawing No. DNR668D014 - Install all support angles level to provide continuous perimeter support for the steel grating panels.
3.5.4	Straight Support Bracket Installation

	 - Supply, fabricate, deliver and install six (6) straight support brackets having a nominal length of 1000 mm, in accordance with the fabrication Drawing No. DNR668D013. - Install the straight supports as indicated on Figure 3 to provide additional support to the steel grating panels
--	--

3.6 Extraction Fan	
3.6.1	Supply, deliver, install, test and commission an industrial extraction fan for the Dipping Tank degreasing system to extract fumes generated during the heating and operation of the degreasing solution. The Contractor shall: - Determine the extraction fan capacity required to effectively remove fumes generated during the degreasing process. - Ensure the selected fan is suitable for operation in the presence of heated alkaline vapours. - Submit the proposed extraction fan specification, performance data and selection criteria to Transnet Engineering for approval prior to installation. - Install the extraction fan in a position that provides effective airflow across the Bosch Tank to capture and remove fumes generated during operation. - Supply and install all mounting brackets, supports, anchor bolts and associated fixings required for a complete installation. - Supply and install all electrical connections required for the extraction fan. - Provide suitable electrical protection, isolation and switching arrangements.

3.7 Testing, Commissioning, and Training	
3.7.1	Mechanical System Verification The Contractor shall verify the correct installation and operation of all mechanical equipment, including but not limited to: • Inspection of all mechanical installations for compliance with the approved drawings. • Verification of pump alignment and installation. • Verification that all valves are correctly installed and fully operational. • Verification that all piping systems are adequately supported. • Verification that all flanged joints are correctly assembled and tightened. • Hydrostatic pressure testing of the circulation and sump piping systems.
3.7.2	Electrical System Verification The Contractor shall verify the correct installation and operation of the electrical installation, including but not limited to: • Verification of all incoming power connections. • Verification of correct phase rotation. • Insulation resistance testing of all power and control circuits. • Continuity testing of all wiring. • Verification of all protective devices. • Functional testing of contactors, overload relays, circuit breakers and control relays. • Verification of indicator lamps, cooling fans and panel accessories. • Verification that all electrical equipment is correctly labelled.
3.7.3	Instrumentation and Control Verification The Contractor shall verify the operation and calibration of all instrumentation and control devices, including but not limited to: • Calibration of the RTD temperature sensor. • Verification of thermocouple operation. • Verification of the temperature transmitter. • Verification of all liquid level controllers and probes. • Verification of the circulation line pressure transmitter and pressure sensor. • Verification of all analogue and digital input and output signals. • Verification of all alarms and status indications.
3.7.4	Upon successful completion of the individual mechanical and electrical tests, the Contractor shall carry out functional testing of the complete Dipping Tank degreasing system to verify correct integration between all installed equipment. The functional testing shall include, as a minimum: • Verification of the complete system start-up, operation and shutdown sequence. • Verification of the circulation of the degreasing solution between the Dipping Tank and the heating tank. • Verification of the operation of the heating system, including the SCR Power Controller, heating elements and temperature control system.

	• Verification of the operation of all pumps, valves, level control devices, pressure instrumentation and field instrumentation. • Verification of the operation of all motor control equipment, protection devices, alarms, indicator lights and safety interlocks.
3.7.5	Training Training must be provided on the operation and maintenance of the entire dipping tank system to at least 4 Transnet engineering employees.

3.8 Documentation and Warranty	
3.8.1	The Contractor shall supply the following documents in one (1) set of searchable PDF files on a USB memory stick and three (3) sets of hard copies for all upgraded components and systems: • Operation • Operation Manual. • Maintenance • Maintenance Manual (including maintenance procedures and maintenance schedule). • Recommended Critical Spare Parts List (including manufacturer and supplier part numbers). • Lubrication Schedule. • Fault Finding and Troubleshooting Guide (including error codes, probable causes and corrective actions). • Electrical • Updated electrical schematics incorporating all modifications, including the new SCR Power Controller • Electrical Parts List (including manufacturer and supplier part numbers). • Cable Schedule. • Electrical Certificate of Compliance (CoC). • Mechanical • Mechanical Parts List (including manufacturer and supplier part numbers). • OEM Documentation • Operating and Maintenance Manuals for all major equipment and third-party components supplied. • Compliance • Calibration Certificates. • Warranty Certificates and Warranty Terms • Approved Welding Procedure Specifications (WPS) NDT reports and certificates for all welds subjected to specified NDT.
3.8.2	• Warranty • The warranty shall be for 12 months.

	Any latent defects that become apparent during the warranty period shall be rectified to the satisfaction of TE at the cost of the supplier.
--	--

4. OTHER INFORMATION RELATED TO THE SCOPE

- 4.1 Any matter relating to this work, which requires a decision from Transnet Engineering shall be presented to the Project Manager in charge.
- 4.2 All offers shall be completed in every respect with this specification. Only completed tenders shall be considered.

5. HEALTH AND SAFETY REQUIREMENTS

- 5.1 All equipment whether detailed in this specification 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.

6. GENERAL

- 6.1 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.
- 6.2 The tenderers shall guarantee that the rating and size etc. of the equipment offered, will be adequate to perform the duties required.
- 6.3 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
Operating Environment	Outdoors and indoors (workshop environment)

7. DEFINITIONS AND ABBREVIATIONS

- 7.1 CLIENT: Transnet Engineering Durban
- 7.2 TECHNICAL OFFICER: Project Manager, Transnet Engineering Durban
- 7.3 CONTRACTOR Contractor appointed under this specification document

