

SCOPE OF SERVICE

DESIGN, SUPPLY, AND INSTALLATION OF A STAIRCASE FOR KLERKSDORP DEPOT INTERMIXTURE TANK

REVISION 02: FINAL DRAFT

1 DOCUMENT REVISION CONTROL

REVISION NUMBER	DATE	DISTRIBUTION/ REVISION	PREPARED BY	APPROVED BY
01	2023-10-18	-	Janie De Beer	Thershni Pillay
02	2025-03-31	Final Draft	Janie De Beer	Thershni Pillay

2 GLOSSARY

Abbreviations

AIA	- Approved Inspection Authority
KRP	- Klerksdorp Depot
NDT	- Non-Destructive Testing
OHSA	- Occupational Health and Safety Act
PPE	- Personal Protective Equipment
QCP	- Quality Control Plan
SAISC	- Southern African Institute of Steel Construction
SANS	- South African National Standards
SHE	- Safety, Health and Environment
SOP	- Standard Operating Procedure
TPL	- Transnet Pipelines

Definitions

Contractor	- Successful tenderer
Employer	- Transnet
Pr. Eng	- Professional Engineer
Pr. Eng Techni	- Professional Engineering Technician
Pr. Tech Eng	- Professional Engineering Technologist
Site	- The area of the Works
Works	- Refers to the full scope of supply and services

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5 TRANSNET PIPELINES BACKGROUND

Transnet Pipelines (TPL), a business unit of Transnet, provides strategic pipeline infrastructure, with associated world class pipeline logistics, for the petroleum and gas industries of South Africa. This is done in partnership with our customers and stakeholders thereby assuring the African sustainable development imperative.

Established in 1965, Transnet Pipelines owns, maintains, and operates a network of some 3114 km of high-pressure petroleum and gas pipelines. Transnet Pipelines transports an average of 17 billion litres of liquid fuels per annum. This includes diesel, unleaded petrol, aviation turbine fuel and crude oil.

6 PROJECT BACKGROUND

Transnet Pipelines has multiple product delivery locations, one of which is the Klerksdorp (KRP) depot. The depot contains four identical 12-meter-high intermixture tanks, with two cat-ladders mounted on two of the tanks, and walkway platforms installed on the tank roofs, inter-connecting all four tanks.

TPL personnel are required to perform various activities on the roof of the tanks such as dipping which requires them to ascend and descend the tank using either one of the two cat-ladders. Dipping is performed daily as per tank management SOP (Standard Operating Procedure) which states that tanks should be dipped before and after draining water out of the tank, after transferring product between tanks and after blending, which may require the cat-ladders to be used more than once per day. Product sampling and temperature readings are also taken whilst on the tank roof.

The total equipment required to carry out all the activities add approximately 10 kilograms of weight on the user's shoulder. Due to the nature of the cat-ladder design, there are no landings or platforms available for the user to rest. An 'Occupational Hygiene Survey and Assessments Report' conducted by an Approved Inspection Authority (AIA) classifies using the vertical cat-ladders as a medium ergonomic risk.

Due to the aforementioned factors and following several engagements with end users, it has been decided that a more secure solution needs to be implemented, of which a staircase was selected as recommended by latest petroleum standards.

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7 SCOPE OF SERVICE

7.1 Description of the Service and Executive Overview

The Contractor shall be responsible for all the works which includes but is not limited to the complete design, supply, installation, and commissioning of a staircase with 180-degree landings for one of four intermixture tanks within the bund wall. The Contractor shall provide an experienced, qualified, efficient, and effective team of resources and equipment to carry out the complete scope of works. This shall be done in accordance with the specifications accompanying this document. The service shall be rendered at the site that is located at TPL's Klerksdorp depot.

7.2 Design and Detailed Drawings

7.2.1 This contract scope requires a Contractor to design a self-supported staircase with 180-degree landings for tank 4 within the bund wall (see *figure 1* below).



Figure 1 Klerksdorp Depot Intermixture Tanks: Left Top: Tanks numbered 1-4, Bottom Left: Space within bund wall, Right: Existing cat-ladder on tank 4

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- 7.2.2 The Contractor shall design the staircase according to issued specifications and drawings and adhere to all regulatory and HSSE requirements. Refer to specification 'PL 835' which shall be read in conjunction with drawing 'PL SK No.2139'. This documentation is provided for the purpose of the works only.
- 7.2.3 All drawings shall be made in accordance with TPL's internal drawing standard, PL '100'; which establishes a set of approved drawing standards and codes of practice that shall be required to be adhered to by the Contractor in the preparation of Engineering Documentation for, and on behalf of TPL.
- 7.2.3.1 The Southern African Steel Construction Handbook (Red Book), Section 12.3 - Stairways, and the Southern African Structural Steelwork Detailing Manual (Yellow Book), Section 13 - Stairways, may be used as supplements or in addition to provided specifications.
- 7.2.4 The Contractor shall establish the relationship of the staircase to existing structures, such as the tank and the foundation prior to commencing with design.
- 7.2.5 The Contractor shall confirm all physical measurements and design parameters required on site during compulsory site visit.
- 7.2.6 Positioning and design of staircase to be such so as not to impede maintenance. Where no alternative is feasible, the Contractor shall make provision for removable sections to accommodate for maintenance.

See *figure 2* below for indicative measurements within bund wall mapped out in CAD.

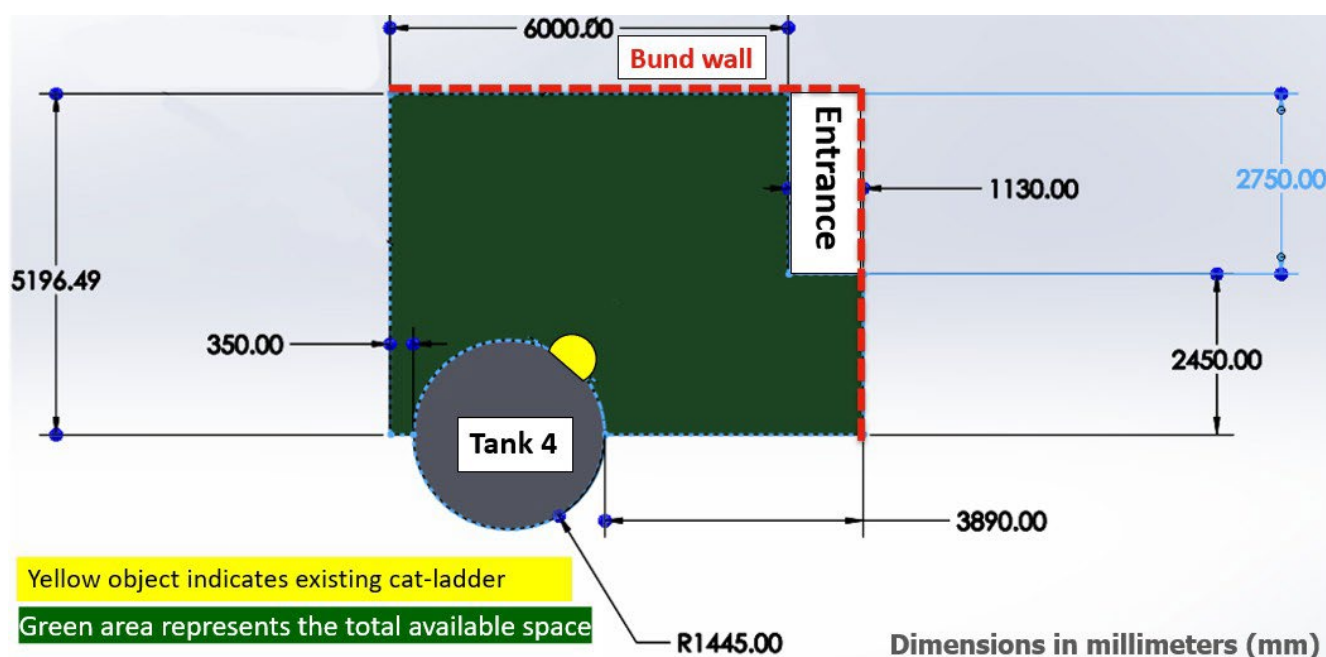


Figure 2 Indicative space measurements within bund wall (SOLIDWORKS 2021)

- 7.2.7 A formal design review and sign-off process shall be established.
- 7.2.7.1 The Contractor shall submit conceptual design proposals in the form of drawings, specifications and schedules which shall be reviewed and signed off by TPL's technical team if all design requirements are met before fabrication.

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7.2.7.2 The Contractor shall facilitate all necessary regulatory and relevant professional approvals or signoff.

7.2.7.3 All residual design responsibility and overall responsibility for the works rests with the Contractor.

7.2.8 All necessary documentation, including Approved For Construction (AFC) drawings, reviewed and agreed upon Quality Control Plan (QCP) and signed quality policy signed by CEO, CE or company director/head, before fabrication can commence. Signed QCP and as-built drawings shall be handed over to TPL by the Contractor after completion of the works.

7.2.9 TPL shall avail an Engineer-In-Training (EIT) at own cost, to the Contractor for design skills transfer. The Contractor shall involve the EIT on all aspects of the design phase for this project.

7.3 Supply and Installation

7.3.1 The Contractor shall fabricate the staircase as per approved design and supply all staircase material and associated equipment.

7.3.2 Material supplied to be verified by TPL personnel with material certificates.

7.3.3 The Contractor shall remove the existing cat-ladder on tank 4 and any obstructions to make way for the staircase.

7.3.4 The staircase shall be fabricated to ensure easy assembly. Refer to specification PL 835 for galvanization, fabrication, and installation requirements.

7.3.5 The staircase shall be furnished complete with bolts, nuts, hooks, and grating.

7.3.6 The staircase shall be erected on site and foundations provided to compensate for the gradient that might exist at floor level.

7.3.7 The Contractor shall make provision to anchor the staircase during installation.

7.3.8 Platforms and walkways shall be fabricated and pre-assembled including the fitting and banding of the grating prior to being hot dip galvanised to prevent unnecessary damage to the galvanised components during installation.

7.3.9 The Contractor and TPL shall perform a post installation quality inspection as part of commissioning the staircase.

7.4 Quality Assurance and Control Requirements

7.4.1 The Contractor is required to submit the Project Quality Plan (PQP) which entail standards and procedures that ensure that the requirements of the Employer are met. The Tenderer PQP to include the following:

- Quality Policy - The contractor to submit a quality policy signed by the Chief Executive Officer, applicable to their services rendered.
- Confidentiality - The contractor shall sign a confidentiality indemnity form which binds the contractor to not use the shared documents for any other purpose either than that of the project.

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- Method statement – Contractor to provide a method statement stating how they intend on executing the works.
- Quality Control Plan - The contractor to provide a quality control plan to be reviewed and agreed upon prior to execution of the works.

7.5 Site Specific Requirements

7.5.1 Staff Requirements and Supervision

- The Contractor is to ensure that all staff are equipped with the required flame retardant overalls and PPE for the execution of the works.
- The Contractor shall ensure that their staff comply with the Occupational Health and Safety Act 85 of 1993 provisions.

7.5.2 Equipment, Materials and Consumables

- The Contractor shall provide all necessary equipment and ensure that they are kept in good and safe condition and comply with all safety regulations.

7.5.3 Health, Safety & Environmental

The Contractor must furnish the Employer with a Contractor Compliance file prior to entering the site. Once the Contractor's Health & Safety file is approved, a site induction will be conducted by the Employer then only will the Contractor be permitted to commence work. The SHE (Safety, Health & Environment) file must include but not limited the following documents:

1. A valid letter of Good Standing with the Compensation Commissioner.
2. Proof of relevant insurance to carry out work.
3. Contractor Health and Safety Plan correlating with TPL Health and Safety Guidelines (HAS-GL-001) submitted and approved.
4. Copies of TPL and Contractor's Health, Safety & Environment Policies.
5. Mandatory agreement as per section 37.2 of the OHS Act 85 of 1993 and CR 5.1 (K).
6. Employee Induction packs shall include the following documents:
 - Employee scope of works;
 - Proof of site specific induction (Contractor);
 - Copy of ID Documents;
 - Legal Letter of Appointment;
 - Abbreviated CV for the management and legal appointees;
 - Proof of competence;
 - Valid entry medical certificate of fitness done by an Occupational Health Practitioner;

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- Baseline Risk Assessment indicating the full scope of work, risk profile and fall protection plan. It is the Contractor's obligation to proactively manage and mitigate against all risk.
- Welding certification should any be done on site as part of the installation
- Police Clearance (National Key Point requirement)
- Incident and contravention notice declaration.

A daily permit will be issued for each task. All issued permits will be closed at the end of each day. Allowance is to be made in planning for the issuing and receiving of permits whilst on site.

7. Copy of equipment registered to be used with copy of each item's inspection checklist.
8. Organogram of reporting structure: This document must provide information on all persons appointed in terms of OHS Act and Regulations (85 of 1993) including contact details (Rev, date, approval) and all other statutory registers required.

The Contractor shall comply with the requirements of Transnet Pipelines Contractor Health and Safety Specification Guideline -TRNIMS-GRP-GDL-014.3, OHS Act 85 of 1993, its applicable regulations, and any laws applicable in the terms of Health and Safety.

7.5.4 SSA Requirements

The Employer reserves the right to conduct screening through State Security Agency (SSA) for clearances of any Contractor who has access to National Key Points. The following documents are needed from the company:

1. Company registration number.
2. CIPC registration.
3. Company TCS Pin.
4. Copies of ID of directors.
5. Fingerprints of directors (Use SAP 91) to be found at local SAPS. Original fingerprints must be submitted.
6. Copies of ID of employees who will be working on site.
7. Fingerprint of employees who will be working on site (Use SAP 91) to be found at local SAPS. Original fingerprints must be submitted.
8. The contractor must make a copy of the extra Departmental documents and take it to SAPS which prevents them from paying.

Note: Please take note that SSA takes 3-4 weeks for screening to take place once all required documentation has been submitted.

7.5.5 Working Hours

- Normal working hours are as follows:
Monday to Friday: 07h30 to 16h00
- Contractor must request to work out of normal working hours from the Employer's project manager if required.
- Rates for abnormal working hours must be indicated.

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8 APPLICABLE CODES AND GUIDELINES

Although not bound in nor issued with this document, the relevant codes and guidelines are to be adhered to in the rendering of the scope of works. The Contractor is expected to have unrestricted access to these documents as well as possess sufficient knowledge and expertise of the codes and guidelines contained within them.

CODES and LEGISLATIVE

OHS Act 85 of 1993	Occupational Health and Safety Regulations
SANS 10111-1	Engineering Drawing Part 1
SANS 10160-1	Basis of Structural Design for Buildings and Actions for Buildings and Industrial Structures
SANS 10162-1	The Structural Use of Steel
SANS 10120-HC	Corrosion Protection of Structural Steelwork
SANS 10044	Code Of Practice for Welding
SANS 10104	Handrailing And Balustrading (Safety Aspects)
SANS 10214	The Design, Fabrication, and Inspection of Articles for Hot-Dip Galvanizing
SANS 684	Structural Steel Paint

TRANSNET PIPELINES SPECIFICATIONS

The following TPL Technical Standards & Specifications will apply.

PL 103	General Drawing Standard
PL 835	The Minimum Structural Requirements for Walkways, Platforms and Stairways
PL SK No.2139	General Structural Standards for Walkways, Platforms and Stairways

9 DOCUMENTATION

- 9.1 Contractor shall submit project specific documentation after being appointed to TPL for review.
- 9.2 No work shall commence without all required documentation submitted and approved.
- 9.3 Appointed contractor shall be advised on the list of required documents for review by TPL representative after contract award.

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10 PROGRESS MEETINGS

- 10.1 Project Progress Meetings shall be held on weekly basis after the Project Kick-Off meeting.

11 COMPLETION PERIOD

- 11.1 The complete works which includes the design, supply, installation, and commissioning of the staircase must be completed within a period of ten (10) weeks.
- 11.2 The Contractor must submit an electronic copy of the schedule.

COMPILED BY:



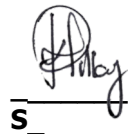
Signature

Name: Janie De Beer

Designation: Mechanical Engineer-In-Training

Date: 31/03/2025

APPROVED / ~~NOT APPROVED~~ BY:


S_

Name: Thershni Pillay

Designation: Principal Mechanical Engineer

Date: 31/3/2025

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