

## **PROJECT SPECIFICATIONS FOR PROJECT: UPGRADE OF THE WATER PIPELINE - FOREVER RESORT TO THREE RONDAVELS**

### **PS1 PROJECT DESCRIPTION AND SCOPE**

#### **PS1.1 SCOPE OF WORKS**

The contract comprises the supply, delivery, construction, installation, testing, and commissioning of the Three Rondavels Water Supply system. The primary works include clearing 4 000 m<sup>2</sup> of servitude, excavating pipe trenches, and installing 4 000 m of 50mm NB galvanised steel pipeline, complete with valves, water meters, and thrust blocks. The mechanical and structural scope includes a 6m structural steel tank stand, placement of a steel tank, 10 000 litre LLDPE storage tanks, a 5.5 kW 3-phase pump set, and perimeter farm gates.

#### **PS1.2 CONTRACT TYPE**

This is a re-measurable contract. The quantities provided in the Bill of Quantities are estimated. Final payment will be based on the actual measured quantities of work completed and approved on site.

### **PS2 STANDARD SPECIFICATIONS**

#### **PS2.1 APPLICABLE STANDARDS**

The standard specifications applicable to this contract are the SANS 1200 Standardised Specifications for Civil Engineering Construction:

- SANS 1200 AA: General (Small Works)
- SANS 1200 C: Site Clearance
- SANS 1200 DA: Earthworks (Small Works)
- SANS 1200 L: Medium-Pressure Pipelines
- SANS 1200 LB: Bedding (Pipes)

### **PS3 GENERAL PROJECT REQUIREMENTS**

#### **PS3.1 PROVISIONAL SUMS**

Where items are measured as a Provisional Sum, the Contractor must obtain written approval from the Project Engineer prior to purchasing any equipment or commencing that specific portion of the works.



Payment for Provisional Sum items will only be processed upon the submission of the original supplier invoices, plus the tendered percentage mark-up for profit and attendance.

### **PS3.2 ELECTRICAL WORKS**

All electrical installations, connections, and testing must be performed by a qualified and registered installation electrician. A valid Certificate of Compliance (CoC) must be issued to the Project Engineer upon completion of the electrical works.

### **PS3.3 OPERATION AND MAINTENANCE (O&M) MANUALS**

The Contractor shall supply comprehensive O&M manuals for all mechanical and electrical equipment (including pumps, motors, control panels, and surveying equipment) before the Certificate of Practical Completion is issued.

## **PS4 VARIATIONS AND ADDITIONS TO SANS 1200**

### **PS4.1 SITE CLEARANCE (SANS 1200 C)**

#### **PS4.1.1 CLEARING AND GRUBBING**

Clearing and grubbing are restricted to a 1m wide pipeline servitude. The Contractor is strictly responsible for identifying and protecting all existing services prior to commencement.

#### **PS4.1.2 EARTHWORKS (SANS 1200 DA)**

#### **PS4.1.3 EXCAVATION AND TOPSOIL**

Topsoil shall be removed to a nominal depth of 150mm, stockpiled, and maintained for reinstatement. Excavation is measured in all materials, with extra-over allowances for intermediate, hard rock, and boulder excavation.

#### **PS4.1.4 REINSTATEMENT**

Reinstatement of the disturbed 4 000 m<sup>2</sup> servitude must restore the terrain to its natural condition, to the satisfaction of the Project Engineer and Environmental Control Officer.

## **PS4.2 MEDIUM-PRESSURE PIPELINES (SANS 1200 L)**

### **PS4.2.1 GALVANISED STEEL PIPES AND FITTINGS**

All pipework shall be 50mm nominal bore (NB) galvanised steel, supplied and laid complete with compatible couplings for the 4 000 m route.

### **PS4.2.2 VALVES AND METERS**

Installation includes 3 No. Ø50mm gate valves, 2 No. Ø50mm non-return valves, and 1 No. Ø50mm water meter.

## **PS4.3 BEDDING AND TESTING (SANS 1200 LB)**

### **PS4.3.1 PIPELINE TESTING**

The entire 4 000 m pipeline must undergo hydrostatic pressure testing, followed by full system disinfection and commissioning prior to handover.

## **PS5 PARTICULAR SPECIFICATIONS**

### **PS5.1 STRUCTURAL STEEL TANK STAND**

Design, construct, and install a new 6m high structural steel tank stand. All structural designs and drawings must be accompanied by a Certificate of Compliance signed by an ECSA-registered professional. The scope includes reinforced concrete foundations, lifting and placement of the existing assembled 4.88m x 4.88m x 3.66m steel tank, access provisions, and above-ground 50mm NB steel pipe integration.

### **PS5.2 LLDPE WATER STORAGE TANKS**

Supply, deliver, and install 2 No. 10 000 litre vertical ribbed water storage tanks. Tanks must be manufactured from food-grade Linear Low-Density Polyethylene (LLDPE), UV-stabilised, and feature a seamless one-piece moulded construction.

### **PS5.3 HEAVY-DUTY FARM GATE**

Supply and install 1 No. heavy-duty painted farm gate, measuring 3 600mm x 1 200mm high. The frame shall be manufactured from Ø48mm (nominal) heavy-duty round mild steel tubing.

### **PS5.4 ELECTRONIC THEODOLITE**

Supply and deliver 1 No. high-precision Electronic Digital Theodolite kit featuring a minimum angular accuracy of 5 seconds, complete with aluminium tripod, battery sets, adjustment tools, and a valid calibration certificate.

### **PS5.5 PUMPING EQUIPMENT (PROVISIONAL SUM)**

This item is allocated as a Provisional Sum. The conditions and procedures for approval, invoicing, and payment as stipulated in PS3.1 strictly apply. Supply, install, test, and commission a 5.5 kW 3-phase centrifugal pump set suitable for potable water duty. The installation must include a weather-proof control panel housing a soft starter, pressure switch (calibrated to switch off upon receiving tank float valve closure), dry run protection, and a heavy-duty float valve for the receiving tank.