



## **BRIEF TO SERVICE PROVIDER: Drone Footage, 3D Modelling, and Animation for six (6) Ports**

**For Financial Year (2022/2023)**

### **1. PURPOSE**

The purpose of this document is to provide a suitably detailed and sufficient brief to the Service Provider to enable them to provide the resources required and the time frame necessary for them to be able to deliver the desired end-product to Transnet National Ports Authority. The TNPA seeks the services of a reputable photographer or photography company to deliver Drone Footage, 3D Modelling, and Animation for six (6) Ports. Before embarking on the work described below, the Service Provider is required to formally submit a quotation explicitly indicating the cost and time required to undertake the scope of work.

### **2. INTRODUCTION**

The South African ports are viewed as the key engines for economic growth. South Africa is situated on one of the busiest international sea routes, critical to international maritime transportation, and its geographical location presents a huge opportunity for investing in a diversified maritime market. In line with the growing developments in the maritime industry, the National Ports Authority seeks to continue to enhance its role in facilitating trade, influencing growth through the provision of port infrastructure capacity ahead of demand; and aligning its core activities to changing market dynamics. The Authority has several additional development projects planned for the next five to ten years. The ports under the control of the TNPA span the South African coastline, which measures approximately 2 800 km. TNPA's asset base consists of port land, basic port infrastructure and marine fleet at the eight commercial ports. TNPA manages port land of approximately 43,4 million m<sup>2</sup> and about 750 leases across the port system.

### **3. BACKGROUND AND PROBLEM STATEMENT**

Currently, there are no existing animated video imageries that portray the Ports infrastructure and operations to existing photography. Traditional surveying methods are time-consuming, and preparation and planning are critical for the maintenance of port infrastructure, the advantage. The drones can capture data in

dramatically shorter timeframes. The purpose of the project is to depict the challenges faced by South African commercial Ports because of the dynamic maritime evolutions which impact the existing port infrastructure, capability, capacity, and operational efficiencies by providing a 3D animation and high-resolution imagery depicting these challenges to enable better decision-making.

#### **4. SCOPE OF WORK**

- a) Drone video & photography
- b) Aerial and outdoor photography
- c) 3D Modelling and Animation

##### **4.1 Objectives and goals of the proposal**

- i. Build a photographic road map of South African Ports.
- ii. Tell a photographic narrative of the work that the Planning and Development Department does.
- iii. Capture the various Ports and the Terminal operations.
- iv. Show the Terminal operations to investors and Port Users.
- v. Assist the Port in marketing.

The photographs will be utilized on various promotional/educational/information products and for the GIS and mapping programs of the TNPA. These will also be used on various platforms like newspapers, as still in broadcast/digital channels, newsletters/annual reports, brochures, PowerPoint presentations, project reports, social media platforms, and the website and online GIS platforms.

##### **4.2 Drone operator**

The Drone Operator must engage with ATNS and the following high-level requirements must be met:

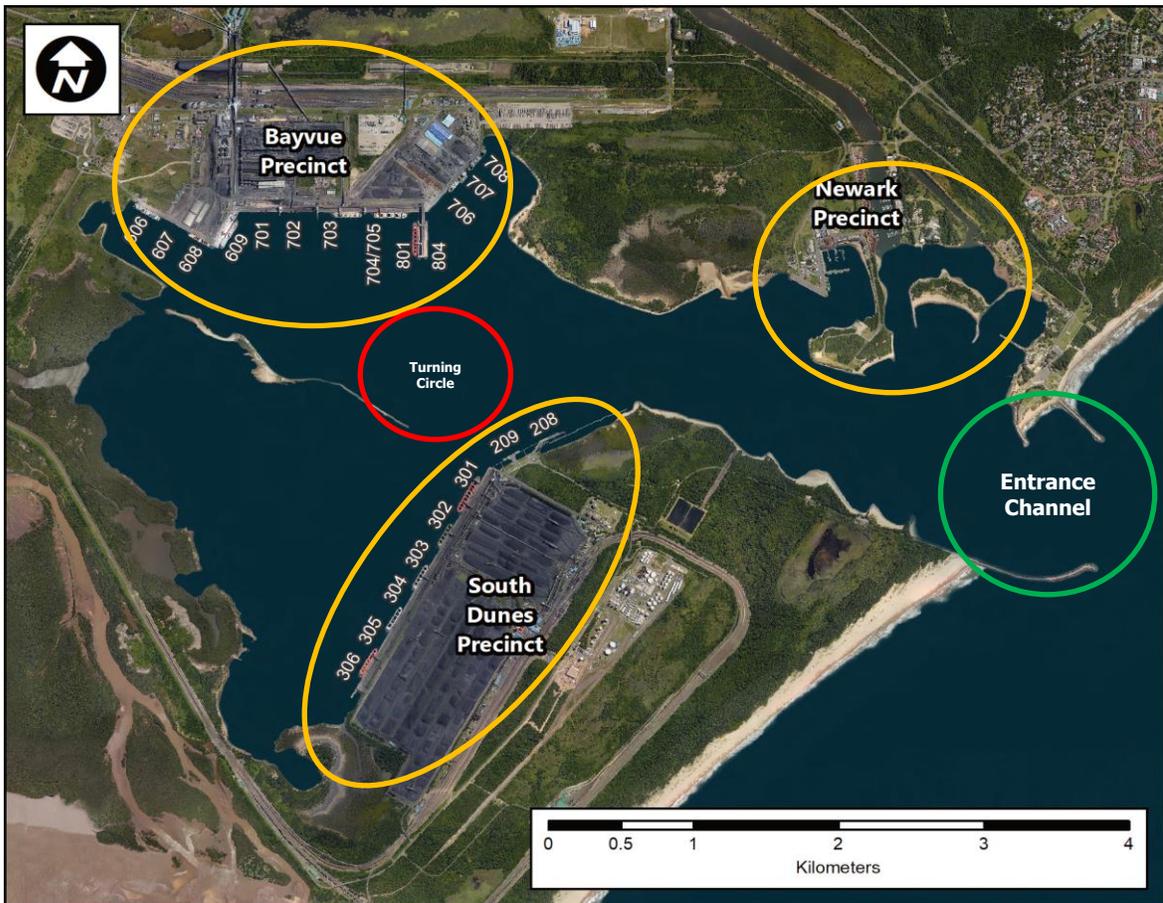
- i. Air Service License (ASL), issued by the Department of Transport.
- ii. Drone operator must hold a valid SACAA / Remotely Piloted Aircraft Operator Certificate (ROC).
- iii. Remote Pilot License (RPL) that allows the pilot to operate a certain type of aircraft within certain limitations.
- iv. RPAS Registration with the SACAA – this should be clearly marked on aircraft using black lettering against a yellow background.

### 4.3 Drone flight approval

The Port airspace is the jurisdiction of the Port Harbor Master, and permission to fly would be sought from the Harbor Master's Office, with strict adherence to any specific requirements specified by CAA regulations.

**Port of Richards Bay** flight locations are as follows:

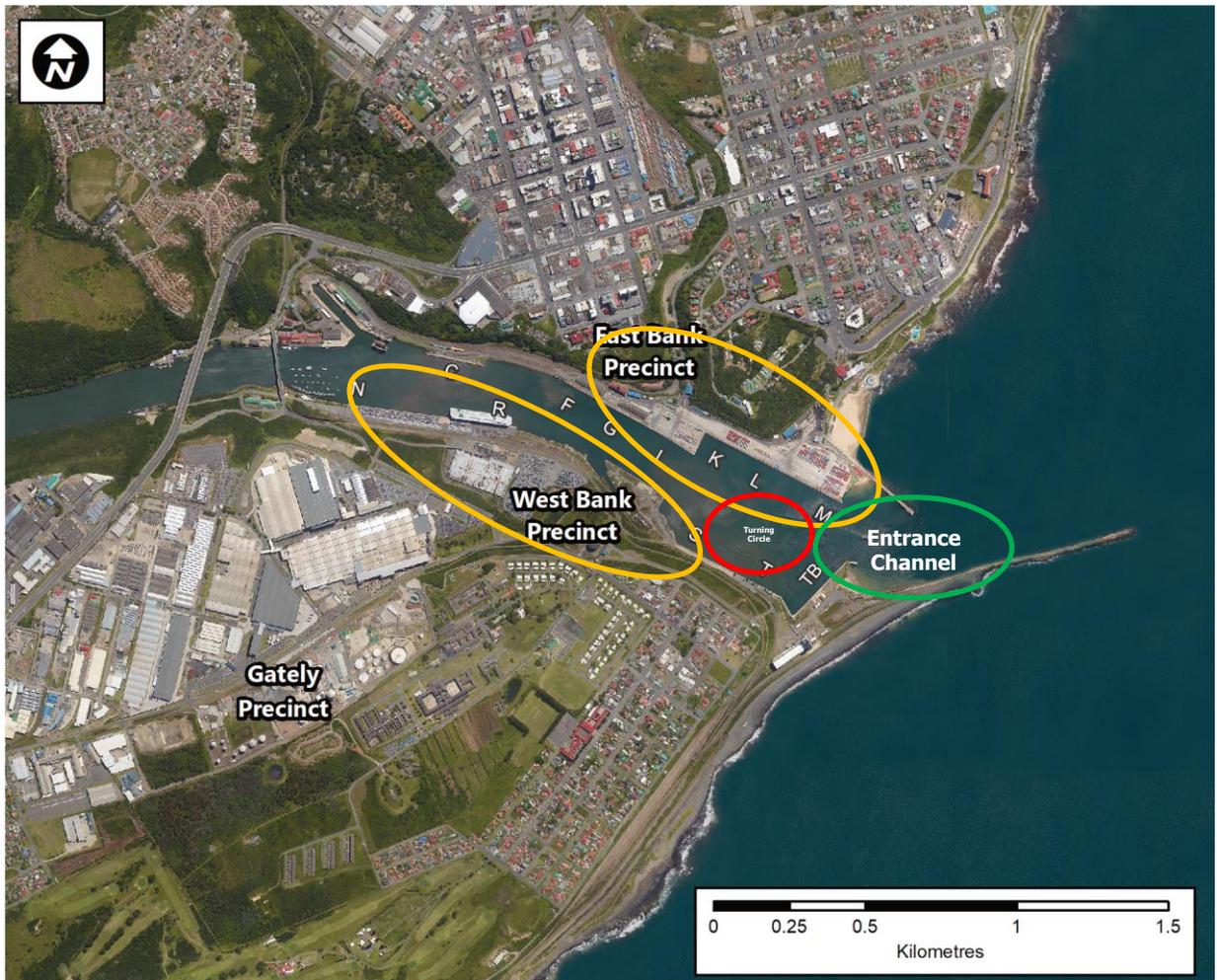
- i. Full view of land and waterside of Port of Richards Bay as shown in Figure 1 below.
- ii. Close-range fly over Bayvue, South Dunes and Newark Precinct as depicted in yellow.
- iii. Sterilization of berths due to the size of vessels that call in the port.
- iv. Berth utilization (Crane movements).
- v. Close range fly over Port entrance as depicted in green and
- vi. Close range fly over of a turning vessel at Port turning circle as depicted in red.



**Figure 1: Port of Richards Bay Flight Locations**

**Port of East London** flight Locations are as follows:

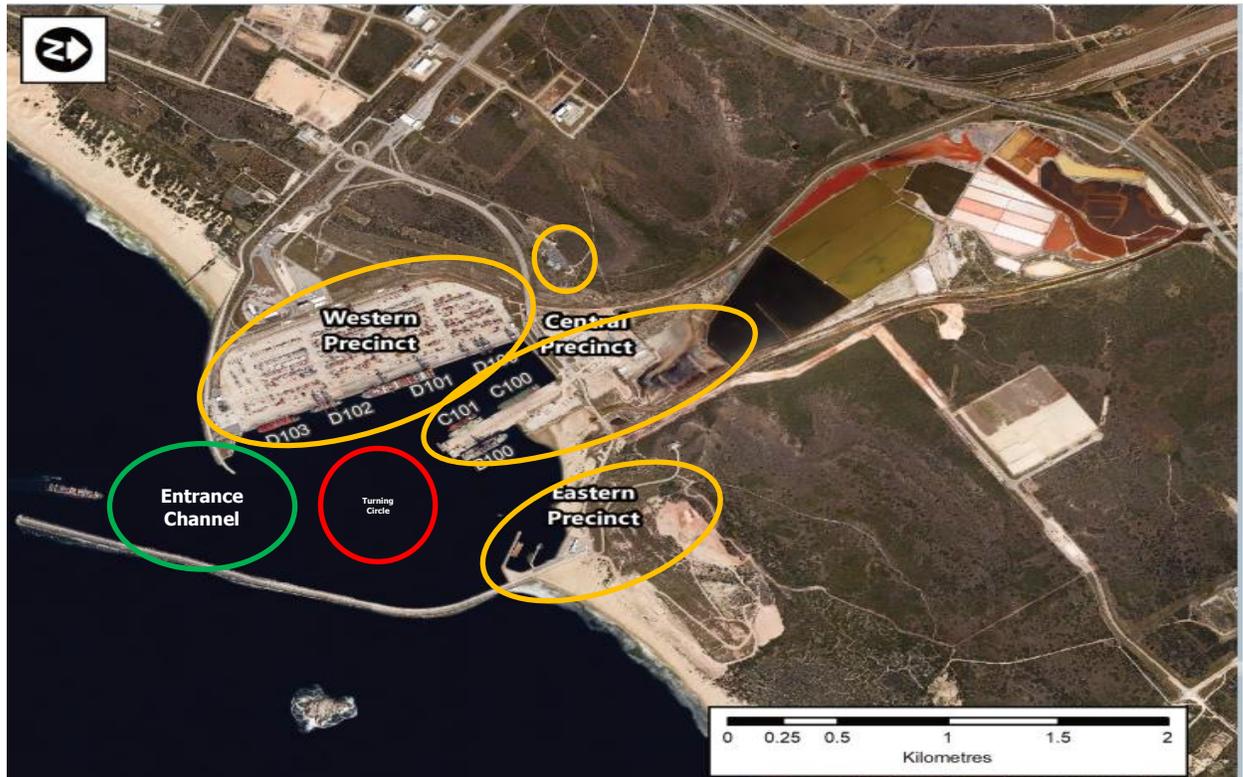
- i. Full view of land and waterside of the Port of East London as shown in Figure 2 below.
- ii. Close-range fly over East Bank and West Bank Precinct as depicted in yellow.
- iii. Sterilization of berths due to the size of vessels that call in the port.
- iv. Berth utilization (Crane movements);
- v. Close range fly over Port entrance as depicted in green;
- vi. Close-range flyover of a turning vessel at the Port turning circle as depicted in red.



**Figure 2: Port of East London Flight Locations**

**Port of Ngqura** flight locations are as follows:

- i. Full view of land and waterside of the Port as shown in Figure 3 below;
- ii. Close-range fly over eMendi Building, Western, Central and Eastern Precincts as depicted in yellow;
- iii. Sterilization of berths due to the size of vessels that call in the port;
- iv. Berth utilization (Crane movements);
- v. Close range fly over Port entrance as depicted in green and
- vi. Close range flyover of a turning vessel at Port turning circle as depicted in red.



**Figure 3: Port of Ngqura Flight Locations**

**Port of Port Elizabeth** flight Locations are as follows:

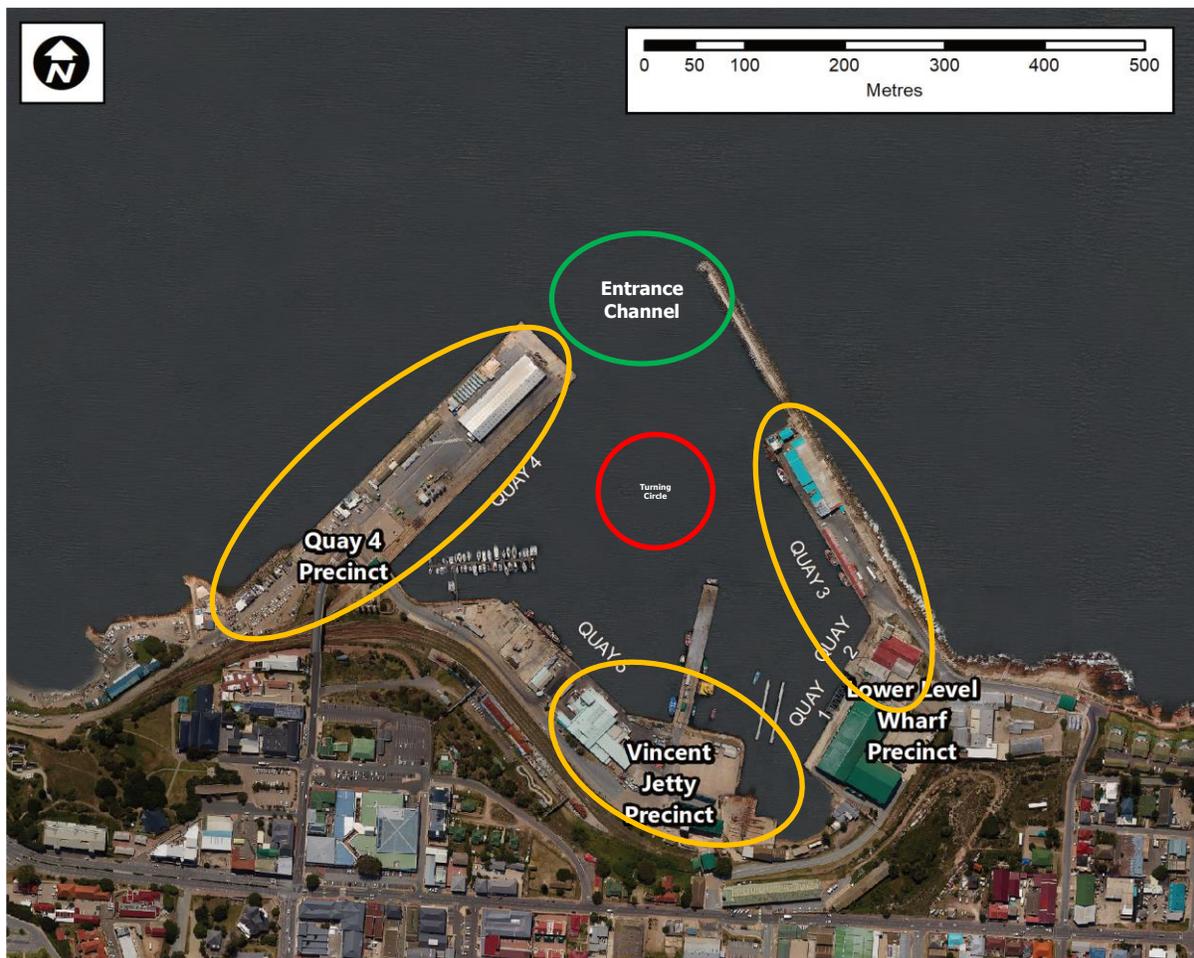
- i. Full view of land and waterside of the Port OF Port Elizabeth as shown in Figure 4 below;
- ii. Close-range fly over Charl Malan, Flemming Street and Baaken’s River Precincts as depicted in yellow;
- iii. Sterilization of berths due to the size of vessels that call in the port;
- iv. Berth utilization (Crane movements);
- v. Close range fly over Port entrance as depicted in green and
- vi. Close range flyover of a turning vessel at Port turning circle as depicted in red.



**Figure 4: Port of Port Elizabeth Flight Locations**

**Port of Mossel Bay** flight Locations are as follows:

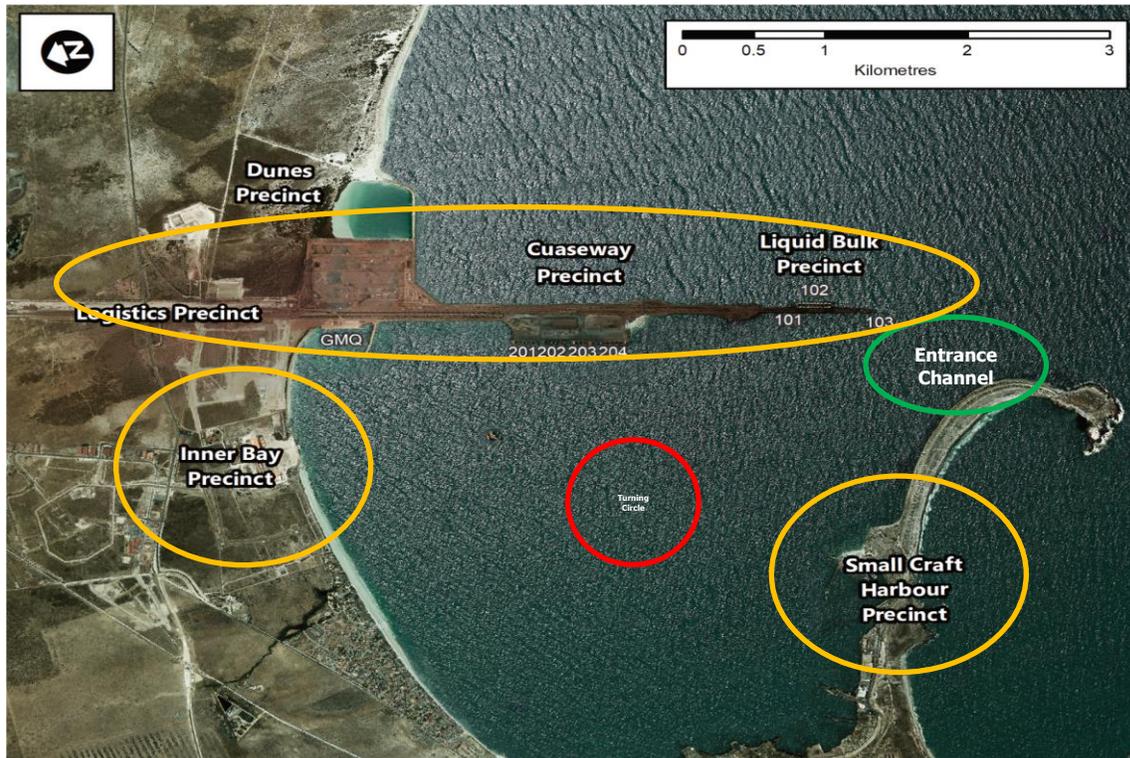
- i. Full view of land and waterside of the Port as shown in Figure 5 below;
- ii. Close-range fly over Quay 4, Vincent Jetty, and Lowe Level Wharf Precincts as depicted in yellow;
- iii. Sterilization of berths due to the size of vessels that call in the port;
- iv. Berth utilization (Crane movements);
- v. Close range fly over Port entrance as depicted in green and
- vi. Close range fly over of a turning vessel at Port turning circle as depicted in red



**Figure 5: Port of Mossel Bay Flight Locations**

**Port of Saldanha** flight Locations are as follows:

- i. Full view of land and waterside of the Port as shown in Figure 6 below;
- ii. Close-range fly over Inner Bay, Small Craft Harbour, Logistics, Causeway, and Liquid Precincts as depicted in yellow;
- iii. Sterilization of berths due to the size of vessels that call in the port;
- iv. Berth utilization (Crane movements);
- v. Close range fly over Port entrance as depicted in green and
- vi. Close range fly over of a turning vessel at Port turning circle as depicted in red.



**Figure 6: Port of Saldanha Flight Locations**

#### **4.4 Photography Image Copyrights**

- i. All photographs that the TNPA commissions belong to the TNPA and TNPA has full copyrights to these.
- ii. The TNPA can give permission for the photographer to use images for Portfolio purposes but not for resale and reuse by any other party.
- iii. The TNPA requires that requests to use its photographs by any other party be done in writing to the Communications Manager.
- iv. The condition on such requests is that all photographs must be correctly identified, and picture credits given to the photographer.

#### **4.5 Type, quality, and format of delivery of photographs**

All photographs must be delivered in the following type and quality: NEF (Raw), JPEG, GIF, PNG and in High Resolution and Low resolution.

- i. Video of the entire drone flight to be edited and neatly packaged.
- ii. Each Aerial photograph must be in landscape and portrait
- iii. Outdoor photographs must be panoramic
- iv. The area of the port to be digitally scanned/surveyed and photographed (Not google earth images)
- v. Aerial photographs must have a focal subject point
- vi. Aerial photography shall be undertaken during ideal capture conditions (around solar noon, no haze, clouds etc)
- vii. Aerial images must be compatible with AutoCAD and GIS
- viii. These must be properly slugged with project name/phase and date of capture
- ix. Photographs must be delivered on external hard drive and emailed
- x. All photographs must be delivered to the TNPA Head office
- xi. The electronic deliverables for this project will need to be compatible to Ports information technology systems for data storage and manipulation.

### **5. EXPERIENCE OF THE BIDDER**

The bidder's key personnel must have relevant qualifications, skills and experience in Drone Survey, footage capturing and 3D modelling.

## **6. TECHNICAL PRE-QUALIFICATION REQUIREMENTS**

Bidders must provide the following compulsory documents as part of their bid submission:

- Air Service License (ASL) of the proposed Drone Operator, issued by the Department of Transport.
- Valid SACAA / Remotely Piloted Aircraft Operator Certificate (ROC) of the proposed Drone Operator; and
- Remote Pilot License (RPL) of the proposed Drone Operator allowing the pilot to operate a certain type of aircraft within certain limitations.

## **7. WORK SCHEDULE**

The duration of the project will be two (2) months. The project will be measured in two deliverables as outlined below:

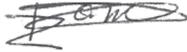
- a. High-resolution Aerial photographs and video footage of the 3 ports by 31 March 2023.
- b. 3D modeling and Animation of navigational challenges using two vessel sizes which will be communicated upon acceptance of the quotation.

The Respondents must submit with their proposals; a detailed schedule of the work to be undertaken, including the estimated time required for each task.

## **8. COST**

A fixed cost proposal with a detailed cost breakdown structure of the project proposal is required. The project cost must include VAT, all professional fees, disbursements, and specialist inputs. A breakdown of the project cost should be provided in per activity and payment will be affected in accordance with the finalization of each activity.

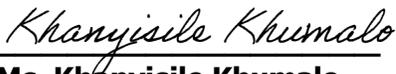
**COMPILED BY:**



**Mr. Zanoxolo Pama**

Geo-Spatial Manager: Planning and Development  
Transnet National Ports Authority  
Date: 05 March 2023

**APPROVED / NOT APPROVED BY:**



**Ms. Khanyisile Khumalo**

Executive Manager: Planning and Development  
Transnet National Ports Authority  
Date: 05 March 2023