



21 July 2017  
509310/42A

South African Heritage Resources Agency  
Via SAHRIS website

## Attention: Lesa la Grange

Dear Lesa

### Kalk Bay Fishing Harbour: Notification of Intent to Develop

The Coega Development Corporation (CDC), acting as implementing agent on behalf of the National Department of Public Works (NDPW), have appointed PRDW Consulting Port and Coastal Engineers (PRDW) as consultants to manage the repair, maintenance and upgrades of marine infrastructure at the Kalk Bay fishing harbour.

PRDW have appointed SRK Consulting (SRK) to identify and undertake the environmental approval and permitting processes required for the proposed works, which will be undertaken as part of the Operation Phakisa initiative.

The purpose of this letter is to:

- Provide a description of the proposed works at Kalk Bay Fishing Harbour;
- Confirm the need for an application in terms of Section 34 of the National Heritage Resources Act 25 of 1999 (NHRA) for repairs to structures older than 60 years;
- Confirm the need for an application in terms of Section 38 (2) of the NHRA; and
- Provide supporting information.

### 1. Proposed works at Kalk Bay Fishing Harbour

The proposed works at Kalk Bay fishing harbour include:

- Concrete repair and maintenance of existing marine structures;
- Maintenance and repair of quay furniture (bollards, fenders and access ladders);
- Repair and maintenance of the harbour slipways including rails, cradles and winches;

Partners R Armstrong, AH Bracken, N Brien, JM Brown, CD Dalglish, BM Engelsman, R Gardiner, M Hinsch, GC Howell, WC Joughin, DA Kilian, S Kisten, JA Lake, V Maharaj, DJ Mahlangu, I Mahomed, HAC Meintjes, MJ Morris, GP Nel, VS Reddy, PE Schmidt, PJ Shepherd, MJ Sim, VM Simposya, HFJ Theart, KM Uderstadt, AT van Zyl, MD Wanless, ML Wertz, A Wood

Directors AJ Barrett, GC Howell, WC Joughin, V Maharaj, VS Reddy, PE Schmidt, PJ Shepherd

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- Replacement of the quay crane;
- Breakwater concrete cap and wave wall repairs; and
- Maintenance dredging of isolated areas within the harbour basin.

Additional details regarding each of these activities are provided in the Project Description attached as **Appendix A**. These works have not yet commenced.

## 2. Application in terms of Section 34 of NHRA

The proposed works include repairs to the *main breakwater* as well as *the main fish landing quay*, both of which are older than 60 years. As such, SRK believes a permit for repairs to these structures will be required, and will submit relevant information in support of such a permit application on the SAHRIS website. **Appendix B** provides additional information and photographs of the structures older than 60 years.

## 3. Application in terms of Section 38 of NHRA

The proposed repairs at Kalk Bay fishing harbour will not include any linear developments exceeding 300 m in length and will not require the rezoning or subdivision of any property. The proposed works will all take place within the existing footprint of harbour infrastructure, apart from dredging and the disposal of dredge spoil.

Three areas within the harbour require dredging. The total area that will be affected by dredging and disposal of dredge spoil is 750 m<sup>2</sup>. Dredged material will either be placed on the adjacent seabed, or discharged in the harbour basin. **Appendix C** provides additional details regarding the proposed dredge and dredge disposal areas.

It is proposed that all maintenance dredging activities and the associated disposal of dredge spoil will be undertaken in terms of a Maintenance Management Plan which will include the following requirements:

- *Report all exposed marine/terrestrial heritage resources to the HWC and/or SAHRA. Heritage resources uncovered/disturbed must not be disturbed further until advice has been obtained from the relevant heritage authority on how they should be dealt with.*
- *Ensure that all Contractors and Sub-contractors are made aware of the potential existence of heritage resources (terrestrial and marine), and are instructed on the correct procedure for preserving the integrity thereof.*

As the proposed works at Kalk Bay harbour will not include linear developments exceeding 300 m in length, and will not affect an area exceeding 5 000m<sup>2</sup> in size, SRK does not anticipate that an application in terms of Section 38 of the NHRA will be required.

Should you have any queries or require any further information, please do not hesitate to contact the undersigned. Could you please ensure that all correspondence with regard to this application is addressed or copied to Sharon Jones at sjones@srk.co.za.

Yours faithfully,

## SRK Consulting (South Africa) (Pty) Ltd

SRK Consulting - Certified Electronic Signature

The logo for SRK Consulting (South Africa) (Pty) Ltd, featuring the company name in a sans-serif font and a stylized signature in orange and grey.

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This signature has been printed digitally. The Author has given permission for its use for this document. The details are stored in the SRK Signature Database

Sharon Jones, Pr.Sci.Nat, CEAPSA

Principal Environmental Scientist and Associate Partner

cc. Gus Hojem PRDW  
Maxwell Denga CDC

**Appendix A:**  
**Project Description**

## Professional Consultancy Services for Coastal Engineering Infrastructure Activities – Proclaimed Fishing Harbours Western Cape

### Project Descriptions

Kalk Bay Harbour

REV.03

29 May 2017



## Professional Consultancy Services for Coastal Engineering Infrastructure Activities – Proclaimed Fishing Harbours Western Cape

### Project Descriptions

Kalk Bay Harbour

S2042-1-TN-EN-002

29 May 2017

REV.	TYPE	DATE	EXECUTED	CHECK	APPROVED	CLIENT	DESCRIPTION / COMMENTS
00	A	04/10/2016	MGT	GPH			
01	C	2/11/2016	GPH				Updated work figures
02	C	18/11/2016	MGT	GPH			Updated project descriptions
03	C	29/05/2017	MGT	GPH			Updated project descriptions

TYPE OF ISSUE: (A) Draft (B) To bid or proposal (C) For Approval (D) Approved (E) Void

COEGA DEVELOPMENT CORPORATION  
South Africa



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## 1. INTRODUCTION

### 1.1 Project Background

The National Department of Public Works (NDPW) has appointed the Coega Development Corporation (CDC) as the implementing agents for the repair, maintenance and upgrade of the 13 proclaimed Western Cape fishing harbours. The 13 fishing harbours have been split into four separate work packages. PRDW have been appointed by CDC for the professional consulting services required to repair, maintain and upgrade the marine infrastructure for Work Package 1 and 2, which includes Hout Bay, Kalk Bay, Gordons Bay, Hermanus (Work Package 1), and Saldanha Bay and Pepper Bay (Work Package 2).

The following project description focuses on the work required for Kalk Bay Harbour as shown in Figure 1-1.



**Figure 1-1:** Kalk Bay Harbour

### 1.2 Project General Scope of Work

PRDW have carried out a condition assessment of all marine infrastructure within the Kalk Bay harbour. The scope of work includes the following:

- Concrete repair and maintenance of existing marine structures;
- Maintenance and repair of quay furniture (bollards, fenders and access ladders);
- Repair and maintenance of the harbour slipway including rails, cradles and winches;
- Repair and maintenance of quay crane;
- Maintenance dredging in the harbour basin where required;
- Harbour breakwater repair and upgrade (Concrete Edge beam and wave wall); and
- Repair of the secondary breakwater edge beam.



## 2. KALK BAY HARBOUR SCOPE OF WORKS

### 2.1 Kalk Bay

Kalk Bay is situated on the False Bay coastline of the Cape Peninsula, approximately 25km south of Cape Town. Home to one of the earliest fishing communities in South Africa, the harbour was proclaimed in 1911, with the main breakwater and offloading quay completed in 1919. The secondary breakwater was constructed in the late 1930's. Figure 2-1 Shows the Kalk Bay Harbour and the different marine structures associated with it.



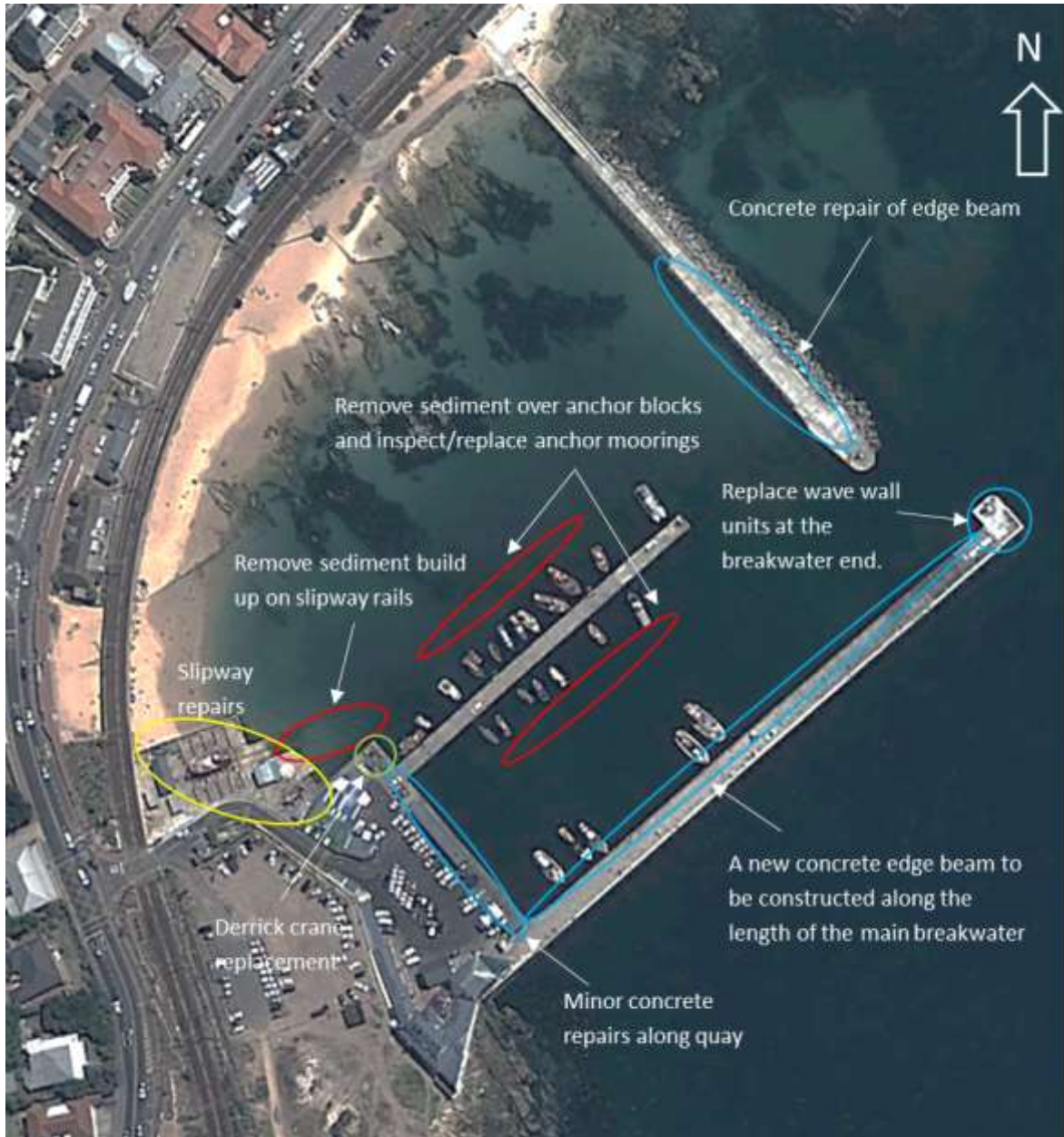
**Figure 2-1:** Kalk Bay Marine Structures





The harbour accommodates a traditional line fishing industry, with many small fishing boats being registered. There are no fish processing facilities, and the catch is generally sold on the quayside. No leisure craft are accommodated within the harbour.

A summary of the repair and maintenance work required in Kalk Bay is shown in Figure 2-2.



**Figure 2-2:** Work required in the Kalk Bay Harbour



## 2.2 Concrete repair of infrastructure

Table 2-1 shows the concrete repair work required.

**Table 2-1: Concrete repairs**




<p><u>Main Breakwater</u> Concrete repair of the capping at the route of the primary breakwater.</p>	
<p><u>Fish Landing Quay</u> Concrete patch repairs along the cope edge of the fish landing quay. This will include careful breakout of the damaged concrete, cleaning of corroded steel reinforcement, steel passivation coating and the application of repair mortar.</p>	
<p><u>Secondary Breakwater</u> Cast a reinforced concrete edge beam to seal off side of secondary breakwater cap to prevent loss of fine material.</p>	



## 2.3 Bollards and Fenders

The bollards and fenders in Kalk Bay harbour are in need of repair and maintenance work. Refer to Table 2-2 for the typical work required.

**Table 2-2: Existing quay furniture of Kalk Bay**





<p><u>Fish Landing Quay</u> Supply and install a new bollard at the Eastern end of the quay.</p>	
<p><u>Inner Jetty</u> There are a number of missing tyre fenders along the jetty, breakwater and quay structure. These all need to be replaced, together with the corroded fender fixings (i.e. fender fixings, chains and shackles).</p>	
<p><u>Main Breakwater</u> Bollards need to be cleaned and painted. Corroded bollard holding down bolts along the fish landing quay must be replaced.</p>	



## 2.4 Slipways

Table 2-3 shows slipway repair and maintenance work required for both the 90 and 30 tonne slipways in Kalk Bay harbour.

**Table 2-3: Slipway repair and maintenance work**




<p><u>Slipway cradle</u> Dismantle, clean and apply corrosion protection to the cradle steel sections.</p>	
<p><u>Bogie wheels</u> Some of the bogie wheels are worn and corroded and tend to jam during operation. All bogie wheels need to be removed, serviced and re-installed. Badly damaged bogie wheels will be replaced.</p>	
<p><u>Timber support blocks</u> Remove and replace damaged timber support blocks.</p>	
<p><u>Steel side arm supports</u> Four new side supports arm are to be fabricated for the 90 tonne slipway.</p>	



## 2.5 Breakwater Repairs (Main Breakwater)

The Kalk Bay main breakwater is generally in good condition, however some repair and maintenance work is required. Refer to Table 2-4 for the typical work required.

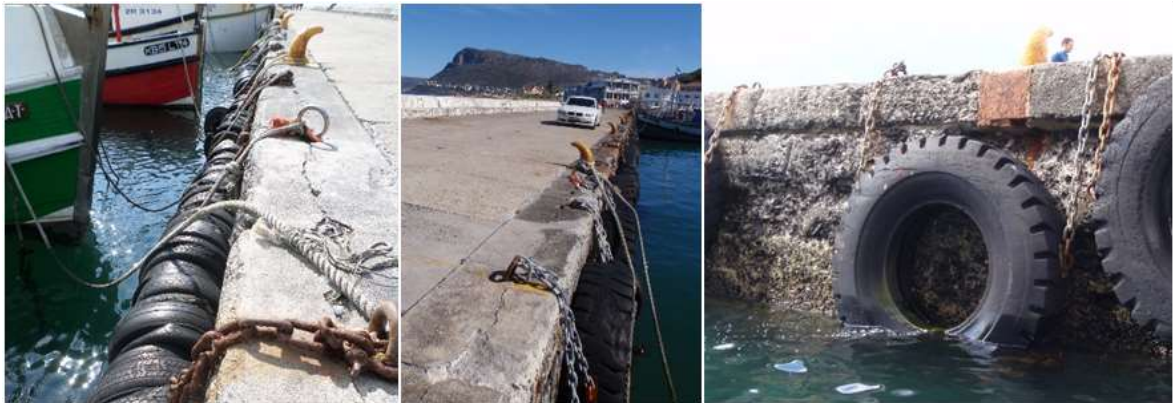
**Table 2-4: Breakwater repair and maintenance work**

<p><u>Splash wall repair</u> Concrete patch repair along the length of the wave wall.</p>	
<p><u>Splash wall</u> Replace missing wave wall units.</p>	
<p><u>Holes in the breakwater blockwork</u> There are a few holes in the breakwater above and below water level that need to be filled with concrete to prevent further scour and damage to the structure.</p>	



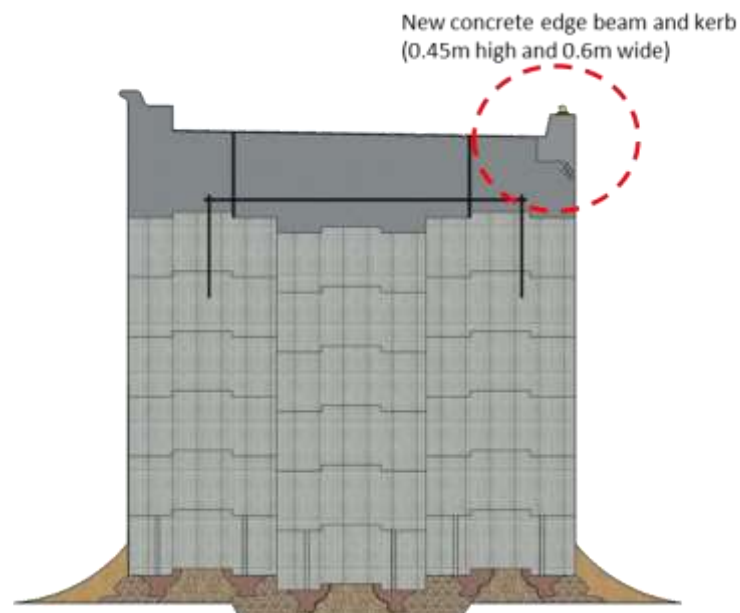
## 2.6 Main Breakwater Upgrade

The inside edge beam along the breakwater is in a poor condition. The limited bollards result in mooring lines being fixed to fender fixings. These fixings are not designed to take the loads and therefore have caused damage to the edge beam. Sections of the cope beam are also undermined due to eroded concrete. The damaged edge beam is illustrated in the photos in Figure 2-3 below.



**Figure 2-3: Main Breakwater Edge Beam**

A new concrete edge beam will be constructed on the leeward side of the breakwater and will accommodate a new layout of bollards and fender fixings. The edge beam will have a 0.45 m high raised kerb. The kerb will improve safety by acting as a barrier along the edge. Gaps will be provided between kerb units for overtopping drainage. Refer to Figure 2-4 for the proposed typical section of the breakwater upgrade.

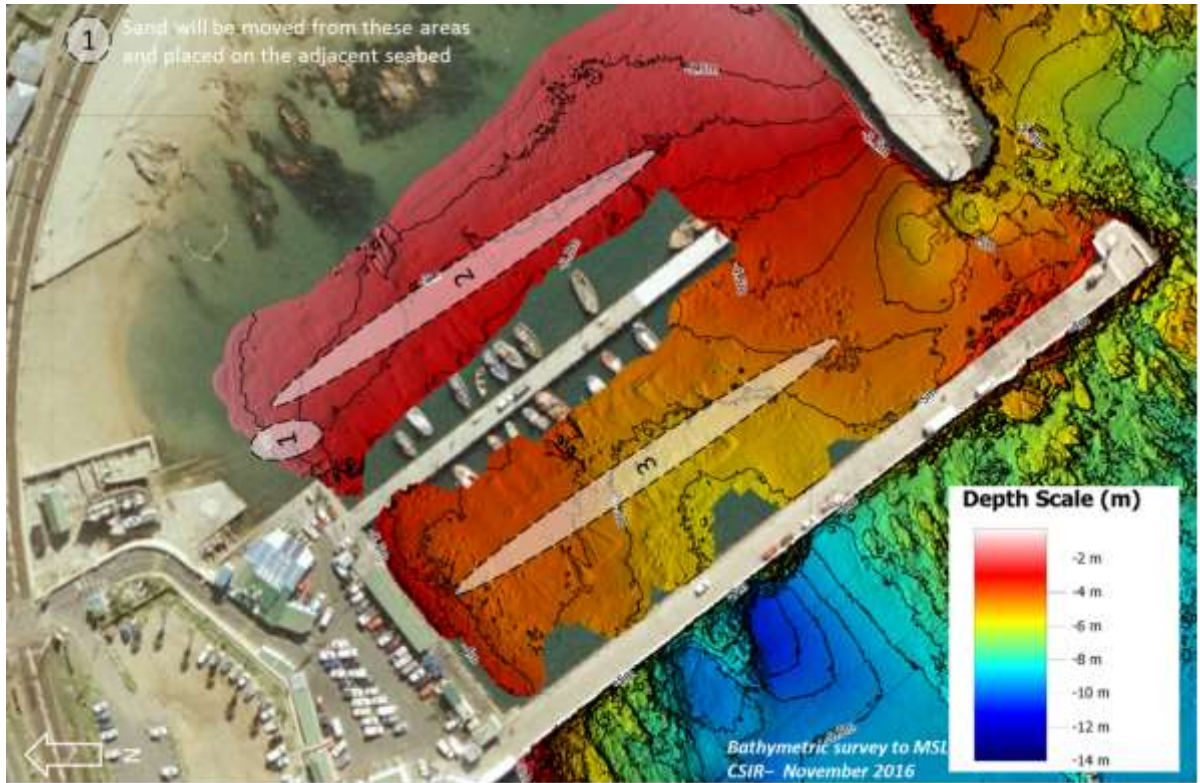


**Figure 2-4: Typical section of the main breakwater and edge beam upgrade**



## 2.7 Dredging

Based on the hydrographic survey for Kalk Bay harbour, there is sufficient depth for vessels to use all berthing facilities within the harbour, and thus no dredging is required to maintain harbour functionality. However; there are small amounts of material which are to be moved from the large slipway rails and the mooring anchor blocks and chains. Figure 2-5 shows the areas which require material to be moved within Kalk Bay Harbour. The total volume of material to be moved is approximately 335 m<sup>3</sup>.



**Figure 2-5:** Dredge areas for Kalk Bay harbour

## **Appendix B:**

### **Proposed works on structures older than 60 years**



## Professional Consultancy Services for Coastal Engineering Infrastructure Activities – Proclaimed Fishing Harbours Western Cape

### Project Descriptions: Repairs and upgrades to structures older than 60 years

Kalk Bay Harbour

REV.03

15 May 2017



COEGA DEVELOPMENT CORPORATION  
South Africa



## Professional Consultancy Services for Coastal Engineering Infrastructure Activities – Proclaimed Fishing Harbours Western Cape

### Project Descriptions: Repairs and upgrades to structures older than 60 years

Kalk Bay Harbour

S2042-1-TN-EN-002

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## 1. INTRODUCTION

### 1.1 Project Background

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The following project description focuses on the work required for Kalk Bay Harbour as shown in Figure 1-1.



**Figure 1-1:** Kalk Bay Harbour

### 1.2 Project General Scope of Work

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- Concrete repair and maintenance of existing marine structures;
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- Repair and maintenance of the harbour slipway including rails, cradles and winches;
- Repair and maintenance of quay crane;
- Maintenance dredging in the harbour basin where required; and
- Harbour breakwater repair and upgrade (concrete cap and wave wall); and
- Repair of the secondary breakwater edge beam.



## 2. KALK BAY HARBOUR SCOPE OF WORKS

### 2.1 Kalk Bay

Kalk Bay is situated on the False Bay coastline of the Cape Peninsula, approximately 25km south of Cape Town. Home to one of the earliest fishing communities in South Africa, the harbour was proclaimed in 1911, with the main breakwater and offloading quay completed in 1919. The secondary breakwater was constructed in the late 1930's. Figure 2-1 Shows the Kalk Bay Harbour and the different marine structures associated with it.

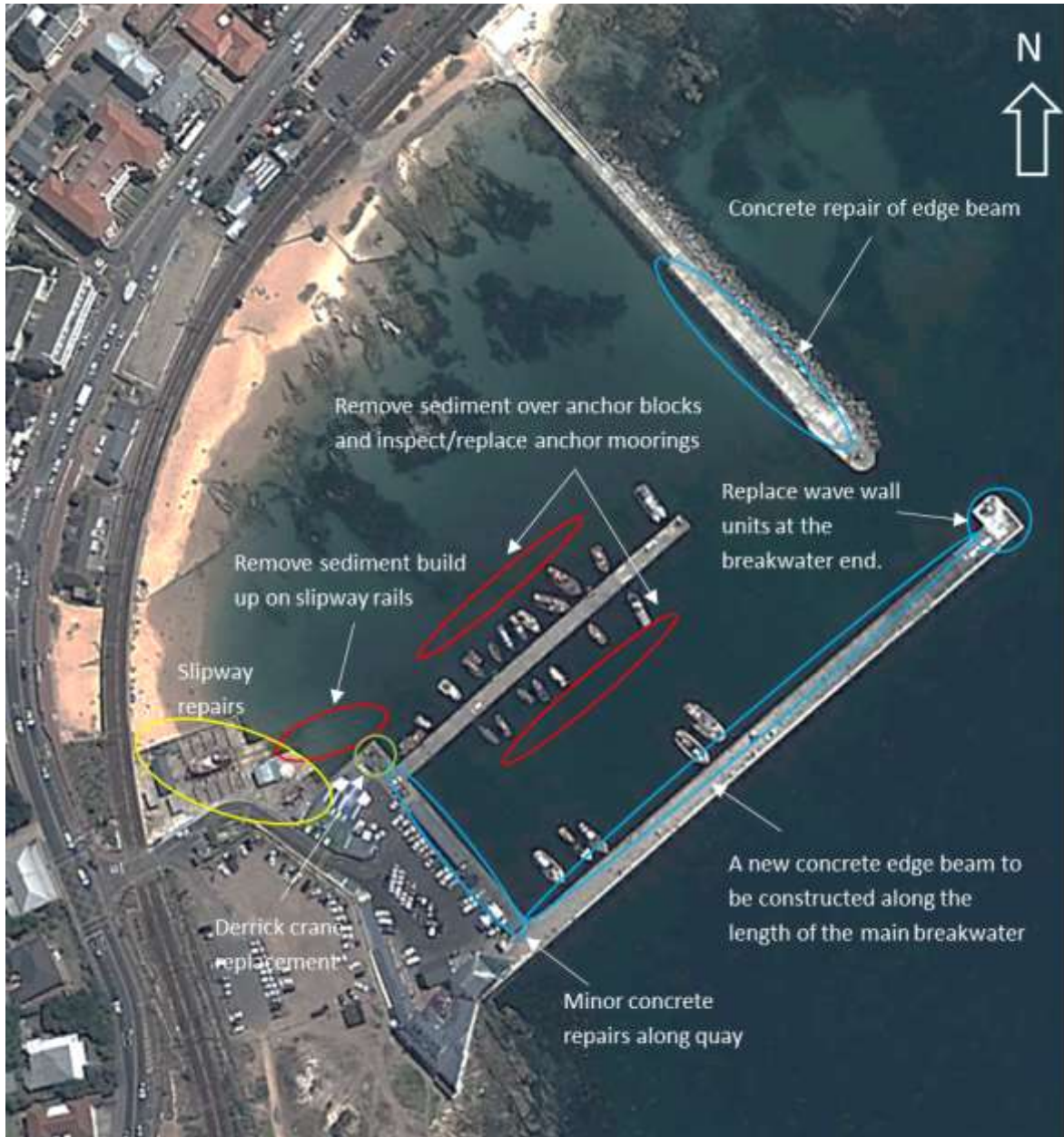


**Figure 2-1:** Kalk Bay Marine Structures



The harbour accommodates a traditional line fishing industry, with many small fishing boats being registered. There are no fish processing facilities, and the catch is generally sold on the quayside. No leisure craft are accommodated within the harbour.

A summary of the repair and maintenance work required in Kalk Bay is shown in Figure 2-2.



**Figure 2-2:** Work required in the Kalk Bay Harbour



## 2.2 Structures older than 60 years

Kalk bay harbour was constructed in 1919. Structures in the Kalk bay harbour older than 60 years are listed in *Table 2-1*.

**Table 2-1: Structures older than 60 years**

Gordons Bay	Length (m)	Built	Age	Source of information
Main Breakwater	240	1919	97	As Built Drawing, 1919
Main Fish Landing Quay	70	1923	94	Status Quo Report, 2002

The proposed works on each of the above structures are provided below.

### 2.2.1 Main Breakwater

The main breakwater is a 240 m long and 9 m wide gravity structure constructed with packed mass concrete blocks, as shown in **Error! Reference source not found.** The breakwater also provides additional mooring along the leeward side. A proposal for the upgrade of the breakwater is shown in Figure 2-4. The required repair work is as follows:

- Construct a dividing wall at the beginning of the breakwater. This is to limit access to and from the fish landing quay and preventing seals for accessing the breakwater;
- Concrete repairs to the wave wall;
- Replacement of missing sections of wave wall at the end of the breakwater;
- Fill voids in the vertical breakwater wall above and below water level;
- Repair, clean and paint bollards;
- Supply and install new bollards;
- Replace corroded and missing fender fixings; and
- Replace damaged and missing fenders.



**Figure 2-3: Main Breakwater**



The Kalk Bay main breakwater is generally in good condition, however some concrete repair, and maintenance of the quay furniture is required. Refer to Table 2-2 for the typical work along the Kalk Bay main breakwater.

**Table 2-2: Concrete repair and existing quay furniture**

<p><u>Main Breakwater - Concrete Capping</u> Concrete repair of the capping at the route of the primary breakwater.</p>	
<p><u>Main Breakwater – Wave wall repairs</u> Concrete patch repair along the length of the wave wall.</p>	

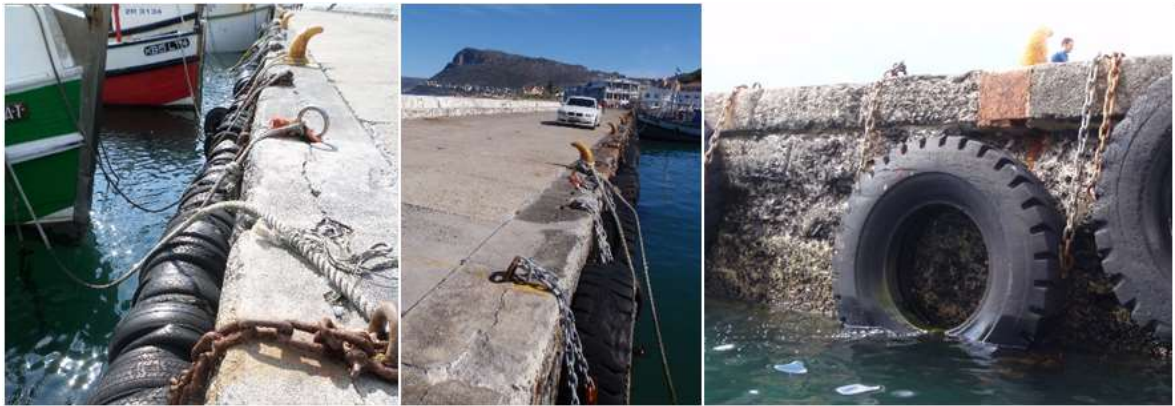




<p><u>Main Breakwater – Wave replacement</u> Replace missing wave wall units.</p>	
<p><u>Holes in the breakwater blockwork</u> There are a few holes in the breakwater above and below water level that need to be filled with concrete to prevent further scour and damage to the structure.</p>	

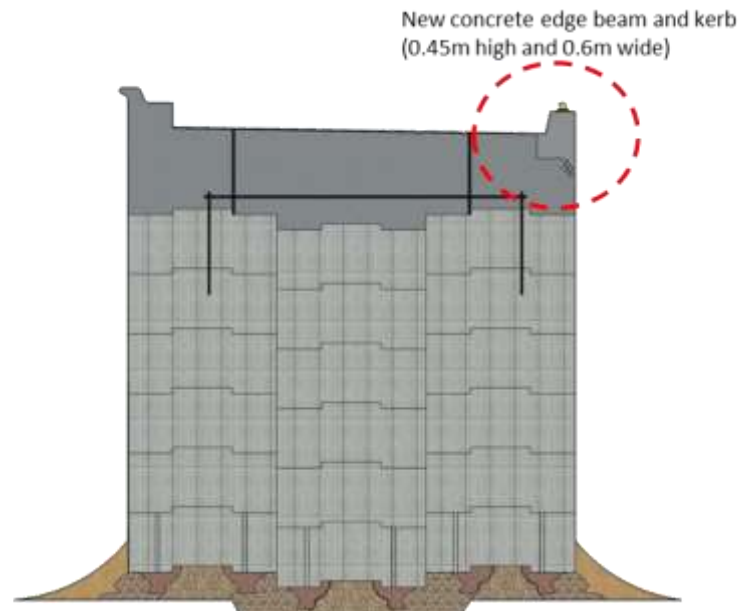


The inside edge beam along the breakwater is in a poor condition. The limited bollards result in mooring lines being fixed to fender fixings. These fixings are not designed to take the loads and therefore have caused damage to the edge beam. Sections of the cope beam are also undermined due to eroded concrete. The damaged edge beam is illustrated in the photos in Figure 2-4 below.



**Figure 2-4: Main Breakwater Edge Beam**

A new concrete edge beam will be constructed on the leeward side of the breakwater and will accommodate a new layout of bollards and fender fixings. The edge beam will have a 0.45 m high raised kerb. The kerb will improve safety by acting as a barrier along the edge. Gaps will be provided between kerb units for overtopping drainage. Refer to Figure 2-5 for the proposed typical section of the breakwater upgrade.



**Figure 2-5: Typical section of the main breakwater and edge beam upgrade**



### 2.2.2 Main Fish Landing Quay



The fish landing quay is a 70 m long precast concrete block wall used for offloading fish and servicing of trawlers. The required repair work is as follows:

- Minor concrete repair along the cope edge of the fish landing quay;
- Repair, clean and paint bollards;
- Replace corroded and missing fender fixings;
- Replace damaged and missing fenders.



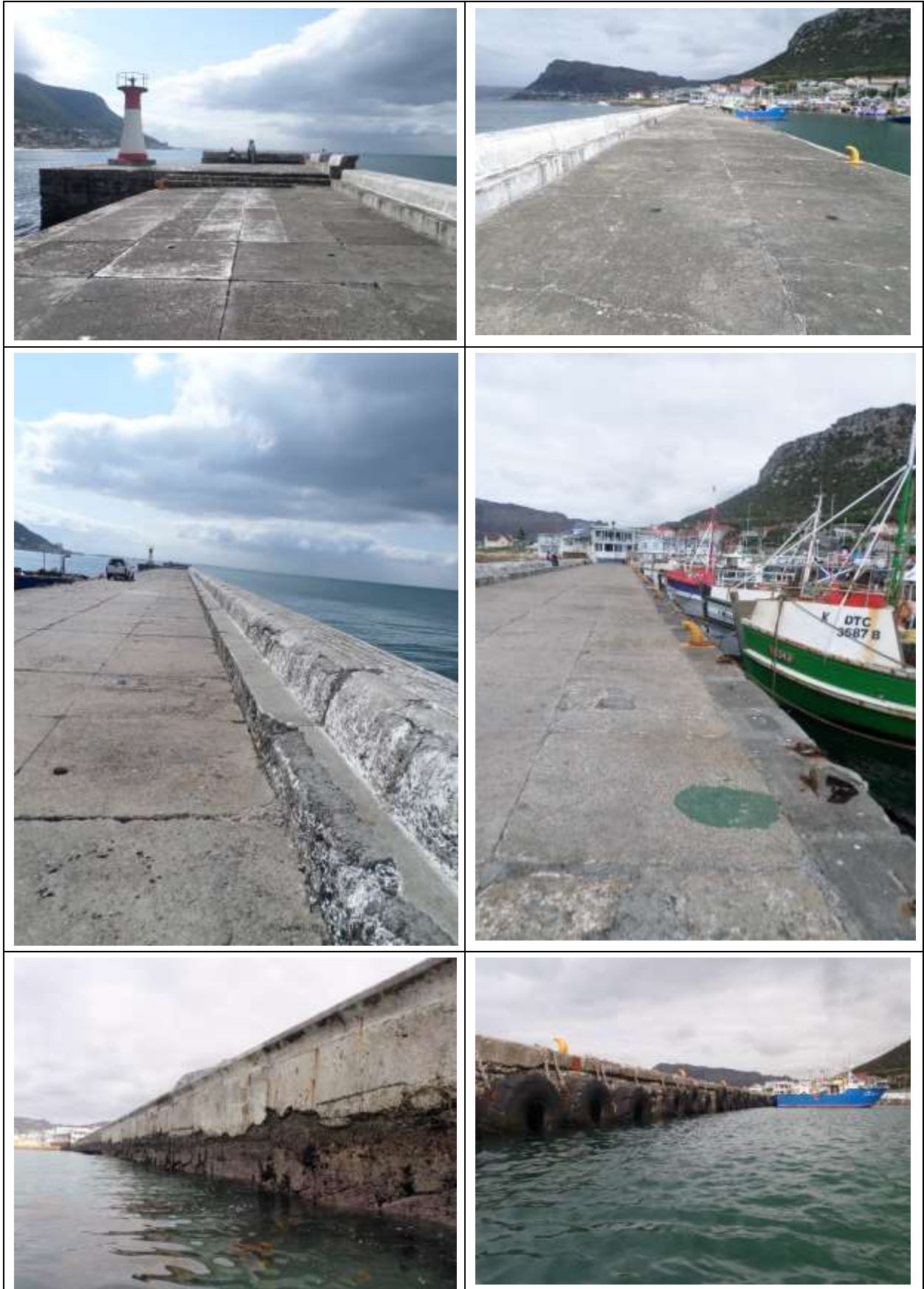
Table 2-3 shows the typical concrete repair works required on the fish landing quay, as well as the need for the supply and installation of a new bollard on its eastern edge.

**Table 2-3: Concrete repairs**

<p><u>Fish Landing Quay</u></p> <p>Concrete patch repairs along the cope edge of the fish landing quay. This will include careful breakout of the damaged concrete, cleaning of corroded steel reinforcement, steel passivation coating and the application of repair mortar.</p>	
<p><u>Fish Landing Quay</u></p> <p>Supply and install a new bollard at the Eastern end of the quay.</p>	

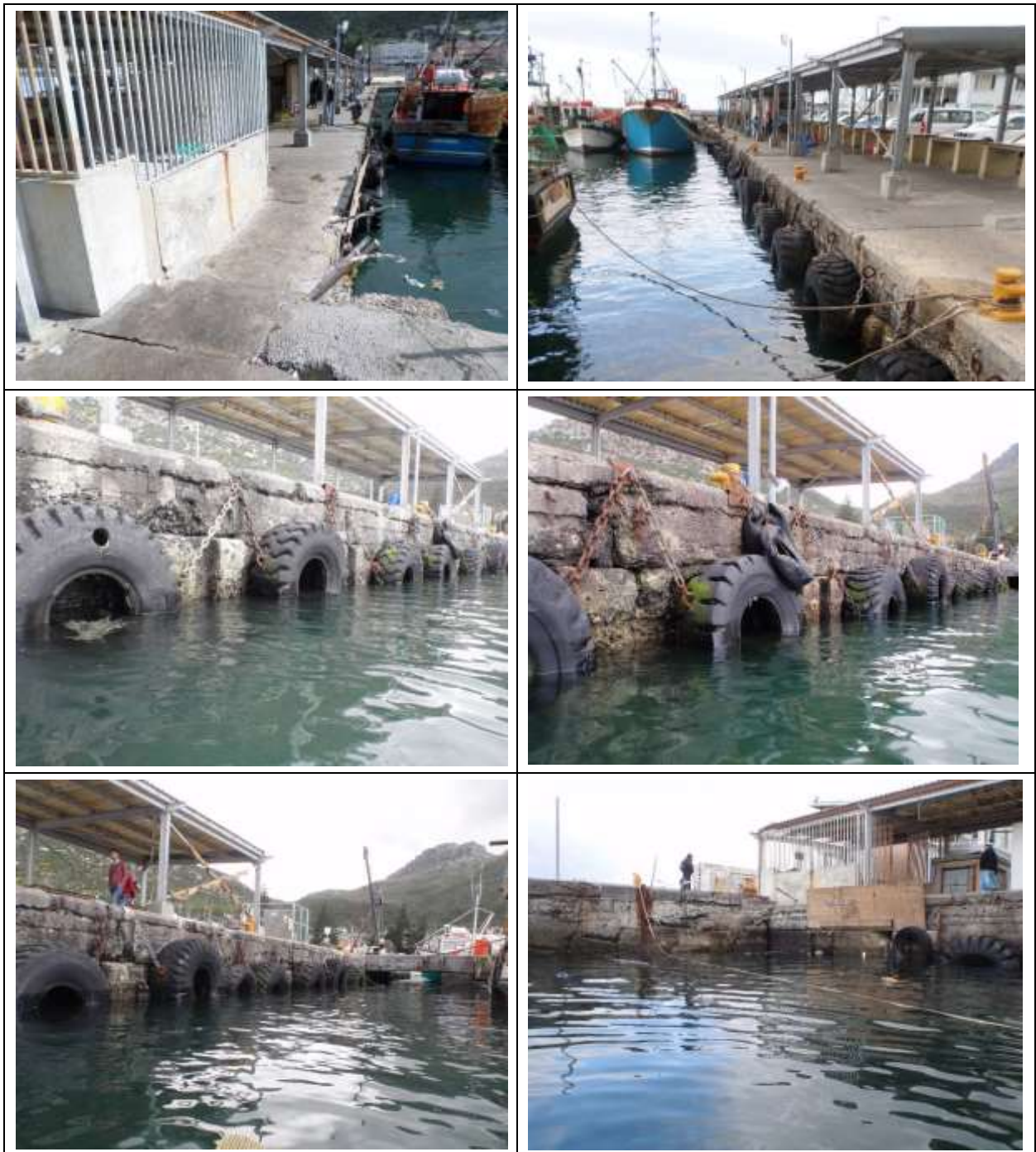


## ANNEXURE A | MAIN BREAKWATER – ADDITIONAL FIGURES





## ANNEXURE B | FISH LANDING QUAY – ADDITIONAL FIGURES



## **Appendix C:**

### **Proposed dredging and dredge disposal**

## S2042: Western Cap Fishing Harbours – Work Package 1 **Dredge Areas and Disposal Sites – Kalk Bay**

Professional Consultancy Services for Coastal Engineering Infrastructure Activities

29 May 2017





# Western Cape Fishing Harbours

Kalk Bay



Secondary Breakwater

Inner Jetty

Slipways

Fish Landing  
Quay

Main Breakwater

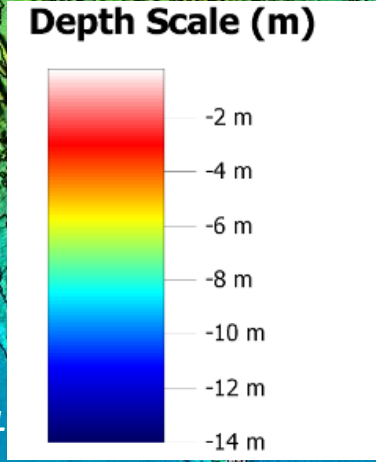
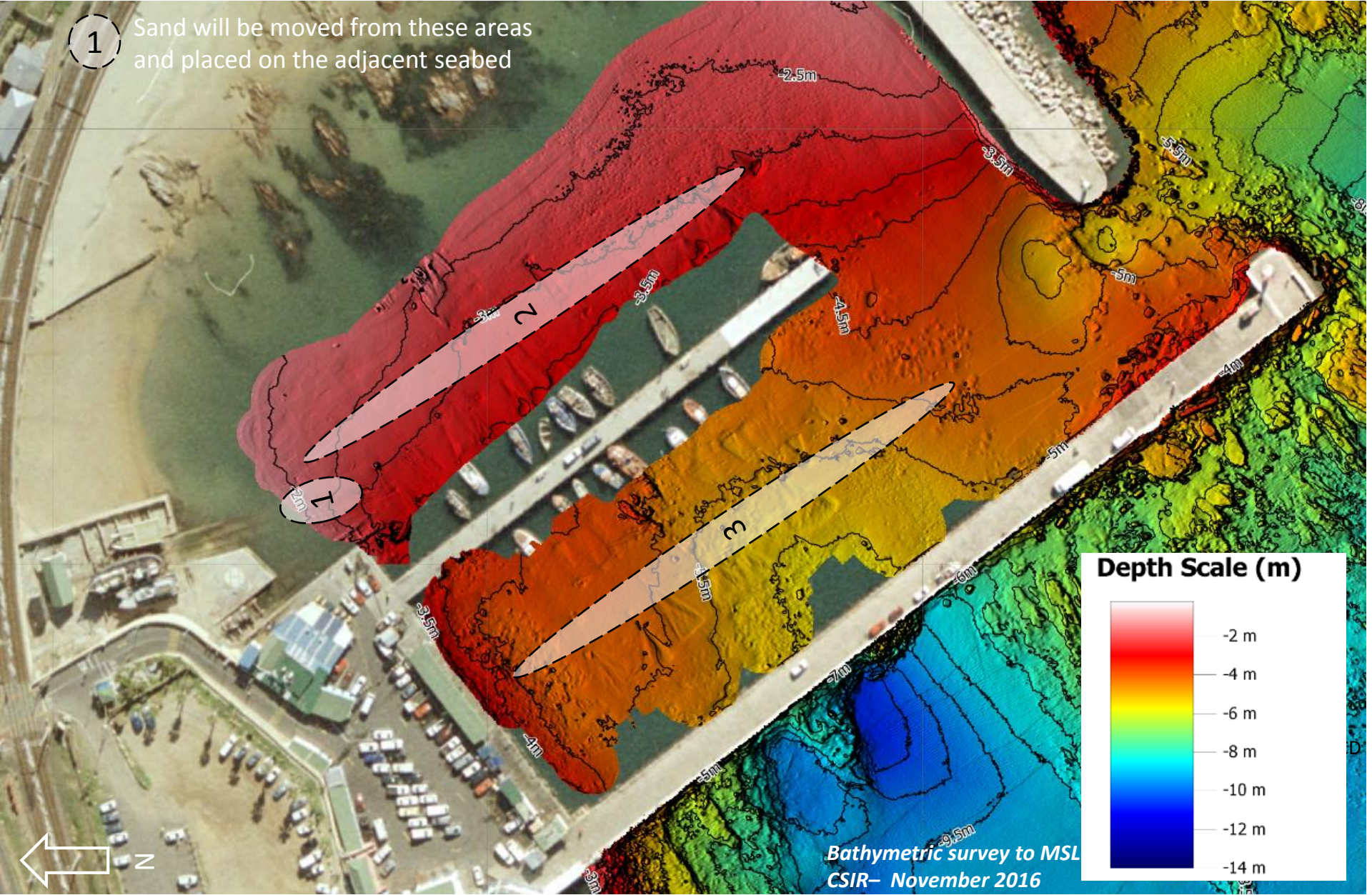


# Western Cape Fishing Harbours

## Kalk Bay– Proposed Dredging Areas



1 Sand will be moved from these areas and placed on the adjacent seabed



Bathymetric survey to MSL  
CSIR– November 2016

# Western Cape Fishing Harbours

## Kalk Bay– Proposed Dredging Areas and Disposal of Material

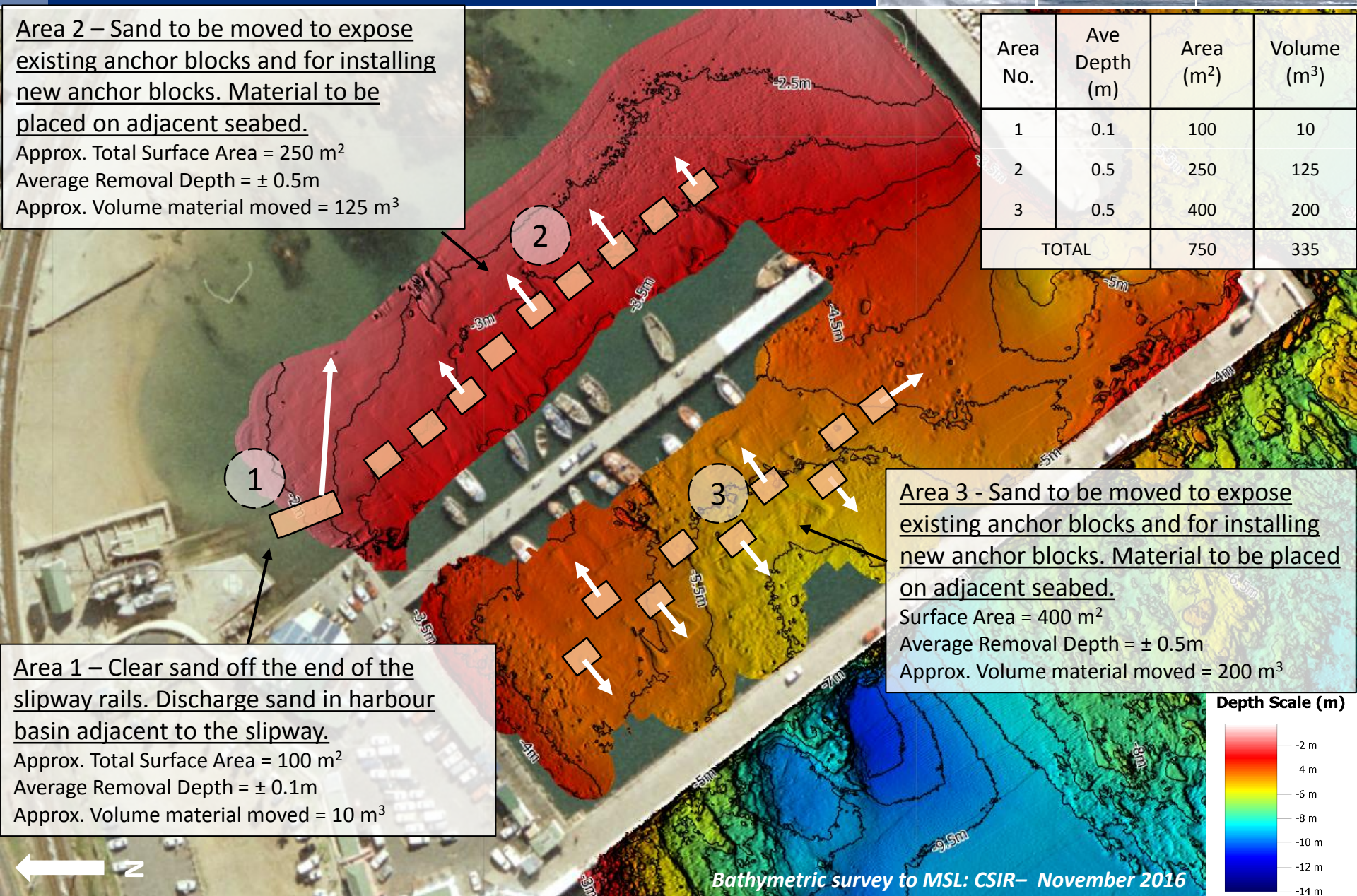


Area No.	Ave Depth (m)	Area (m <sup>2</sup> )	Volume (m <sup>3</sup> )
1	0.1	100	10
2	0.5	250	125
3	0.5	400	200
TOTAL		750	335

Area 2 – Sand to be moved to expose existing anchor blocks and for installing new anchor blocks. Material to be placed on adjacent seabed.  
 Approx. Total Surface Area = 250 m<sup>2</sup>  
 Average Removal Depth = ± 0.5m  
 Approx. Volume material moved = 125 m<sup>3</sup>

Area 1 – Clear sand off the end of the slipway rails. Discharge sand in harbour basin adjacent to the slipway.  
 Approx. Total Surface Area = 100 m<sup>2</sup>  
 Average Removal Depth = ± 0.1m  
 Approx. Volume material moved = 10 m<sup>3</sup>

Area 3 - Sand to be moved to expose existing anchor blocks and for installing new anchor blocks. Material to be placed on adjacent seabed.  
 Surface Area = 400 m<sup>2</sup>  
 Average Removal Depth = ± 0.5m  
 Approx. Volume material moved = 200 m<sup>3</sup>



Bathymetric survey to MSL: CSIR– November 2016

