



31 July 2017
509310/42C

South African Heritage Resources Agency
Via SAHRIS website

Attention: Lesa la Grange

Dear Lesa

Gordon's 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 Gordon's 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 Gordon's 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 Gordon's Bay Fishing Harbour

The proposed works at Gordon's 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;
- Repair and maintenance (or replacement) of the quay crane;
- Maintenance dredging of the harbour basin;
- Use of dredged material on Bikini Beach for beach replenishment; and

Partners R Armstrong, AH Bracken, N Brien, JM Brown, CD Dalgliesh, 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

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- Primary and secondary breakwater repairs.

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 *primary breakwater, secondary breakwater and the main quay*, all 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 Gordon's 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.

Areas within the harbour and entrance channel require dredging and are estimated to be a total of 21 750m² in size. Dredge spoil will be deposited on Bikini Beach, allowing for the replenishment of the beach, which has been significantly eroded. **Appendix C** provides additional details regarding the proposed dredge and dredge disposal areas.

An area exceeding 5 000m in size would thus be affected by the proposed dredging and dredge disposal, however these areas have been significantly disturbed in the past and would have been dredged during the initial construction of the harbour. (Only maintenance dredging, to remove accumulated sediment and dredge the harbour to its original depth, is proposed). An application in terms of Section 38 of the NHRA may thus be required, although SRK does not anticipate that any heritage resources would be affected or disturbed by the dredging or dredge disposal activities and would thus appreciate confirmation on any further information required by SAHRA.

Please note that all maintenance dredging activities and the associated disposal of dredge spoil will be undertaken in terms of a Maintenance Management Plan required in terms of the National Environmental Management Act 107 of 1998 (NEMA), 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.*

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



Sharon Jones, Pr.Sci.Nat, CEAPSA
Principal Environmental Scientist and Associated 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

Gordons Bay Harbour

REV.03

01 February 2017



COEGA DEVELOPMENT CORPORATION
South Africa



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

Project Descriptions

Gordons Bay Harbour

S2042-1-TN-EN-003

01 February 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			Update project description
03	C	01/02/2017	MGT	GPH			Update project description for checklist

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 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 Gordons Bay Harbour as shown in *Figure 1-1*.



Figure 1-1: Gordons Bay Harbour

1.2 Project General Scope of Work

PRDW have carried out a condition assessment of all marine infrastructure within the Gordons 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, cradle and winch;
- Repair and maintenance of the quay crane;
- Maintenance dredging of the harbour basin; and
- Primary and secondary breakwater repairs.



2. GORDONS BAY HARBOUR SCOPE OF WORK

2.1 Harbour Description

Gordons Bay is situated on the eastern shore of False Bay, approximately 50 km from Cape Town. The harbour covers an area of approximately 4 ha, which is sheltered by the main and secondary breakwaters. Figure 2-1 shows the Gordons Bay Harbour and the different marine structures associated with it.



Figure 2-1: Gordons Bay Marine Structures



The Gordons Bay harbour is primarily used by the yacht club, naval base, a few fishing vessels, the ski boat launch and the NSRI (station 9). The yacht club is the dominant user who uses privately owned and maintained floating moorings.

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





Figure 2-2: Work required in Gordons Bay Harbour



2.2 Concrete repair of existing infrastructure

Table 2-1 shows the typical concrete repair work required in Gordons Bay harbour.

Table 2-1: Concrete repair of existing infrastructure





<p><u>Main Quay</u></p> <p>Fill hole in the gravity quay wall with plain concrete (below water level). This is to prevent undermining and potential failure of the structure. This will not increase the footprint of the Main Quay structure on the sea bed.</p>	
<p><u>Naval quay</u></p> <p>Cast new concrete capping along the entire length of the retaining wall. The repair work includes nominal shrinkage steel and steel dowels to tie the new concrete into the existing structure and will not increase the footprint of this structure.</p>	



2.3 Quay Furniture (Bollards and Fenders)

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

Table 2-2: Repair work on quay furniture



<p><u>Boat ramp lead-in jetty</u></p> <p>The fender fixings along the lead-in jetty are all bent and need to be replaced. New tyre fenders are required to replace missing ones.</p>	
<p><u>Naval Jetty</u></p> <p>Replace damaged timber fenders on the jetty corners.</p>	
<p><u>Main Quay</u></p> <p>Bollards need to be cleaned and painted. Corroded bollard holding down bolts must be replaced.</p>	
<p><u>Quay Crane</u></p> <p>Dismantle refurbish and replace the derrick quay crane. Alternatively, this crane will be replaced with a new one of similar capacity.</p>	



2.4 Slipways

Table 2-3 shows the slipway repair and maintenance work required in the Gordons Bay harbour.

Table 2-3: Slipway repair and maintenance work required

<p><u>Slipway cradle</u> Dismantle, clean and apply corrosion protection to the slipway cradle. Replace damaged timber sections.</p>	 A photograph showing a white boat with a cabin and a steering wheel, positioned on a wooden slipway cradle. The boat is supported by a metal frame structure. The background shows a marina with other boats and buildings.
<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>	 A close-up photograph of a bogie wheel, which is a large, circular metal wheel with a thick, dark, possibly rusted rim. It is mounted on a metal track or rail. The background shows a concrete or metal surface.
<p><u>Slipway rails</u> The rails are in good condition and require maintenance cleaning. However, the pawl rack is corroded and needs to be replaced.</p>	 A photograph showing a close-up of the slipway rails and the pawl rack. The rails are made of metal and appear to be in good condition. The pawl rack is a series of small, dark, rectangular components that are mounted on the rails. The pawl rack shows signs of corrosion and wear.
<p><u>Winch Motor</u> Service the electrical winch motor.</p>	 A photograph of a green winch motor. The motor is a large, industrial-grade electric motor with a blue painted body. It is mounted on a green metal frame. A large spool of brown rope is visible on the right side of the motor. The background shows a workshop or maintenance area.

2.5 Dredging of the Harbour Entrance and Basin

Dredging is required to restore the required water depths in the entrance channel and harbour basin. Sand has built up in the harbour entrance to such an extent that larger vessels cannot use the harbour and smaller vessels can only enter and leave the harbour during high tide. This is a major concern for the safety of people and vessels using the entrance and for the operation of the NSRI who need to be able to operate under all conditions. The total dredge volume is approximately 20,000m³. A sediment study undertaken by Lwandle has indicated that the sediments to be dredged are not significantly contaminated (well within guideline levels). The dredge disposal site for Gordons Bay Harbour will be at the Bikini Beach:

Refer to Figure 2-3 which illustrates the area that needs to be dredged in red and the dredge disposal site.






Figure 2-3: Gordons Bay – Areas that require dredging

2.6 Breakwater Repairs

The Gordons Bay breakwaters are generally in good condition, with some minor maintenance that is required. This includes the filling of holes in the lower section to prevent sand from migrating through the breakwater – Refer to Table 2-4.

Table 2-4: Breakwater repair and maintenance work

<p><u>Main breakwater route</u></p> <p>Grout holes along the route of the primary breakwater. This will involve the use of underwater grout, grout bags and a dop pump to pump the grout into the holes within the breakwater. This work can only be carried out on once all dredging works is complete. The repair work will not increase the foot print of the main breakwater.</p>	
<p><u>Primary breakwater end</u></p> <p>Grout holes along the end of the main breakwater as per above.</p>	
<p><u>Secondary breakwater end</u></p> <p>Grout holes at the end of the secondary breakwater as per the above main breakwater application.</p>	

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:

Gordons Bay Harbour

REV.00

06 March 2017



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

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

Gordons Bay Harbour

S2042-1-TN-EN-203

06 March 2017

REV.	TYPE	DATE	EXECUTED	CHECK	APPROVED	CLIENT	DESCRIPTION / COMMENTS
00	A	06/03/2017	MGT	GPH			Project Descriptions: Heritage Application

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

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1. INTRODUCTION

1.1 Project Background

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2. GORDONS BAY HARBOUR SCOPE OF WORK

2.1 Harbour Description

Gordons Bay is situated on the eastern shore of False Bay, approximately 50 km from Cape Town. The harbour covers an area of approximately 4 ha, which is sheltered by the main and secondary breakwaters. Figure 2-1 shows the Gordons Bay Harbour and the different marine structures associated with it.



Figure 2-1: Gordons Bay Marine Structures



The Gordons Bay harbour is primarily used by the yacht club, naval base, a few fishing vessels, the ski boat launch and the NSRI (station 9). The yacht club is the dominant user who uses privately owned and maintained floating moorings.

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



Figure 2-2: Work required in Gordons Bay Harbour



2.2 Structures older than 60 years

The following structures within the Gordon's Bay Harbour are older than 60 years and are listed in *Table 2-1*.

Table 2-1: Structures older than 60 years

Gordons Bay	Length (m)	Built	Age	Source of information	Repaired
Main Breakwater	350	1938	79	Historic Aerial photo, dated 1938 - Breakwater	2007 inner cut off wall
Secondary Breakwater	200	1944	73	Historic Aerial photo, dated 1944 - Secondary breakwater and main quay completed	
Main Quay	45	1944	73		

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

2.3 Main Breakwater

The main breakwater is a 350m long rubble mound structure with a large in-situ concrete cap which extends from the low water level. The seaward side of the breakwater is protected with Toskane units, whereas a concrete bench was constructed on the leeward side of the breakwater (2007) to try and reduce the amount of sand migrating through the breakwater and into the harbour basin.

The cut off wall was not constructed along the entire footprint of the breakwater as shown in Figure 2-3, and as a result, sand still migrates through the route and end sections.

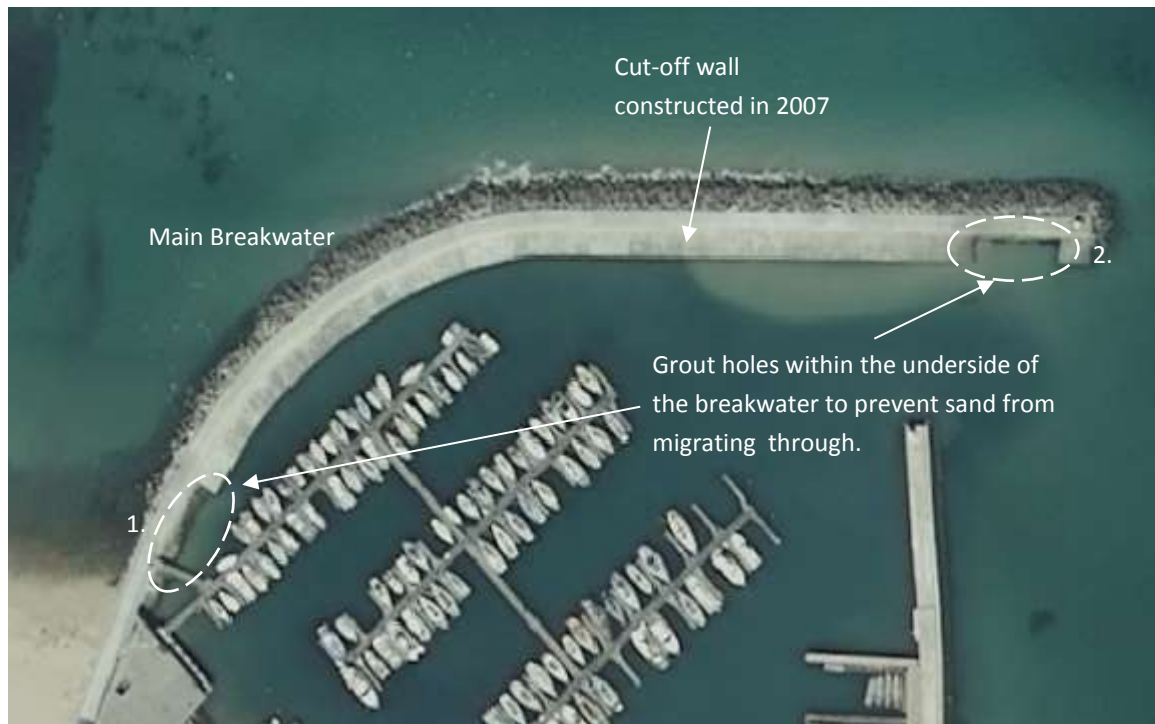




Figure 2-3: Main Breakwater



Table 2-2 shows the typical repair work required for the Main Breakwater.

Table 2-2: Main Breakwater Repair Work

<p><u>Primary breakwater route (1)</u></p> <p>Grout holes along the route of the primary breakwater. This will involve the use of underwater grout, grout bags and a dop pump to pump the grout into the holes within the breakwater. This work can only be carried out once all dredging works is complete. The repair work will not increase the foot print of the main breakwater.</p>	
<p><u>Primary breakwater end (2)</u></p> <p>Grout holes along the end of the primary breakwater as per above.</p>	

Refer to Annexure A for additional figures of the Main Breakwater in Gordons Bay Harbour

2.4 Secondary breakwater

The secondary breakwater is a 200 m long structure constructed with concrete blockwork. The breakwater is in a reasonably good condition, with minor holes appearing at the end of the breakwater. These holes require repair to prevent further scour of the concrete blockwork. Figure 2-4 shows the secondary breakwater and the location of where the holes require repair. Table 2-3 describes the required repair measure.

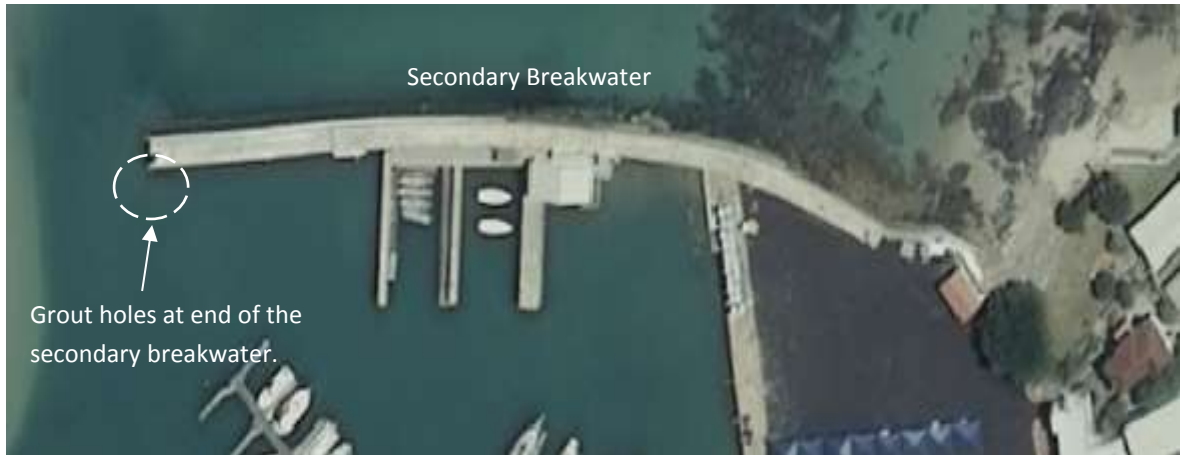


Figure 2-4: Secondary Breakwater

Table 2-3: Secondary Breakwater repair work

<p><u>Secondary breakwater end</u></p> <p>Grout holes at the end of the primary breakwater. This will involve the use of underwater grout, grout bags and a dop pump to pump the grout into the holes within the breakwater. The repair work will not increase the foot print of the main breakwater.</p>	
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Refer to Annexure B for additional figures of the Secondary Breakwater.

2.5 Main Quay

The main quay in Gordons Bay is a 45m long mass concrete block wall along two faces. There are some voids in the quay, under the water level, on the slipway side that need to be filled. Furthermore, the quay has no fendering system for vessels to use when berthing along the quay. It is recommended that a new fender system be installed. Refer to Figure 2-5 and Table 2-4 for the proposed repair measures on the main quay.

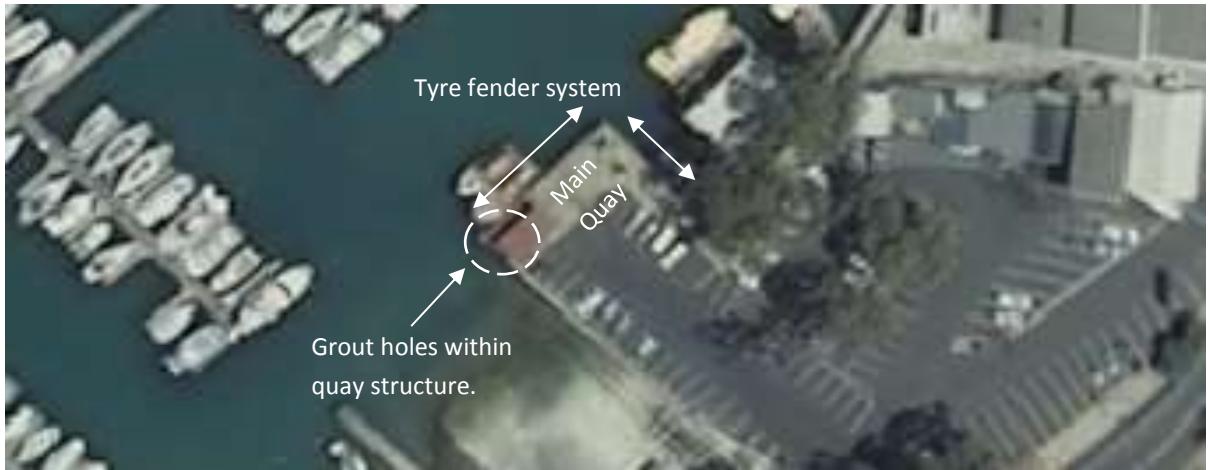





Figure 2-5: Main Quay

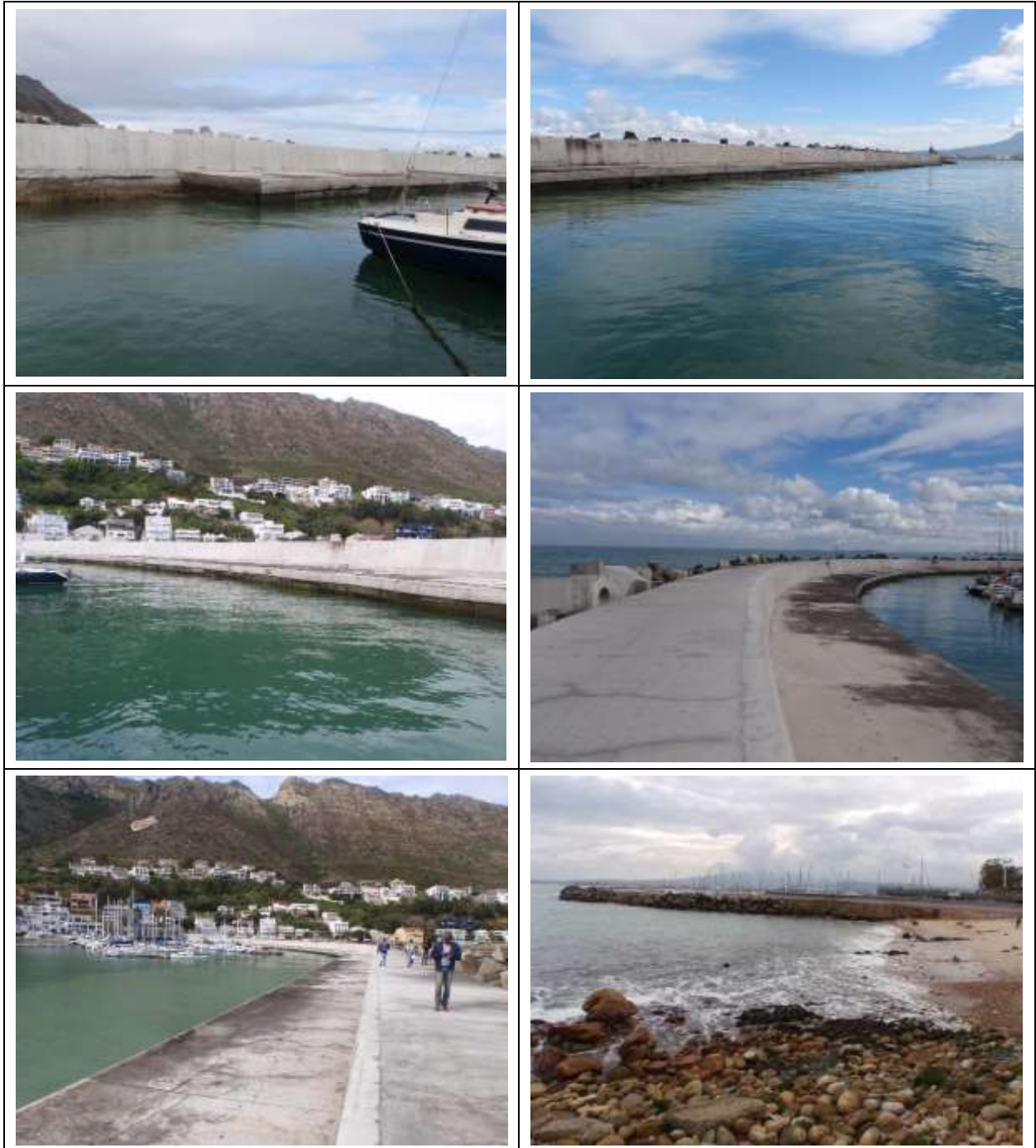
Table 2-4: Main Quay Repair Work

<p><u>Holes within the Quay</u> Fill hole in the gravity quay wall with plain concrete (below water level). This is to prevent undermining and potential failure of the structure. The holes are below the bollard in picture.</p>	
<p><u>Bollards and Fenders</u> Bollards need to be cleaned and painted. Corroded bollard holding down bolts must be replaced. Truck tyre fenders to be installed along the quay structure at 3 m centres.</p>	
<p><u>Quay Crane</u> Dismantle refurbish and replace the derrick quay crane. Alternatively, this crane will be replaced with a new one of similar capacity.</p>	

Refer to Annexure C for additional figures of the Main Quay.

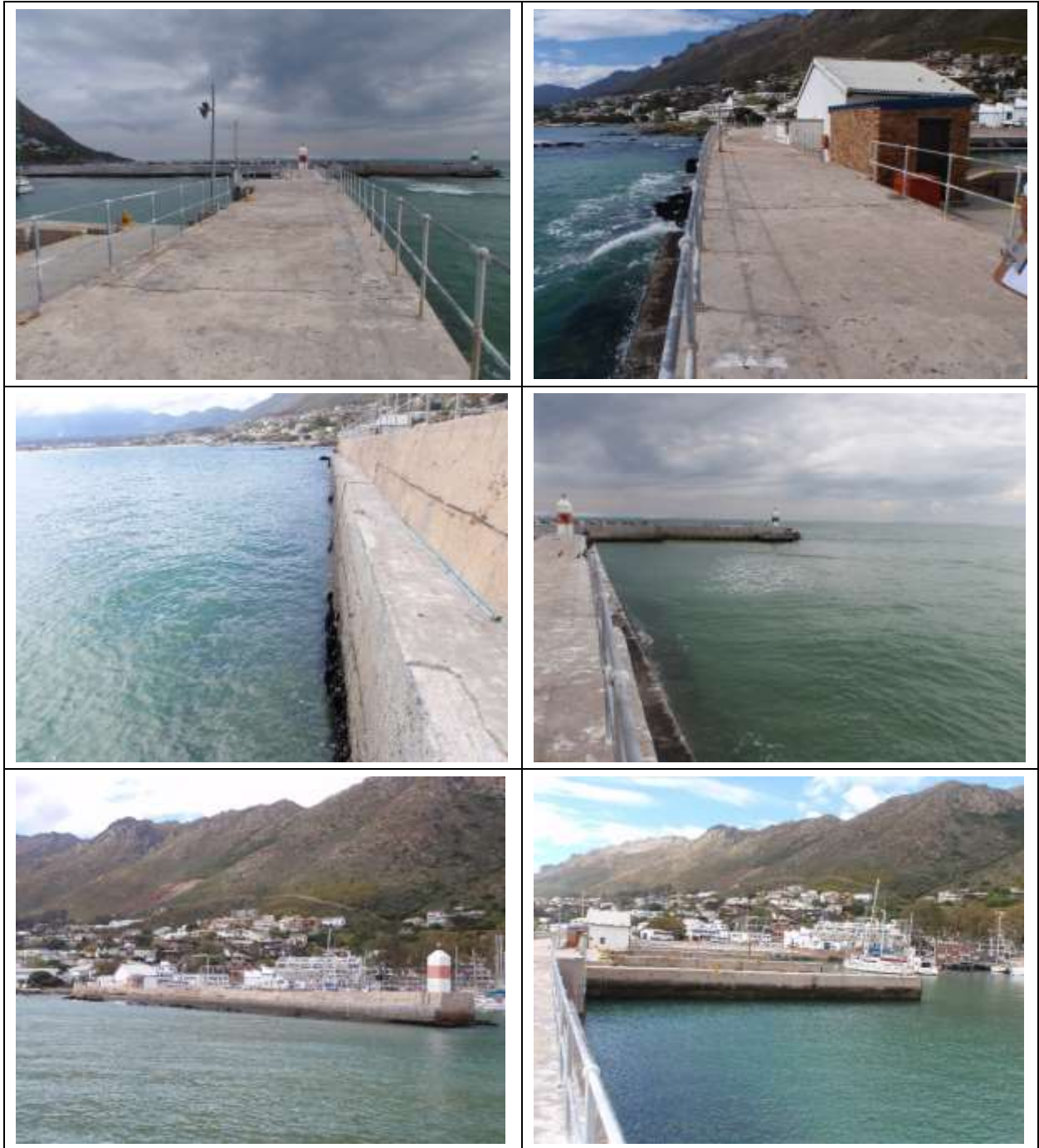


ANNEXURE A | MAIN BREAKWATER – ADDITIONAL FIGURES





ANNEXURE B | SECONDARY BREAKWATER – ADDITIONAL FIGURES





ANNEXURE C | MAIN QUAY – ADDITIONAL FIGURES



Appendix C:

Proposed dredging and dredge disposal

S2042/1: Western Cape Fishing Harbours – Work Package 1 **Gordons Bay Dredging and Dredge Material Disposal**

Professional Consultancy Services for Coastal Engineering Infrastructure Activities

25 July 2017



Western Cape Fishing Harbours

Gordons Bay Harbour



Western Cape Fishing Harbours

Gordons Bay Harbour Dredging



Dredging is urgently needed in Gordons Bay Harbour to provide safe navigation through the entrance. Sand has built up in the harbour entrance to such an extent that larger vessels cannot use the harbour and smaller vessels can only enter and leave the harbour during high tide.

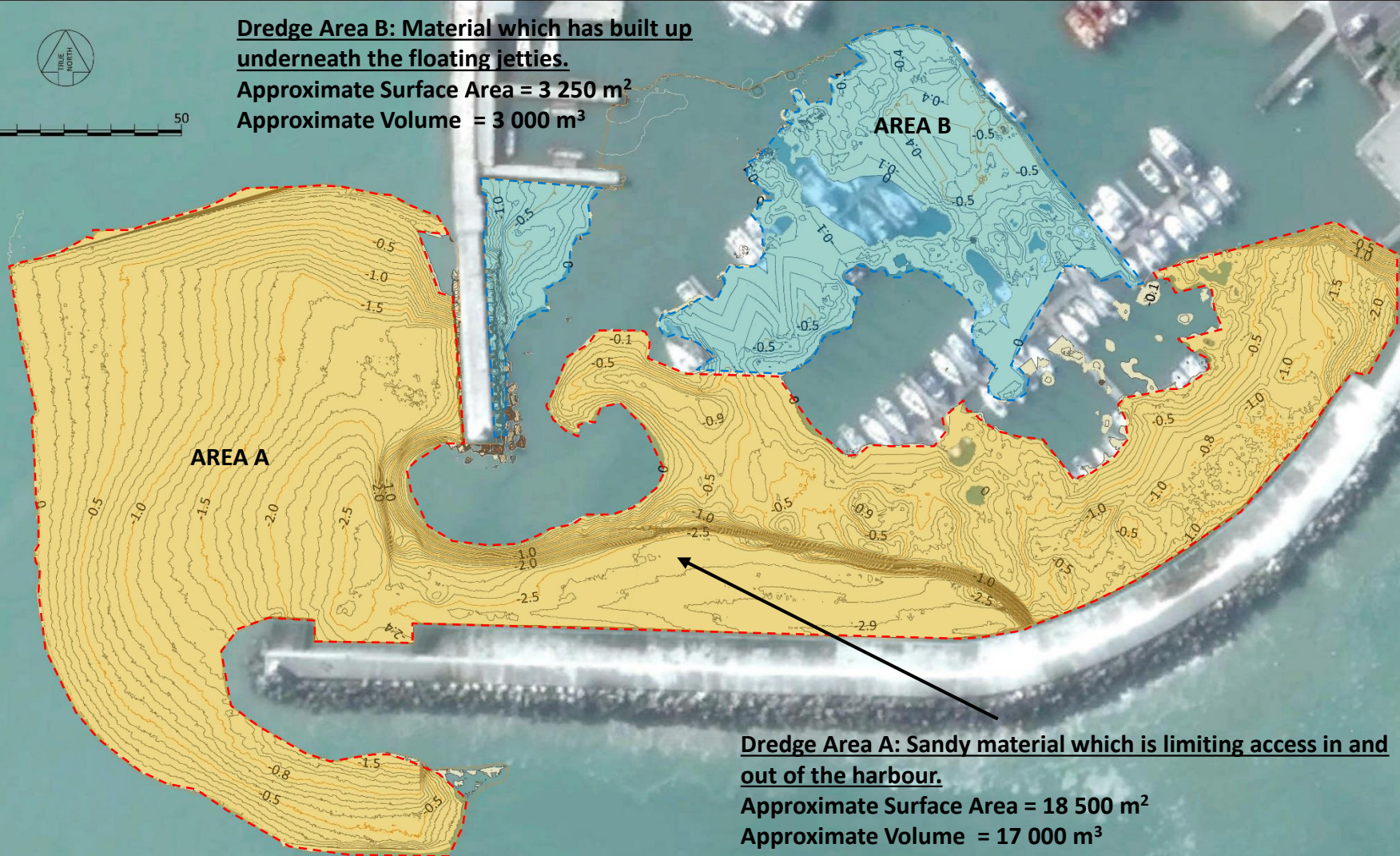
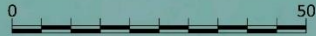
A1
DO NOT SCALE -
IF IN DOUBT ASK



Dredge Area B: Material which has built up underneath the floating jetties.

Approximate Surface Area = 3 250 m²

Approximate Volume = 3 000 m³



Dredge Area A: Sandy material which is limiting access in and out of the harbour.

Approximate Surface Area = 18 500 m²

Approximate Volume = 17 000 m³

Dredge Disposal Site = Bikini Beach

Western Cape Fishing Harbours

Gordons Bay Harbour – Dredge Disposal to Bikini Beach



(PRDW, Oct 2016)



Western Cape Fishing Harbours

Gordons Bay Harbour – Dredge Disposal to Bikini Beach



(PRDW, Oct 2016)

Wave action will redistribute the dredged sand to a similar profile to the existing beach profile. The beach will be 25m to 35m wider than the existing profile. It will be within the March 2005 footprint.

Beach Line in March 2005

Bikini Beach

