

# PROJECT SHEET

**JEBEL ALI DREDGING WORKS, DUBAI**  
 PORT OF JEBEL ALI, DUBAI, UNITED ARAB EMIRATES  
 BASIN CLEAN-UP AND QUAY WALL TOE PROTECTION WORKS

## BOSKALIS

Royal Boskalis Westminster is a leading global marine contractor and services provider. With safety as our core value, we offer a wide variety of specialist activities to the oil & gas and renewables sectors. These activities include marine installation and decommissioning, seabed intervention, marine transport and services, subsea services and marine survey. In addition, Boskalis is a global dredging contractor, provides towage and terminal services across the globe and delivers marine salvage solutions.

By understanding what drives our clients we are able to provide the solutions that enable them to meet their specific business goals. For this reason we are constantly looking for new ways to broaden and optimize our offering and are committed to expanding our proposition, supported by our financial strength.

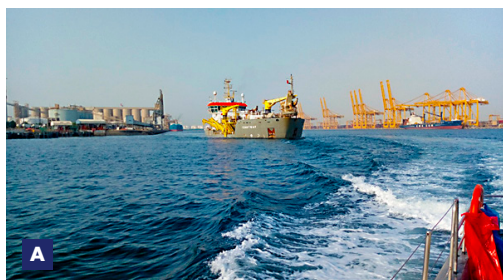
With our committed professionals in engineering, project management and operations, 900 specialized vessels and an unprecedented breadth of activities in 90 countries across six continents we help our clients in the offshore industry push boundaries and create new horizons.

## INTRODUCTION

Jebel Ali Port operated by DP World UAE Region, is the largest marine terminal in the Middle East and the flagship facility of DP World's portfolio of over 65 marine terminals across six continents.

Strategically located in Dubai, Jebel Ali port is at the crossroads of a region providing market access to over 2 billion people playing a vital role in UAE's economy.

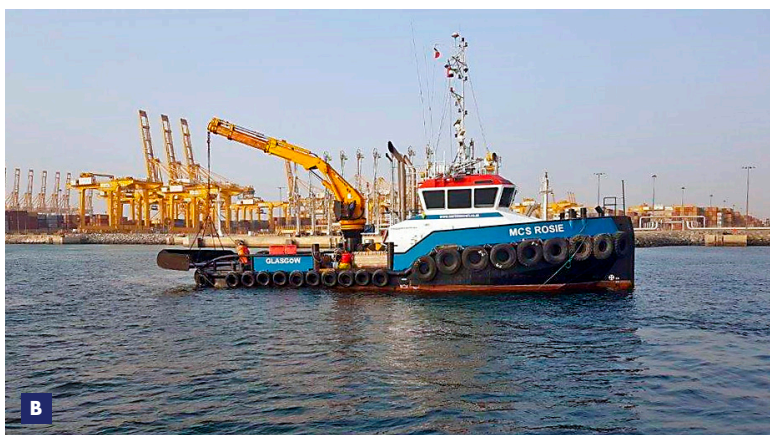
To allow for the high level of traffic to and from the port, DP World monitors frequently the sea bed levels within the port area and involves a dredging contractor to maintain the required depths when needed. Recently Boskalis executed maintenance dredging operations at the access channel and port basins, right to the edge of several vessel berths.



A

## FEATURES

Client	DP World
Location	Jebel Ali, Dubai, United Arab Emirates
Period	April 2018 - June 2018
Contractor	Boskalis Westminster Contracting Limited



**A** Trailing Suction Hopper Dredger Coastway operating in Jebel Ali Port.  
**B** Plough boat MCS Rosie operating in port area.

## MAINTENANCE DEEPENING WORKS

The dredging works have been executed by deploying a medium size Trailing Suction Hopper Dredger Coastway, survey/crew boat, diving support vessel and a ploughing vessel. In addition, land-based equipment was mobilized to install toe protection consisting of grout mattresses at the toe of two quay wall berths.

The works were executed in less than three months. The main challenges encountered during project preparation and execution were: operating in a very busy port environment while avoiding any delays to the existing port traffic and dredging operations and executing the works in a safe and efficient manner.

## DREDGING OPERATIONS NEAR THE QUAY WALL AND IN THE BASIN - ACCESS CHANNEL

Each berth has a length of approximately 300 m and are heavily occupied by vessels which are being loaded or unloaded. Close contact was maintained with the berth planners of DP World during the dredging operations to allow the TSHD vessel to deepen (dredged near) several berths at the same time. Jets, placed at the draghead, were directed horizontally to increase the impact and minimize the duration of the dredging operations.

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TSHD operations were minimized by deploying a plough vessel. Such a vessel can skim of the high spots and corners unreachable by the TSHD on the seabed by pushing the material to deeper sections of the port area. This vessel requires less space to manoeuvre and therefore it is very flexible to operate. Bathymetric survey measurements were made daily of dredged- and ploughed areas to determine sufficient depth had been reached.

### PLACING OF ADDITIONAL TOE PROTECTION

Diving activities which were performed at an early stage indicated the requirement to install an additional layer of toe protection near the quay wall of berth 16 and 17. While parts of the berth areas were still covered with sediments, Boskalis proposed to remove the fines and to install grout mattresses on the remaining concrete slab.

The mattresses were purposely designed for this project and made from Woven Polypropylene Geo-textile, 14 m long, 1.5 m width and 30 cm high. The mattresses were placed from the land side (crane) and positioned to the required location by divers. Once temporarily fixed to the seabed, the grout injection hose was lowered, connected via the distribution inlet and subsequently the grout pumping process started. In addition, the existing seabed was levelled with sand bags and covered with grout mattresses.

### WORKING TOGETHER WITH MANY OTHER STAKEHOLDERS

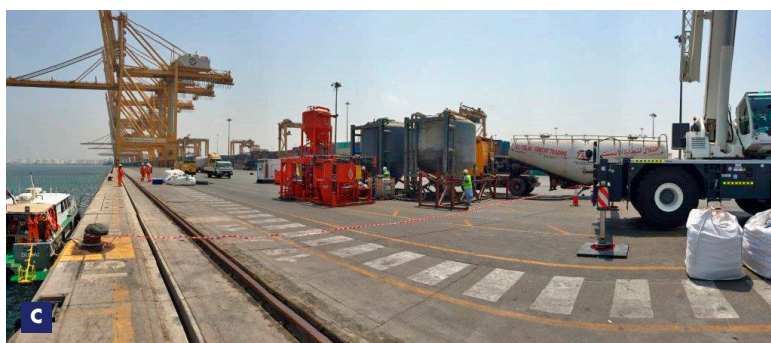
Trakhees Civil Engineering Division approved the working method as described by AECOM Middle East Limited. Boskalis Offshore Subsea Services were involved, together with ULO systems, to supply, place and fill the grout mattresses. During the process it was critical to maintain close contact between the DP world group of experts as involved in the daily port operations, such as the port master, pilots, captains, berth planners and operating crew and the project management team.

### SAFETY, HEALTH, ENVIRONMENT & QUALITY

Boskalis risk based and value driven safety program (NINA) combined with relevant WoW program elements were implemented on the project. Main SHE-Q related subjects (Interface with local port traffic and asset owners, potential H<sub>2</sub>S presence and Quality control aspects for survey and grout mattress works) were identified and managed by the collective project team over the course of the project execution.

### CONCLUSION

The dredging works in Dubai (Jebel Ali Port) were successfully completed by Boskalis in compliance with its risk based management system requirements (Way of Working and NINA program) incorporating local applicable requirements (from stakeholders like client, local regulatory bodies and the design consultant) and within the tight timeline requirements, while the port did not reduce any vessel operations and a high safety level was maintained.



**C** Grout mixing plant as set-up at project site.

**D** Diving operations during grout mattress installation process.

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