

Port of Southampton Ocean Cruise Terminal

# Plain sailing at Europe's leading cruise turnaround port

**£5.7m**

/ Project value

**October 2018**

/ The project commenced

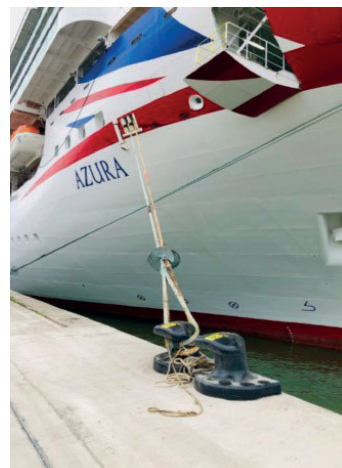
**March 2019**

/ The project was completed

Anticipating the arrival of a new generation of Gala Class cruise vessels, we successfully completed the first phase of a multi-million-pound upgrade to the Port of Southampton's Ocean Cruise Terminal. Regarded as Europe's leading cruise turnaround port, the reopening of its largest terminal marked the commencement of the busy cruise season. Delivered within a challenging timeframe (October 2018 – March 2019), the phase one programme of modification works accommodated the increasing size of cruise ships at the berths, and additional passenger flows in the terminal building. Featuring our alternative design for the construction of new 150 tonne bollards on reinforced concrete, this scheme was a continuation of our long-term relationship with Associated British Ports (ABP).

## The brief

ABP required a "light touch" scheme of improvements to aid passenger flows to, from and through the terminal. With cruise operator, Carnival UK, committed to bringing, and basing, its new vessels to/at the terminal, a range of modifications to the berths were also necessary to accommodate the size of the new ships.



"Cruise is a growing industry and we continue to make these significant investments which are crucial to ensuring we are in a good position to welcome the larger ships and the increase in passenger numbers,"

Alastair Welch  
Director at the Port of Southampton

“The first phase upgrade at the Port of Southampton is an important infrastructure project that will help to support continued growth in the cruise sector. The technical competency and engineering excellence of our team facilitated a smooth process throughout the project,”

Leo Martin  
GRAHAM Managing Director – Civil Engineering

### The challenges

With the Gala Class vessels arriving into service on 22nd March, we were faced with obvious time pressures in constructing the necessary capacity enhancement provisions. Indeed, every shift was scheduled around the tides, and all works were conducted between November 2018 and March 2019 when no cruise ships were operational at the terminal. To ensure the bollards (critical path items) were completed on time, we mobilised two teams to accelerate progress, split between night and day shifts to overcome the testing tidal conditions.

### The solution

Our modification programme of works involved infrastructure upgrades on the quayside with 18 new 150 tonne bollards, on reinforced concrete foundations secured by vertical and raking ground anchors, replacing the existing 50 tonne bollards. This solution was specifically chosen by ABP as it removed the need for substantial temporary works and excavations. We also collaborated closely with ABP in revising the designs to eliminate risk to the services corridor, moving from “two deep walls straddling the services corridor” to a single shallower wall on one side of the services. Demonstrating our maritime expertise, we developed a land-based methodology, utilising 12m long cantilevering work platforms that proved so effective during our £114m Green Port Hull project (Nov 2014 - Jan 2017). These adjustable platforms eliminated the need for costly barges and also allowed us to work on a quay wall height of up to 3m. Further key elements of the scheme included the construction of a new entrance lobby, the alteration of the terminal building to provide improved and additional vertical transition, and the expansion of the security X-ray area.

### Outputs & Benefits

- / **Timely delivery:** We delivered on time, ensuring the cruise ships were operational on 22nd March 2019
- / **Revised bollard solution:** Our alternative solution involved just one insitu concrete foundation block in front of the services corridor and only 1.5m deep excavation
- / **Contaminated ground:** Unforeseen contamination was found, and we ensured over 150 loads of non-hazardous, non-inert material were disposed off site
- / **Alternative foundation and pile layout:** We eliminated £100k of piles and clashes with buried structures
- / **Roof modification:** We modified the roof deck to suit ABP’s revised steelwork design for the canopy, resulting in cost savings
- / **Grout leaking:** We designed a “sock” around the drill bar to contain the grout and prevent it leaking through the masonry dock into the backfill material



For more information on how we’re delivering lasting impact:

+44 (0) 28 9268 9500

info@graham.co.uk

graham.co.uk

**GRAHAM**