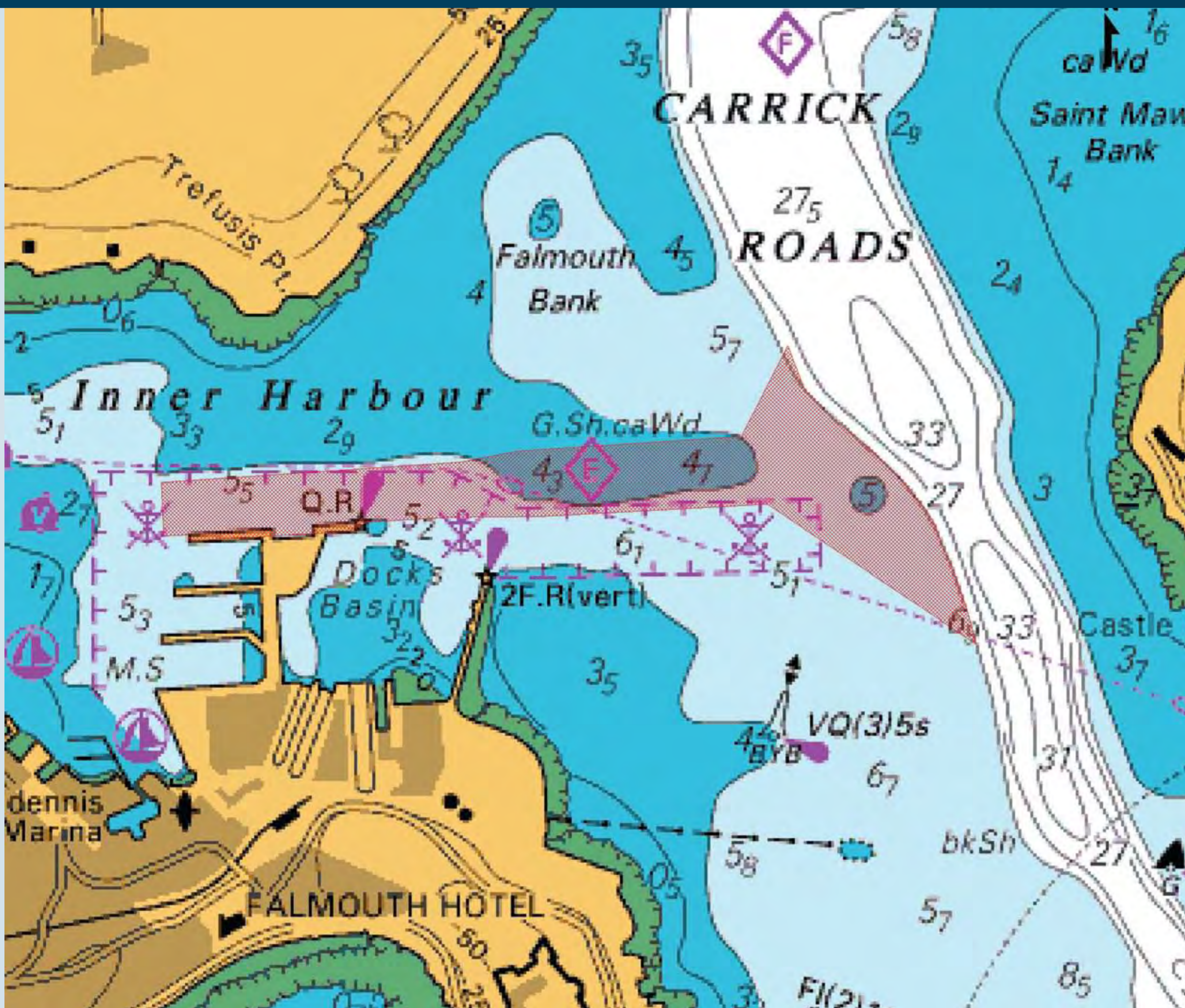


Falmouth cruise project



Location of proposed new navigation channel



Proposed new cruise reception building



Freedom of the Seas

Proposed Falmouth Cruise Project

Falmouth Harbour Commissioners (FHC) and Falmouth Docks & Engineering Co. (FDEC) are proposing to undertake a joint project to improve navigation to and cruise facilities at Falmouth Docks. The project's purpose is to facilitate sustained long-term growth of Falmouth's cruise business. Since the general trend in shipping is to build and operate larger cruise vessels, such as the Freedom of the Seas, the long-term success of the cruise business is linked to the port's ability to accommodate visits by these vessels in terms of navigation, berthing and passenger handling.

New cruise business will help secure the long-term commercial viability of Falmouth Docks and will benefit the local economy by increasing employment and the number of cruise passengers visiting the town and surrounding area.

Description of proposed works

The proposed Falmouth Cruise Project comprises:

- dredging to create a deeper and straighter new navigation channel from Carrick Roads to the Queens and Northern Wharves
- dredging to create a continuous deep water berth along the Queens and Northern Wharves
- construction and improvement works to create a continuous cruise quay combining the Queens and Northern Wharves
- construction of a new cruise terminal building
- improvements to car parking areas and a waste area within the docks estate
- disposal of dredged material at sea and on land
- use of dredged material to mitigate the loss of seabed habitat



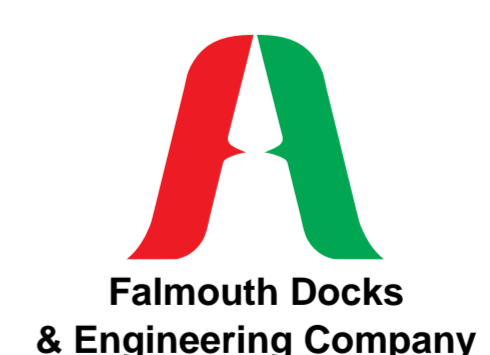
Falmouth Harbour
Commissioners



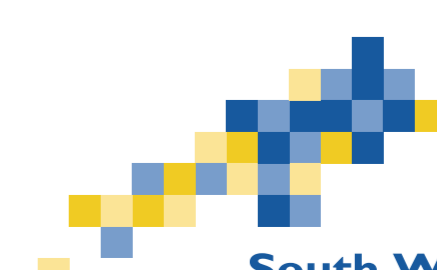
ROYAL HASKONING



This project is part financed by the European Union
under the European Regional Development Fund.

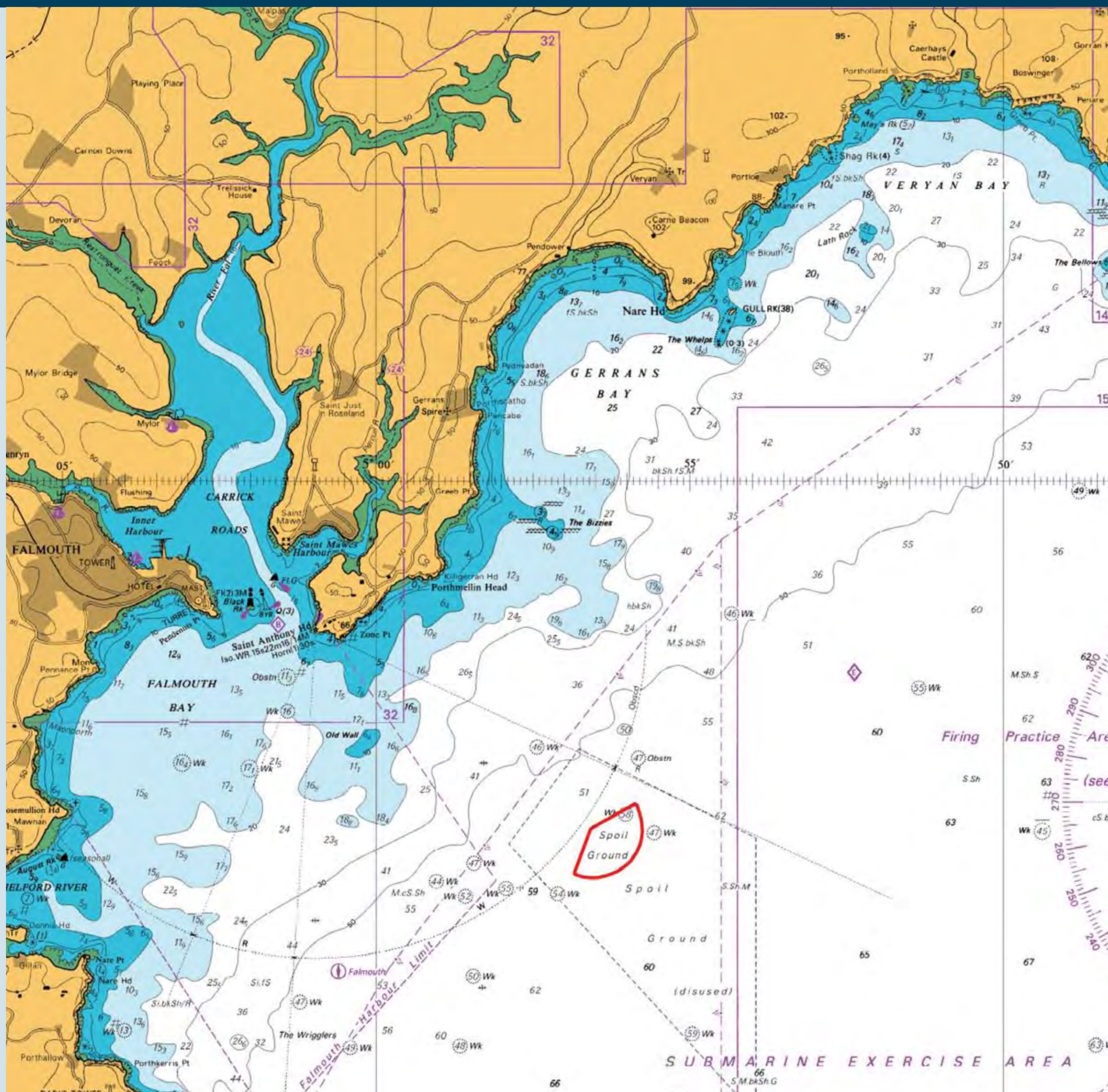


Falmouth Docks
& Engineering Company



South West of England
Regional Development Agency

Regulatory approvals and environmental assessments



Dredging equipment

Location of Falmouth Bay disposal ground

The Falmouth Cruise Project will require various approvals to be in place before construction can start, probably including:

- licences under the Food & Environment Protection Act 1985
- consents under the Coast Protection Act 1949
- planning permission under the Town & Country Planning Act 1989
- environmental permits under the Environmental Permitting Regulations 2007

Environmental assessments will be necessary to support the applications for these regulatory approvals, including:

- environmental impact assessment (EIA)
- appropriate assessment

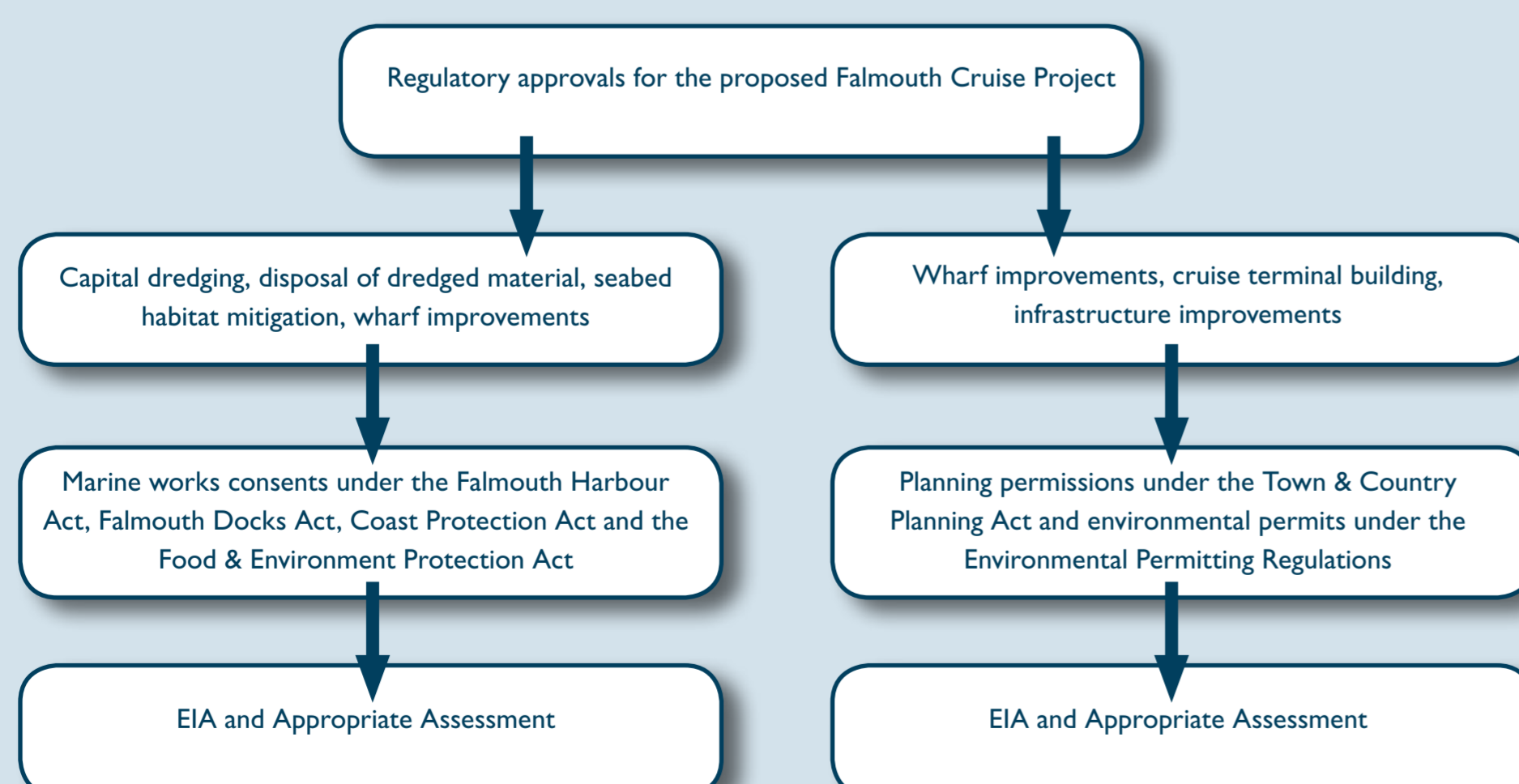


Figure 4: Regulatory approvals and environmental assessments



Falmouth Harbour Commissioners



ROYAL HASKONING



This project is part financed by the European Union under the European Regional Development Fund.

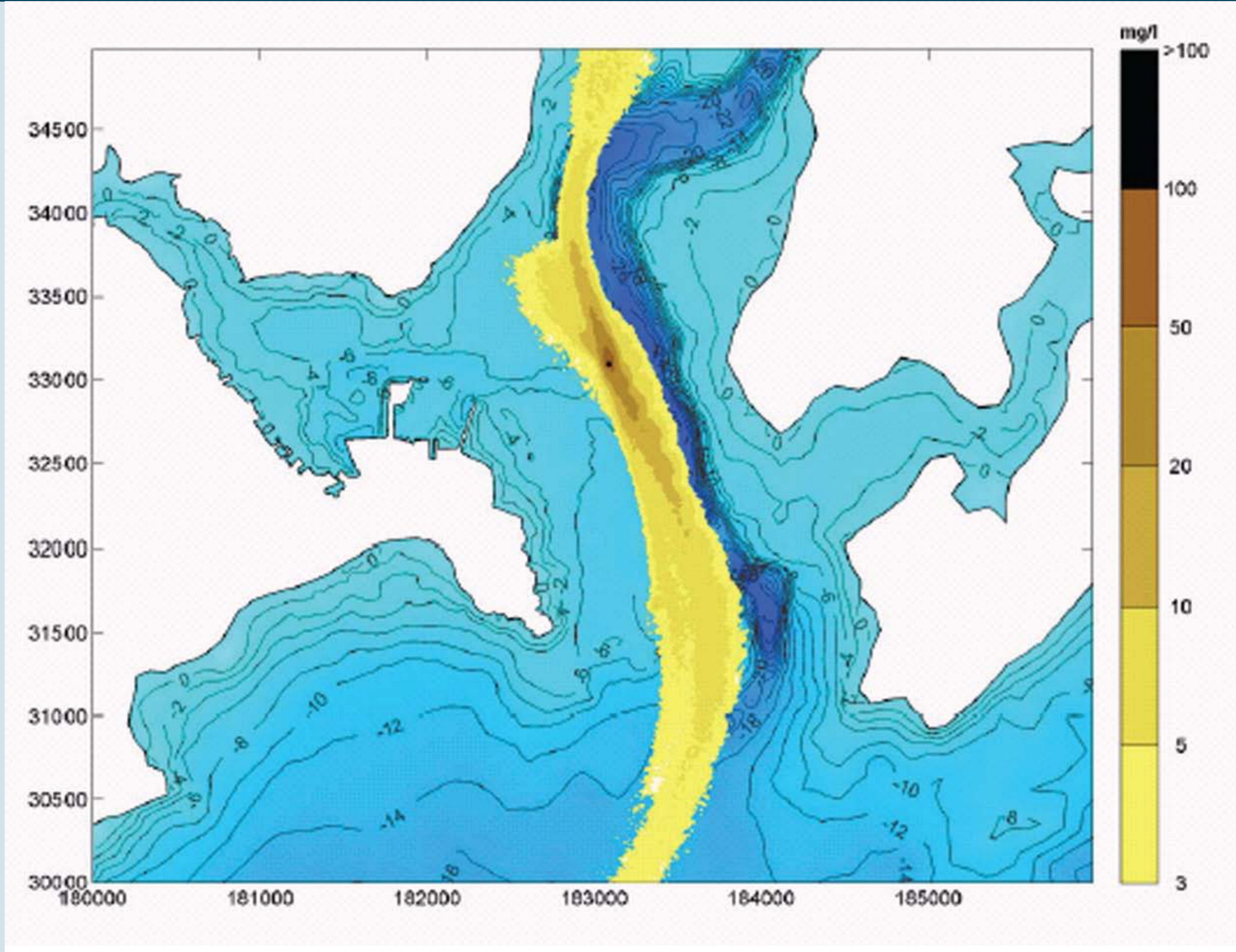


Falmouth Docks & Engineering Company



South West of England Regional Development Agency

Environmental impact assessment - physical environment



Peak Suspended Sediment on Spring Tides due to Dredging for the Navigation Channel near Carrick Roads

Hydrodynamics and Sediment Dynamics

Computational modelling predicts that the proposed project, including the new navigation channel, will cause small-scale and localised changes to wave, tidal flow and sediment transport conditions at a few locations within Falmouth Harbour, and negligible or no changes to shoreline erosion and/or accretion around Falmouth Harbour.

Water Quality

Dredging will release seabed sediment and associated contaminants into the water of the lower Fal Estuary. Concentrations of suspended sediment and a number of contaminants, including tributyl-tin (TBT) and metals will be increased over existing conditions and may breach water quality standards. After dredging, the seabed sediments to the north of the docks will be free of contaminants, which will indirectly lead to an improvement to the existing water quality conditions.

Sediment Quality

Dredging will deposit sediment and associated contaminants onto the seabed of the lower Fal Estuary. Concentrations of contaminants, including TBT and metals will not be increased over existing conditions where deposition occurs in and to the west of the docks. Concentrations of contaminants will be increased over existing conditions to the east of the docks, beyond the Eastern Breakwater. After dredging, the seabed sediments to the north of the docks will be free of contaminants, which will be an improvement to the existing sediment quality conditions.

Soil Quality

There will be a number of risks (rather than impacts) to human, water and ecological receptors should disturbance of contaminated soil occur due to construction and operation of the cruise terminal building and improvements to car parking areas and a waste tip area. Additional site investigations will confirm the measures necessary to reduce these risks.



Falmouth Harbour
Commissioners



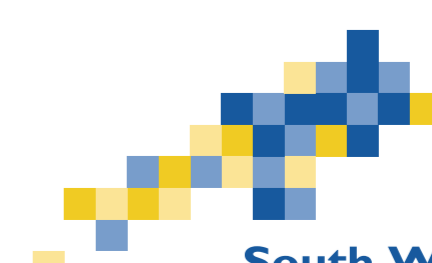
ROYAL HASKONING



This project is part financed by the European Union
under the European Regional Development Fund.



Falmouth Docks
& Engineering Company



South West of England
Regional Development Agency

Environmental impact assessment – natural environment



Photomontage of a cruise vessel berthed at the new cruise quay

Ecology

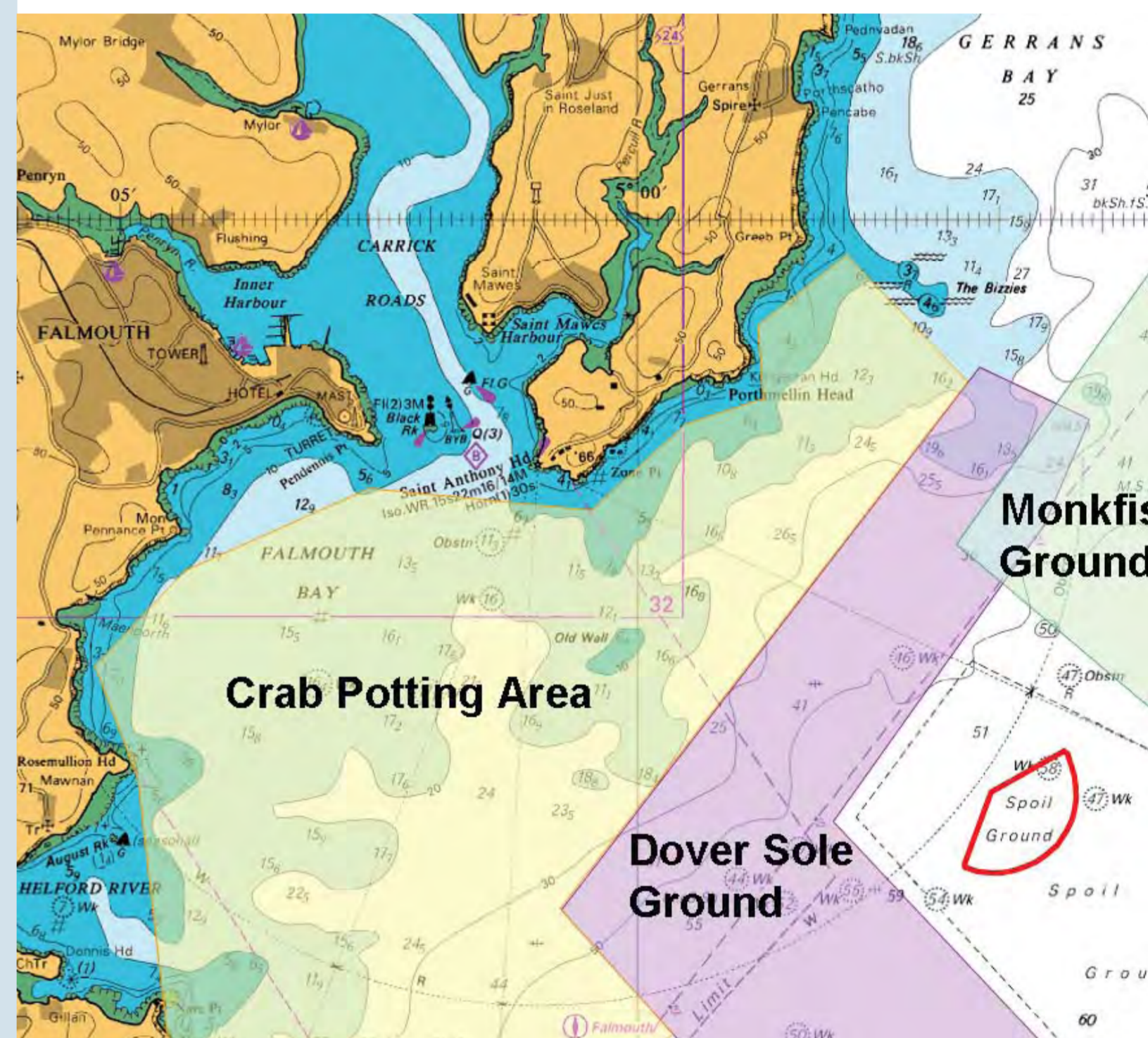
Capital dredging of the new navigation channel will cause a net loss of about 4 hectares of maerl habitat and its faunal communities, so this impact will be mitigated by creating new habitat. The dispersion and deposition of sediment during dredging will have some small scale impacts due to temporary increases in turbidity, siltation and sedimentation. Disposal of dredged material in Falmouth Bay will smother the habitat and communities within the disposal site. Disturbance to terrestrial ecology and ornithology will be minimal.

Fisheries

Dredging will release and deposit seabed sediment and associated contaminants into the water of the lower Fal Estuary, but generally not as far north as the bass nursery areas and oyster beds in Carrick Roads and not as far east as the prawn grounds to the east of Carrick Roads. Disposal of dredged material in Falmouth Bay will cause large deposits of sediment within the disposal site's boundary (c.10-50 centimetres), but negligible deposits more than one kilometre from the disposal site's boundary (less than 0.5 centimetres) where its affect on fisheries should be minor.

Landscape

A detailed landscape and visual impact assessment identified that the construction works will temporarily adversely affect the settings of designated landscape areas and views across the harbour. When operational, the new cruise quay and terminal building and the cruise vessels will beneficially affect the harbour's landscape and visual interest.



Fishing areas around the dredged material disposal site in Falmouth Bay



Falmouth Harbour
Commissioners



ROYAL HASKONING



This project is part financed by the European Union
under the European Regional Development Fund.

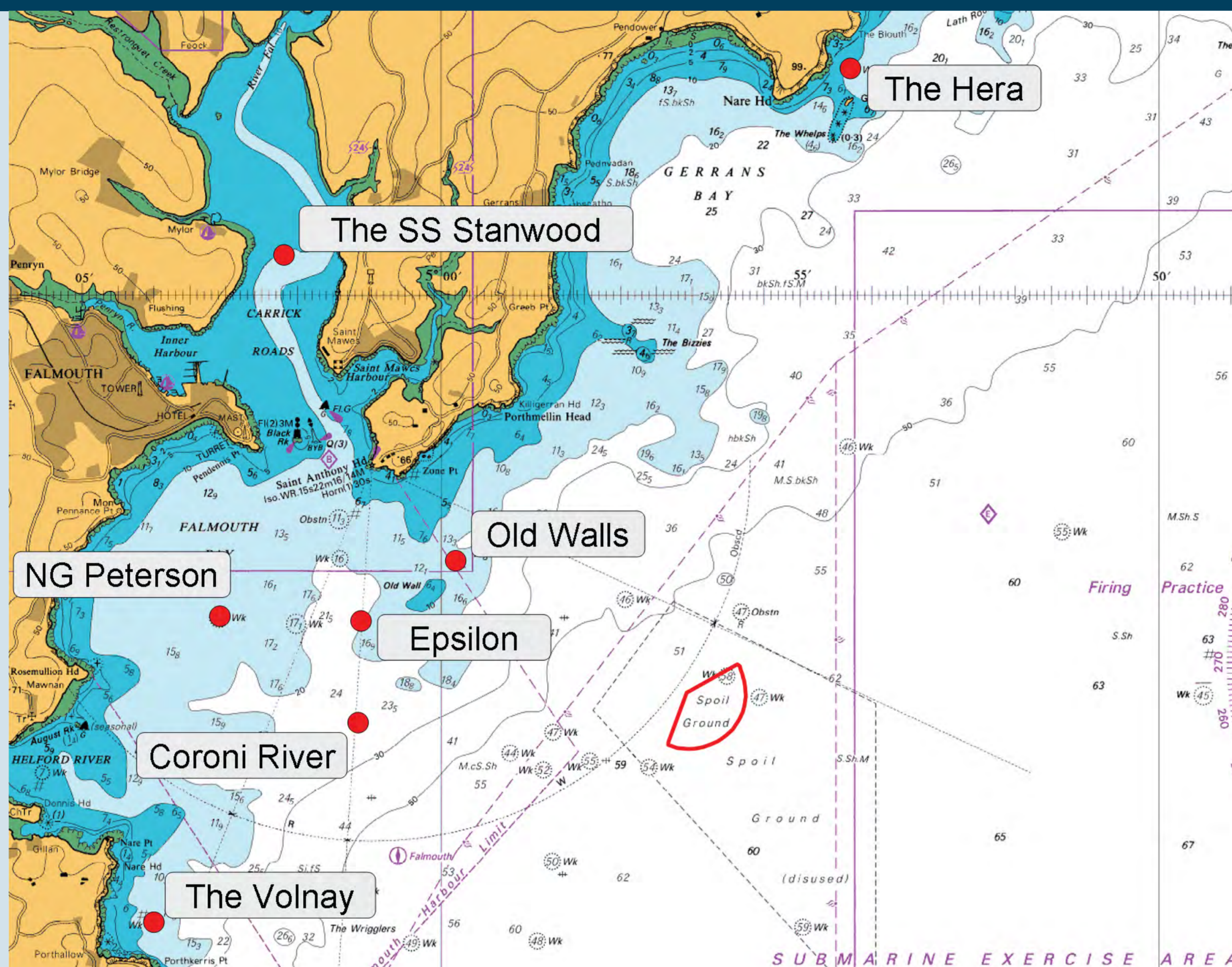


Falmouth Docks
& Engineering Company



South West of England
Regional Development Agency

Environmental impact assessment – human environment



Diving and angling sites around the dredged material disposal site in Falmouth Bay

Navigation and Recreation

Using normal powers and communications, it will be necessary for the harbour authorities and the appointed construction works contractor to liaise and inform recreational water users of the dredging areas, sailing routes and disposal site being used within the lower Fal Estuary and Falmouth Bay in order to minimise disturbance and risks to recreational activities and their participants; especially sailors, divers and sea anglers.

Traffic

During construction, traffic will increase on the local road network, particularly the A39, as construction materials are brought to the docks and construction wastes are taken away from the docks. Once operational, the expected increases in cruise vessel numbers and sizes using Falmouth will have commensurate increases in journeys to and from the docks, especially by coaches when cruise vessels make day calls. A detailed transportation assessment is necessary to identify if any measures are required to accommodate traffic increases.

Air Quality

During construction, there will be some small scale air quality impacts due to emissions from construction plant but air quality objectives should not be breached. Once operational, the increases in vessel numbers and sizes will increase vessel emissions to the air, but the prevailing wind direction will take the emissions away from Falmouth.

Noise

During construction, piling works for the new cruise quay will be particularly noisy, and construction traffic may also be noisy along haul routes. Once operational, the main noise will be from the use of public address systems since modern cruise vessels do not emit significant amounts of noise.

Archaeology

Dredging cruise quay construction and disposal of dredged material may disturb and/or destroy wrecks and wreckage, and prehistoric land surfaces, so an archaeological protocol and written scheme of investigation will be put in place. The cruise terminal building will need appropriate design and architecture to make it sympathetic to the surrounding archaeological and historic setting and landscape.

Socio-economics

The construction works will benefit employment by creating new opportunities for labourers in Falmouth and the surrounding area. Once operational, the additional revenue, passenger spending and employment will benefit the local socio-economy of Falmouth and the surrounding area.



Falmouth Harbour
Commissioners



ROYAL HASKONING



This project is part financed by the European Union
under the European Regional Development Fund.



Falmouth Docks
& Engineering Company



South West of England
Regional Development Agency

Appropriate assessment and environment monitoring



Appropriate Assessment

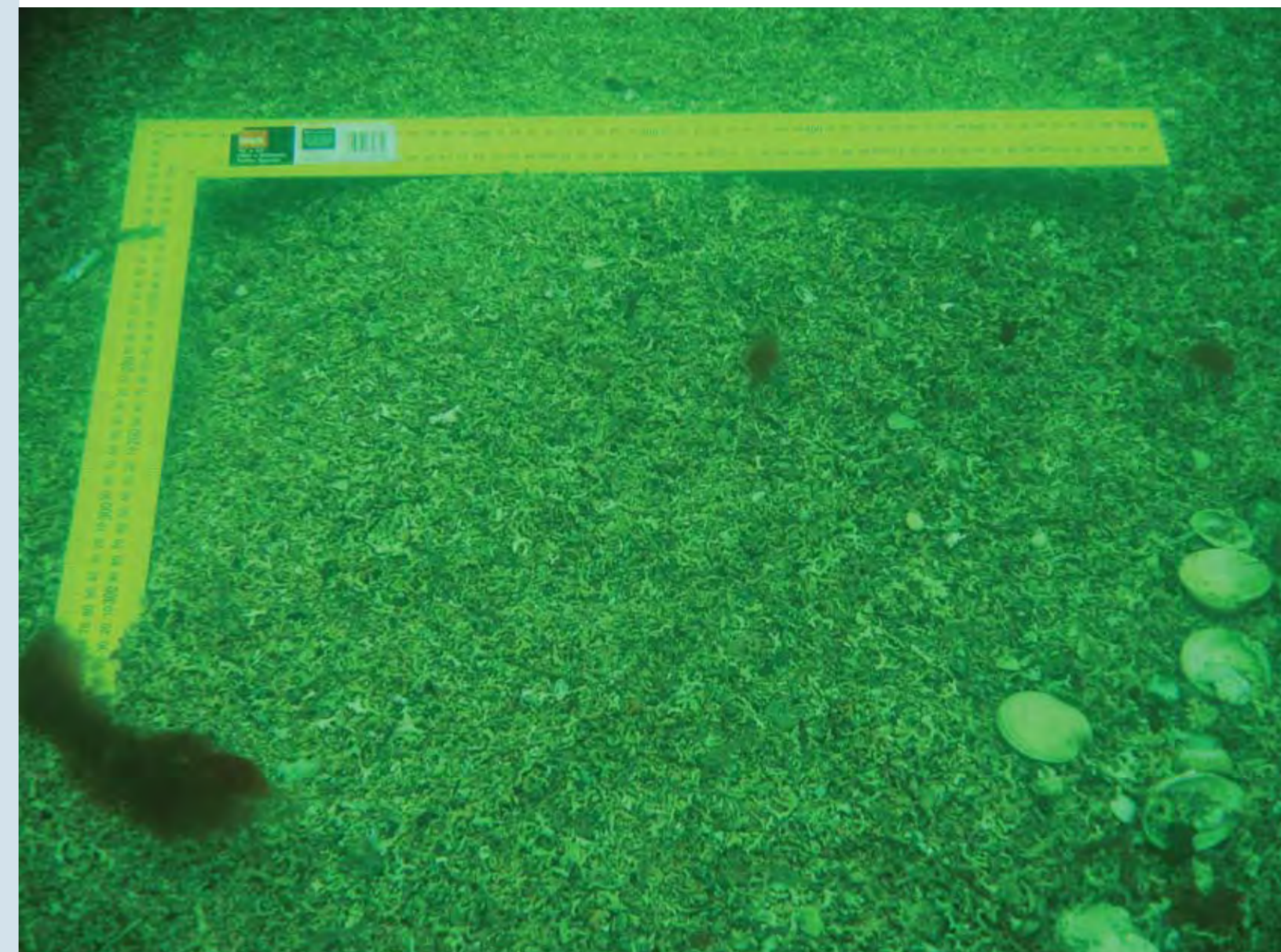
The EIA process provides information to inform an 'appropriate assessment' of the proposed Falmouth Cruise Project in relation to the Fal and Helford Estuaries Special Area of Conservation (SAC) in accordance with the Conservation (Natural Habitats &c) Regulations 1994.

Capital dredging of the new navigation channel will remove maerl habitats and communities from the SAC. In order to mitigate the impact associated with the removal of maerl habitats and to ensure that the extent of the maerl habitat is not reduced, it is possible to over-dredge specific areas and replace the maerl habitat back onto the seabed to ensure that a viable habitat remains.

With successful mitigation, none of the SAC's favourable condition targets are expected to be affected beyond (1) a temporary change in habitats until mitigation replaces the lost habitat and (2) a longer term change in community types until recolonisation occurs. It is predicted that the proposed project will not have an adverse long term effect on the integrity of the SAC.

Environmental Monitoring

- Based on the findings of the EIA process, monitoring programmes are likely to be necessary to record the following changes to the environment:
- suspended sediment and contaminant concentrations in the lower Fal Estuary due to capital dredging of the new navigation channel
- bathymetry and marine ecology in Falmouth Bay due to disposal of dredged material at the offshore disposal site
- maerl habitat and communities due to mitigation of seabed habitat in the new navigation channel



Maerl habitat sample from the marine ecology survey



Falmouth Harbour
Commissioners



ROYAL HASKONING



This project is part financed by the European Union
under the European Regional Development Fund.



Falmouth Docks
& Engineering Company



South West of England
Regional Development Agency