Executive Committee
15 December 2016
West Bay Harbour Deep Water Berth Quay Wall Strengthening, Construction Phase Funding

For Decision

Portfolio Holder:
Cllr John Russell

Senior Leadership Team Contact:
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Report Author:
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Statutory Authority
Coast Protection Act 1949, Harbours Act 1964, Bridport Harbour Order 1921

Purpose of Report

1. To update members on proposals to strengthen and improve the Deep Water Berth quay wall and quayside and to seek approval to apply for an European maritime Fisheries Fund grant to enable the scope of the proposed works to be extended to include improved facilities for commercial fishing.

Recommendations

2 (a) Note the current position in respect of the scheme proposals and estimated costs
(b) Approve extension of the scope of the proposed works to include further improvements to facilities for commercial fishermen, if the additional costs are covered by European Maritime and Fisheries Fund (EMFF) grant.
(c) Submit an application to the European Maritime and Fisheries Fund (EMFF) to cover a proportion of the costs

Reason for Decision

3 To improve quayside safety, facilities for commercial fishermen and the efficiency of fish landing at West Bay Harbour.

Background and Reason Decision Needed

4 The Deep Water Berth is the non-drying deep-water section of the harbour at the internal corner of the south-eastern side of the inner basin. The

quay wall is founded on very soft ground and shows evidence of serious settlement, instability, scour at its base and improvised topping up and repairs. Investigative work by consulting engineers engaged by WDDC has concluded that the wall has a factor of safety between 1.0 and 1.1; in other words it is on the point of structural failure. Similar sections of wall to the south have collapsed and been rebuilt, most recently in the 1970s.

5 The original harbour walls were mainly built of local stone on timber footings. The stone is eroded and little of the original mortar remains. Although some re-pointing has been done, sea water flows backwards and forwards through the wall with the tides, to the extent that the retained material has softened and partly washed out. At the Deep Water Berth, much of the original masonry has been replaced over the years with mass concrete.

6 The area of deep water at the base of the wall is created by scour from water released through the sluices on the northern side of the harbour, which tends to undermine the wall. Over a distance of about 4 metres this has led to the complete loss of the wall footing and formation of a void under the wall up to 3 metres deep and 1.4 metres high. Where the wall arches over the void, severe vertical and horizontal cracks up to 200 mm wide have formed. The top of the wall has settled by approximately 1.5 metres and has been topped up with concrete over the years to keep the quayside reasonably level.

7 Old timber and concrete piles supporting the face of the wall are severely eroded and several have broken off above the seabed. The wrought iron ties linking the piles to anchors in the ground behind the wall are severely corroded.

Scheme Development

8 A Detailed Business Case Appended to the January 2011 Executive Committee Report identified four technically feasible options and, taking into account the views of English Heritage, recommended Option B – repair and strengthening of the harbour wall using a micro-piling system. A design was completed and tender documents were produced on this basis, but due to the high estimated cost the scheme was not approved and cheaper options were investigated. A planning application for a sheet steel pile wall in front of the existing wall was withdrawn in 2013 following comments from English Heritage and the council's conservation officer.

9 With advice from Ramboll, the council's consulting engineers, based on further structural analysis, it was concluded that the lowest cost means of restoring the quay wall to full, safe use would be to strengthen a 25 metre length of quay wall using micro piles and to install a reinforced concrete slab supported on piles, known as a relieving slab, to prevent quayside loadings from reaching the strengthened wall.

10 There is an opportunity to make further improvements to commercial fishing related infrastructure alongside the main works. These would include:

- The old, heavy timber piles and fenders facing the wall are not effectively fixed, move under loads from tied up boats and are in a weakened, potentially dangerous condition.
- The existing manual davits used for fish unloading are inadequate and inefficient.
- The mooring bollards are badly positioned, causing trip hazards when used.
- The power and water mains supplies and services are grossly inadequate.

Fishermen's representatives have been in very positive discussion with the Marine Management Organisation on the possibility of EMFF grant being available towards resolving these problems.

Procurement

11 Micro piling work is extremely specialised and a conventional tender based on a detailed design would have limited competitive tendering to very few contractors. Instead tenders were invited on the basis of a reference design and performance specification for detailed design and construction of the works, allowing contractors the opportunity to put forward proposals based on their own specialist knowledge, techniques and equipment.

12 A target form of contract is used so that the risks of the project are allocated fairly between the contractor and council, and both are incentivised to quickly agree efficient, economic solutions to problems. The target price and programme are adjusted as investigation, detailed design and construction proceed. The contractor is paid defined cost and fees during the contract, and is paid or pays a "share" at the end according to whether it beats or misses the final target cost and by how much.

13 On the basis of pre-qualification submissions, five contractors were selected to tender and three valid tenders were received and assessed It is proposed to appoint the preferred contractor following the required standstill period, which ended on 29 November. The preferred tender is much lower than the estimated out-turn cost and it is expected that the scheme can be constructed within the approved budget.

14 The contract covers work required to meet commercial fishing requirements, including the piled relieving slab, service bollards and new mooring bollards. Because the extent of the required work is very uncertain, repairs to the timber piles and fenders are included as a provisional item. The powered hoists requested by fishermen could be added to the contract if a suitable mains power supply is located and sufficient funding is secured. EMFF grant applications are being prepared.

Financial Implications

15 The scheme is listed under Priority C3 of WDDC Corporate Plan 2013 – 2017. The council's approved budget for the scheme is £150,000 for Investigation, design and contract supervision, of which approximately £80,000 has been committed, and £950,000 for construction.

16 Including the main detailed design and construction contract, allowances for contingencies and additional work under separate official orders the estimated final cost of the scheme is £744,000 which is within budget.

17 Of this, approximately £96,500 are attributed to commercial fishing requirements and will be included in EMFF grant applications.

Implications

18 The main benefits of the scheme are:

- Prevention of Deep Water Berth quay wall collapse and restoration of the quayside to full use.
- Improved safety of the public, commercial fishermen, other harbour users and Council harbour staff.
- Reduced risk of damage to boats using the Deep Water Berth.
- Conservation and maintenance of the council's historic, grade 2 listed quay wall.
- Reduced restrictions on sluice operation, allowing improved harbour bed scouring and flood management.
- Improved, more efficient working conditions for commercial fishermen.

Risk Management (including Health & Safety)

19 Health and Safety risk management complies with the requirements of the Construction (Design and Management) Regulations 2015 and includes:

- Assessment of potential contractors' safety records at the pre-qualification stage.
- The contract Specification, with a designer's risk assessment and Pre-construction Health and Safety Information.
- Quality assessment of tenderers' Health and Safety Management proposals as part of tender assessment.
- The contractor's Construction Phase Plan under which health, safety and environmental risk assessments and method statements are planned, prepared and implemented.
- The Health and Safety File prepared at the end of the contract and then kept indefinitely by the council, containing as built records and operation and maintenance recommendations.

20 The main construction risks relate to maintaining structural stability, dealing with weak and variable ground, managing health, safety and environmental issues and the associated cost and programme risks. The selected ECC form of contract provides a fair allocation of risk between the council and the contractor and includes extremely effective risk management measures based on regular risk management meetings. Early warnings and compensation events, raised by either party, provide a relatively straightforward means of agreeing necessary changes to information in the contract and adjusting the target price and programme accordingly.

21 Human Resources

No implications.

22 Consultation and Engagement

Extensive consultation was carried out during main scheme planning and development including Historic England, council conservation and planning officers, Environment Agency, Marine Management Organisation, public events, harbour users and commercial fishermen.

If practical the detailed design will be approved under the planning conditions, but an amended application may be necessary.

Background Papers

- Gifford Report 16324-IR-01-Rev C, Bridport Harbour - Quay Wall and Structure Assessment.
- Executive Committee Report, 11 January 2011
- West Bay Deep Water Berth EMFF grant application Detailed Business Case, WDDC, December 2016.

Footnote

Issues relating to financial, environmental, economic and equalities implications have been considered and any information relevant to the decision is included within the report.

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