



**Meeting: Harbour Committee**

**Date: 3<sup>rd</sup> June 2013**


**Wards Affected: All wards in Torbay**

**Report Title: The Northern Arm Breakwater, Brixham Harbour – Business Case**

**Executive Lead Contact Details: Non-Executive Function**

**Supporting Officer Contact Details: Kevin Mowat**

**Executive Head of Tor Bay Harbour Authority  
Tor Bay Harbour Master**

 **Telephone: 01803 292429**

 **E.mail: [Kevin.Mowat@torbay.gov.uk](mailto:Kevin.Mowat@torbay.gov.uk)**

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## **1. Purpose**

- 1.1 To report to the Harbour Committee the outcomes from the Business Case Report prepared in respect of the proposed Northern Arm Breakwater for Brixham harbour.
- 1.2 To consider the next steps in the potential development of a Northern Arm Breakwater at Brixham harbour. A Northern Arm Breakwater at Brixham would greatly improve the situation for our harbour customers and it is expected that it would make a significant contribution to the local economy.

## **2. Proposed Decision**

- 2.1 **That the Harbour Committee note the ‘Conclusion’ of the preliminary Business Case into a proposed Northern Arm Breakwater for Brixham harbour, contained in Appendix 1.**
- 2.2 **That the Harbour Committee consider the next steps in the potential development of a Northern Arm Breakwater at Brixham harbour (see section 3.1).**

## **3. Action Needed**

- 3.1 The Harbour Committee should consider the next steps in the potential development of a Northern Arm Breakwater at Brixham harbour including but not limited to some or all of the following options :-
  - a) That the Torbay Development Agency be asked to prepare an economic and strategic impact assessment of the Council’s harbour authority function, to include an economic analysis of existing activity and an assessment of the value and importance of the Northern Arm project to the local and sub-regional economy.

- b) That the cost of the economic and strategic impact assessment is funded from the two harbour reserve funds and that the Executive Head of Tor Bay Harbour Authority be authorised to amend the revenue budget accordingly.
- c) That the Council and the Mayor be asked to consider making the Northern Arm Breakwater the top priority in the Council's capital plan and/or raising the profile of the project to a level where it becomes the most strategically important piece of capital infrastructure investment for the community of Torbay.
- d) That the Council, the Mayor and the Torbay Economic Development Company be asked to ensure that the Local Enterprise Partnership (LEP) is fully on board in relation to the Northern Arm and to shape the emerging Northern Arm project to fit as many national/local priorities as possible, thereby raising the profile of the Northern Arm project within the wider sub-region, including reference to the need for this infrastructure within the emerging City Deal project with Plymouth.
- e) That the Council be asked to fully explore the potential of the Community Infrastructure Levy (CIL) as a potential key enabler for the Northern Arm project.
- f) That the Torbay Economic Development Company be asked to continue to assess and explore all potential grant funding opportunities on an on-going basis, including in particular, any new European funding programmes.
- g) Whether to commission further work to better define project costs, especially in respect of ground conditions (Geotechnical investigation circa £140k see 5.12 & 5.14 below). If this is done the business case should subsequently be reviewed in light of the new information.

#### **4. Summary**

4.1 In September 2011 the Harbour Committee asked the Torbay Development Agency to prepare a preliminary business case for the Northern Arm Breakwater; to include an economic analysis of the proposed development to assess the project's viability, its value and importance. A preliminary business case would be needed as part of any application for future funding.

4.2 The 'Preliminary Business Case for the proposed Northern Arm Breakwater' was concluded by Jones Lang LaSalle in April 2013. Its conclusion was that based on the current project cost estimates, which included an estimate of the ground conditions; the Northern Arm is not currently affordable. This conclusion was reached because in all likelihood, based on current circumstances, the Oxen Cove and Freshwater Quarry land receipt coupled with any available grant will leave a substantial funding gap versus the estimated Northern Arm implementation costs. Also, the value unlocked by its implementation (a substantial new marina) is not sufficient, by a significant margin, to justify the borrowing required to fill the estimated funding gap on an affordable/commercial basis. The funding gap was identified as between £11.5m and £26m depending on the build cost variation (£25m to £38m) and the marina development option (private or Council run).

- 4.3 The Harbour Authority needs to make a decision about what to do next in respect of its aspirations for the development of this strategically important piece of harbour infrastructure at Brixham.

## **Supporting Information**

### **5. Position**

5.1 The specific purpose of the proposed Northern Arm Breakwater is threefold :-

- To enhance the protection of the fish market with the aim of allowing the safe unloading of fish under all weather conditions.
- To provide sheltered water to stimulate a range of waterborne leisure uses but specifically to include the substantial expansion of leisure marina facilities. This could include the increase in the capacity of the existing MDL Marina in front of the current wave screen and along the existing breakwater. Also, the development of new marina facilities adjacent to Freshwater Quarry and Oxen Cove possibly attached to a residential / retail development within that site.
- To respond to the aspiration of the local community to provide a properly enclosed and safe harbour in all weather conditions.

5.2 As part of the regeneration project's feasibility studies, Hyder Consulting were appointed in 2005 to undertake an outline design of the breakwater. This included the development of a wave model, a review of potential options and the provision of cost estimates. In 2008, as part of another study, consultants Halcrow were asked to carry out an evaluation and cost assessment of a further breakwater option.

5.3 The South West Regional Development Agency's (SWRDA) £8.4m funding towards the Brixham Regeneration Scheme included £1.16m towards the development of Freshwater Quarry, Oxen Cove and the Northern Arm Breakwater. Due to the closure of all Regional Development Agencies by March 2012, the Torbay Development Agency (TDA) was, in 2009, being encouraged by SWRDA to look at ways to spend this money. SWRDA required that all or most of this funding had to be spent by April 2011.

5.4 Aecom were appointed with Savills in autumn 2009 to carry out an options appraisal to examine what activities could be undertaken to improve the viability of any proposed development in the two car park sites and the new breakwater. The activities examined were those that a commercial developer would either evaluate as a risk to viability or feasibility of the ultimate development objectives, i.e. planning, economic, access, environmental and geotechnical, etc.

5.5 The report, issued in January 2010, assessed the priority to be :-

1. To carry out an economic benefit assessment. This would provide evidence to developers that any ultimate investment of this size would provide adequate return with regard to the sustainability of the economy of Brixham.
2. To determine the cost of the breakwater construction and the undertaking of further surveys and design works.

3. To carry out due diligence surveys and investigations, e.g. site investigation works, cliff stability assessments, services surveys, etc.
  4. To commence the planning process to allocate these sites within the LDF. This would improve the marketability and thus the value of the sites.
- 5.6 Following meetings between the TDA, the Harbour Authority and SWRDA to review Aecom's recommended priority, the scope of works were agreed to be :-
1. Additional investigations. To include site investigation to Freshwater Quarry, cliff stability assessments, utilities survey and flood risk assessment.
  2. The preparation of a Site Development Brief for Freshwater Quarry and Oxen Cove. The brief would :-
    - Clarify relevant planning policies and their application to the Freshwater Quarry and Oxen Cove sites.
    - Promote the development of the sites.
    - Provide design guidance appropriate to the particular attributes of the sites and their surroundings.
  3. To carry out a concept design of the proposed breakwater.
- 5.7 In July 2010 the tender process commenced to appoint the appropriate consultant to carry out the proposed work to carry out the initial design of the breakwater. Parsons Brinckerhoff with Royal Haskoning were appointed in October 2010.
- 5.8 The scope of works included the following :-
- To take the 2D model produced by Hyder Consulting in 2005, review and update the parameters and develop an agreed and accepted final model.
  - Using the final accepted 2D model, to test and optimise a number of alternative layouts. To determine that which offers the best protection for existing and new marina facilities and the new fish market / quay within the harbour taking into account the ownership of harbour fundus.
  - To review possible construction methods (reviewing issues such as cost and time affects, benefits and impacts) and agree that which is appropriate for the preferred layout and wave environment and which offers the best value to the community. To review the engineering issues in relation to the construction of the new breakwater. The breakwater should have a design life of at least 50 years.
  - To carry out a cost assessment of the final agreed layout and preferred construction method.
  - To identify possible financial mechanisms to provide funding for the works.

- 5.9 Their final report was issued in May 2011. In partnership with the TDA, officers from Tor Bay Harbour Authority formed a central part of the report's consultation process along with a number of key stakeholder organisations including the RNLI, Brixham Yacht Club, Brixham 21 and Brixham Town Council.
- 5.10 The agreed baseline option was a single rock armour breakwater extending some 360m north east from the slipway adjacent to AstraZeneca towards the disused fuel jetty on Victoria Breakwater. The estimated cost was between £25m and £38m which included construction, design and site supervision costs with a 20% contingency / risk allowance.
- 5.11 The main reason for this large estimated cost is due to the design being based on limited site investigation / information. The available site investigation did not include specific tests to determine the settlement / consolidation properties of the lower level silt material within the harbour. Further site investigation was not carried out as part of this study as it could not have been procured, mobilised and carried out prior to the SWRDA's April 2011 spend deadline. Consequently, the consultant had to make conservative assumptions as to the settlement / consolidation properties of the harbour bed material. It is considered that with accurate soil property information, savings could be made to the overall cost of the breakwater through innovative design and construction.
- 5.12 Section 7 of the Parsons Brinckerhoff final concept design report identifies a list of "next steps". These are noted as being :-
- (1) Preliminary business case. (completed April 2013)
  - (2) Geotechnical investigation.
  - (3) Select development partner.
  - (4) Detailed business case.
  - (5) Outline planning application.
  - (6) Detailed planning application.
  - (7) Procurement of breakwater.
  - (8) Final business case.
  - (9) Let contract to construct breakwater.
- 5.13 In more detail, the initial steps, (1) and (2), are :-
- (1) To carry out an economic analysis of the proposed development to assess the project's viability, its value and importance. It will need to consider the project not only in the general Torbay and Brixham context but also to the wider south west regional view. The business case will need to assess issues such as strategic fit, objectives, options, commercial aspects, affordability and achievability. This document would be used as part of any application for funding. If the business case for the new breakwater is proved or accepted then consideration could be given to progress to step (2).

- (2) To carry out an over-water site investigation to determine the specific soil properties needed to enable the design to be refined and hence the overall construction costs to be reviewed.

5.14 The initial estimate of costs for the above steps were :-

1. To carry out a preliminary business case - £35,000.

This work is largely completed.

2. To carry out the required site investigation - £137,500.

This includes;

(a) £112,900 for site works;

- Mobilisation of barge and rig.
- Drilling of 6 no. boreholes and the necessary sampling and in-situ testing.
- Laboratory testing.
- Demobilisation.
- 15% contingency to take account of the fact that the work is weather dependant.

(b) £11,300 for professional fees

(c) £13,300 contingency i.e. towing charges for the barge etc

3. To carry out the refinement of the design - £15,000.

This includes for;

- Re-design based on the new soils information.
- To carry out new model runs of the wave impacts on the assumption that the footprint and slope angles of the breakwater are substantially changed.
- To update the environmental scoping report with the new information regarding the site.
- To up-date the previously issued report to include the findings of the new marine site investigation, the modelling and the re-design. Re-costing would be carried out and the conclusions / recommendations revised.

5.15 In September 2011 the Harbour Committee asked the Torbay Development Agency to prepare a preliminary business case for the Northern Arm Breakwater; to include an economic analysis of the proposed development to assess the project's viability, its value and importance.

## **6. Possibilities and Options**

- 6.1 The Harbour Committee could note the content of the preliminary business case and decide not to take any further action until a clear funding opportunity becomes available for this significant capital project.

## **7. Preferred Solution/Option**

- 7.1 For the Harbour Committee to note the 'Conclusion' of the preliminary Business Case into a proposed Northern Arm Breakwater for Brixham harbour as contained in Appendix 1.
- 7.2 That the Harbour Committee identifies the next steps in the potential development of a Northern Arm Breakwater at Brixham harbour by making reference to section 3.1 of this report.

## **8. Consultation**

- 8.1 As indicated in 5.9 above a number of key stakeholders were consulted as part of the development of the Northern Arm Breakwater Concept Design Report.
- 8.2 The content of the Consultant's report and this report were discussed at recent meetings with of the Brixham Harbour Liaison Forum and the Brixham Employment and Regeneration Advisory Group (BERAG).

## **9. Risks**

- 9.1 The approximate costs of £265,000, which have been spent on this project to date, would be abortive if the scheme were never to proceed.
- 9.2 Failure to develop an economic and strategic impact assessment of the Council's harbour authority function will limit the Harbour Authority's ability to make an assessment of the harbour's economic benefit and therefore restrict the ability to demonstrate the importance of the Northern Arm project to the local and sub-regional economy.
- 9.3 It should be noted that there is the potential for the actual ground conditions to be worse than that assumed in the Parsons Brinckerhoff report. This will have implications for both the update of the report and the current estimated capital costs of the project.
- 9.4 There is a risk that resources will not be available to deliver some of the options identified in 3.1 above)

## **Appendices**

- Appendix 1 'Conclusion' - Preliminary Business Case for the proposed Northern Arm Breakwater, Jones Lang LaSalle

## **Additional Information**

Preliminary Business Case for the proposed Northern Arm Breakwater, Jones Lang LaSalle (April 2013)

Brixham Harbour Northern Arm Breakwater – Concept Design Report (May 2011), Parsons Brinckerhoff with Royal Haskoning

Brixham Harbour Northern Arm Breakwater – Option Costs (May 2011)

Brixham Harbour Northern Arm Breakwater – Figures/Drawings (May 2011)

Victoria Breakwater, Brixham, Geotechnical Investigation Report, 2011, Yeandle Geotechnical / Case Consultants

Brixham Regeneration – Northern Arm Breakwater, Design Evaluation and Cost Assessment of Option C, 2008, Halcrow

Brixham Northern Arm Breakwater, Outline Design Report, 2006, Hyder

Brixham Environmental Statement, 2006, Hyder

Brixham Harbour Regeneration, Numerical Modelling, Breakwater Design Applications, 2005, Hyder

Brixham Harbour Regeneration, Brixham Harbour Numerical Model Set Up Report, 2005, Hyder

Brixham Harbour Regeneration Strategy, Site Investigation Factual Report, 2000, Scott Wilson