

Salcombe Harbour Board – 2 November 2009**CONSERVANCY DUTIES – MAINTENANCE DREDGING KINGSBRIDGE BASIN****Report by Salcombe Harbour Master****Statutory Powers: Pier and Harbour Order (Salcombe) Confirmation Act 1954**

Financial Implications: At this stage of the project, the cost is estimated to be £50,000, which would be funded from the Harbour General Reserve.

Purpose

To gain Harbour Board approval to commence a project that will investigate the viability of conducting maintenance dredging within Kingsbridge Basin during winter 2010/11.

This report supports South Hams objectives of good jobs (CP2), retention of the district's character (CP3) and value for money (CP6).

Recommendations**That the Harbour Board RESOLVES to:**

- a. **Plan to conduct maintenance dredging of the Kingsbridge basin during the winter of 2010/11.**
- b. **Give project approval and set detailed budget expenditure once the Environmental Monitoring requirements have been agreed with Natural England.**

Background

1. Although no records have been kept, corporate knowledge suggests that the last time the Kingsbridge Basin was dredged was in January 1998, utilising a mechanical shovel and disposal to landfill.
2. Kingsbridge Basin has historically required maintenance dredging to maintain access to the head of the estuary. Over the years many methods have been used including horse drawn farrows on the ebb tide and water agitation by the paddle driven commercial traffic.
3. The recent project to maintenance dredge Batson Creek identified the exceptionally high and unaffordable cost of traditional back hoe dredging and disposal to a licensed dumping area in the English Channel. Transit distances from the Kingsbridge Basin and the more constrained tidal windows for operations would make the cost of traditional dredging even higher.
4. The success of the maintenance dredging of Batson Creek in the winter of 2009, which utilised a technique of Water Agitation/Water injection, has made the maintenance dredging of the Kingsbridge Basin an environmentally and financially viable proposition.

Way Ahead

5. The maintenance dredging of Kingsbridge basin can be broken down into four distinct phases:
 - Phase 1 - Viability and Planning
 - Phase 2 – Preparation for Maintenance Dredging
 - Phase 3 – Maintenance Dredging
 - Phase 4 – Post Dredge Recovery

6. **Phase 1 - Viability and Planning**
 - Identification of a suitable contractor
 - Liaison with Natural England to:
 - Gain Assent for maintenance dredging
 - Agree environmental monitoring requirements
 - Liaison with berth holders to identify period when berths will be removed
 - Board approval of Maintenance Dredging Budget
 - Apply for exemption from Contract Standing Orders to utilise same dredging and environmental monitoring companies that completed the Batson dredging contract
 - Award of Maintenance Dredging and Environmental Monitoring Contracts

7. **Phase 2 – Preparation for Maintenance Dredging**
 - Hydrographical survey
 - Pre dredge survey
 - Identify dredge limits and quantities
 - Analysis of silt samples
 - Modelling of silt deposition
 - Conduct pre-dredge environmental monitoring
 - Removal of all moorings and mooring

8. **Phase 3 – Maintenance Dredging**
 - Maintenance Dredging
 - Environmental Monitoring

9. **Phase 4 – Post Dredge Recovery**
 - Re-laying moorings
 - Post dredge hydrological survey
 - Post dredge Environmental Monitoring

Financial Implications

10. Following the success of the maintenance dredging in Batson Creek, it is proposed to utilise the same dredging company and environmental monitoring consultants because of the time and intellectual knowledge they have already invested and the harbour has paid for. To start again with another company and re-run silt deposition models from scratch would incur additional expense. To follow this procurement route will require an exemption from Contract Standing Orders but will deliver considerable savings.

11. In utilising the same dredging company, budget planning is straightforward as they charge a fixed fee for mobilisation and de-mobilisation and a daily rate for dredger operations, based on the dredger operating for two ebb tides each 24 hours.

12. The variable cost is the number of tides the dredging operation will take. This will be dependant on the density of the silt, the volume of silt to be removed and the tidal access window available for the dredger to operate. It will not be possible to accurately estimate these costs until towards the end of Phase One of the project.
13. The unknown cost at this stage of the project is the size and cost of the environmental monitoring requirement. Again, this will not be known until towards the end of Phase one of the project.
14. Based on the experience gained during the Batson maintenance dredging project, the outline budget planning cost is £50,000. The Board will be kept informed of progress and have the opportunity to approve a refined budget towards the end of Phase One before the contract is let.
15. It is proposed to finance this project from the Harbour's General Reserve, which would be reduced to approximately £40,000 at the end of the financial year 2010/11.

Risk Assessment

| Risk / Opportunity | Issues / Obstacles | Benefits |
|---|--|---|
| Kingsbridge Basin silts. | Vessels will run aground and access to Kingsbridge is reduced, being more and more tidally constrained. | Regular maintenance dredging will maintain the channel charted depth. |
| The Harbour Authority has a duty to conserve the harbour so that it is fit for use as a port, and a duty of reasonable care to see that the harbour is in a fit condition for a vessel to resort to it. | To fulfil the conservancy duties there are specific requirements to: <ul style="list-style-type: none"> • survey as regularly as necessary the navigable channels; • keep a watch for any changes in the sea bed that will affect the channel. | Regular hydrographical surveys are required to identify any dredging requirement. |

Conclusion

16. It was concluded that the Water Agitation Dredging method employed during the Maintenance Dredging of Batson Creek in March 2009 performed very well within the estuary taking into account the sensitive environmental habitat of the SSSI and that there were no negative impact on the flora and fauna of the estuary.
7. Water Agitation Dredging represents a financially and environmentally sustainable method of dredging within the Salcombe and Kingsbridge Estuary for the future and should be considered for the maintenance dredging of the Kingsbridge Basin in 2010/11.