

**REPORT TO:** Cabinet

**DATE:** 3<sup>rd</sup> July 2009

**REPORT BY:** Head of Transport and Street Management

**WRITTEN BY:** Bret Davies, Coastal Engineer

**REPORT TITLE:** Portsea Island Coastal Strategy Study

## **1 Purpose of Report**

- 1.1 To inform the Cabinet of the findings of the Portsea Island Coastal Strategy Study and to clarify the strategy approval process.

## **2 Recommendations**

- 2.1 That Cabinet support the recommendations in the strategy to provide coastal flood and erosion risk management schemes to Portsea Island.
- 2.2 That officers discuss with the Environment Agency to promote a higher standard of protection between 1 in 500 and 1 in 1000 over and above the standards of protection identified in the strategy;
- 2.3 That Officers report to Full Council on the findings and the recommendations in the Strategic Appraisal Report (StAR);
- 2.4 That Cabinet support, submitting the Portsea Island Coastal Strategy Study to the Environment Agency for technical approval and Defra and HM Treasury for final strategy approval;
- 2.5 That officers make representation to the Environment Agency to request that the compensatory habitat requirements identified in the Appropriate Assessment be secured and delivered through the Regional Habitat Creation Programme;
- 2.6 That officers develop the Portsea Island Coastal Strategy Study in conjunction with other PCC initiatives such as the Portsmouth Plan, Regeneration Strategy and Climate Change Strategy.

## **3 Background**

### **Why is a coastal strategy required?**

- 3.1 In the 1990's Defra produced their strategy for flood and coastal defence, one of the outcomes from this strategy was to develop Shoreline Management Plans (SMP) for the UK's entire coastline. SMP's are non-statutory documents, which define coastal defence policies that aim to reduce risk to people and the developed, natural and historic environment. Portsmouth's shoreline is covered in the East Solent SMP, which was adopted by the council and published in 1997. The East Solent SMP recommended that the preferred policy for the coastline of Portsmouth is *hold the line*, which means to maintain or upgrade the existing level of protection provided by a defence. Flood and Erosion risk strategy plans are required to deliver these high level SMP policies.
- 3.2 In April 2008 Defra delegated their strategic overview to the Environment Agency for all flood and erosion risk management around the coastline of England. They provide support to the coastal authorities in developing strategic plans and provide Grant in Aid (GiA) funding.

- 3.3 As a coastal operating authority the City Council have permissive powers (not a duty) to undertake flood and coastal defence works under the Coast Protection Act 1949 and the Land Drainage Act 1991.

Using these permissive powers PCC have led on the delivery of the Portsea Island Coastal Strategy Study and appointed the consultant Halcrow in 2001 to produce the strategy. PCC have received 100% grant in aid for the strategy to the value of £450k.

### **Portsea Island Coastal Strategy**

- 3.4 This is a flood and coastal erosion risk management strategy, which looks over a 100-year horizon and takes into consideration the impacts of climate change. The objective of the strategy is to plan sustainable, technically sound, environmentally acceptable and economically viable flood and erosion risk management for the study area.
- 3.5 The study area was split into seven flood cells, the findings from each cell are summarised and combined in the Strategy Appraisal Report (StAR). The StAR reports on the results of the strategy and consists of information developed from the following supporting documents;
- Coastal Processes Report
  - Economics Report
  - Coastal Defences Report
  - Strategic Environmental Assessment
  - Appropriate Assessment (signed off by Natural England in April 2009)
  - Contamination Risk Report

### **The findings of the strategy**

- 3.6 The strategy has identified a significant amount of properties currently at flood risk from a 1 in 200 tidal event (0.5% probability in any year) consisting of;
- 4211 residential,
  - 364 commercial and
  - 48 MOD properties
- 3.7 The strategy identifies that in 2109 due to the climate change impact of sea level rise the number of properties at risk from a 1 in 200 tidal event increases to;
- 9355 residential,
  - 950 commercial and
  - 117 MOD properties.

*NOTE: Property numbers in 2109 do not consider any future development.*

- 3.8 The present value of all properties (assets and infrastructure) at risk of flooding in 2109 is £1.1billion over the study period.
- 3.9 The present value cost of all preferred schemes necessary to protect all properties at risk of flooding is £137.4 million.
- 3.10 The following table is a summary of the present value discounted costs for each cell over the 100 year life of the strategy;

<b>Location / Flood Cell</b>	<b>Scheme Costs (£k)</b>	<b>Value of assets protected (£k)</b>
Flood Cell 1 – Southsea	56,000	530,000
Flood Cell 2 – Fraser Battery	15,000	15,000
Flood Cell 3 – Eastney Lake	3,000	11,500
Flood Cell 4 – North Portsea Island	36,000	498,000
Flood Cell 5 – Tipner	4,500	7,500
Flood Cell 6 – Continental Ferry Port	13,000	32,000
Flood Cell 7 – HM Naval Base	11,000	26,500

- 3.11 The Whole Life Cost of the strategy is £349.7 million which exceeds the Environment Agency's National Review Group's Financial Scheme of Delegation figure of £250 million and will therefore also require Defra's approval.

The Whole Life Cost includes all capital expenditure and revenue maintenance costs expected to be spent on Portsea Island's coastline over the next 100 years. Design and construction of coastal schemes (including beach renourishment) is eligible for 100% capital grant in aid from the Environment Agency. Upon scheme completion the Council will be responsible for the maintenance of the structures, maintenance will be funded from the coastal revenue budget. In order to keep future revenue costs to the Council down, capital schemes will be designed to incorporate solutions with low maintenance requirements.

- 3.12 In accordance with HM Treasury's Green Book (2003) a project risk (optimism bias) of 60% has been applied to all costs estimated within this strategy. This figure will lower to 30% during the design and construction phase when more detail on the proposals is known.
- 3.13 The StAR has recently been peer reviewed by the Environment Agency and the comments received are being incorporated into the document. The final version of the document is expected on 05 June 2009.

3.14 In order to manage flood risk, the strategy has followed Defra's Flood and Coastal Defence Project Appraisal Guidance (FCDPAG). The strategy recommends providing a standard of protection for a 1 in 200 tidal event and will be delivered through one of the following hold the line options;

1. *Maintain* – current defence height maintained for life of strategy, standard of protection reduces with sea level rise.

Maintain is recommended for Flood Cell 5 – Tipner Ranges.

2. *Sustain* – defences raised/replaced periodically in response to sea level rise, standard of protection will not change.

Sustain is recommended for Flood Cell 3 – Eastney Lake, Flood Cell 6 – Continental Ferry Port and Flood Cell 7 – HM Naval Base.

3. *Improve* – existing defences raised or replaced as soon as practicable to meet the future sea level rise figure, this will increase the current standard of protection.

Improve is recommended for Flood Cell 1 – Southsea, Flood Cell 2 – Fraser Battery and Flood Cell 4 – North Portsea Island.

3.15 The study area comprises sites of international and national importance for nature conservation. Langstone Harbour and the north of Portsmouth Harbour are Natura 2000 sites and are designated;

- Sites of Special Scientific Interest
- Special Protection Areas
- Special Areas of Conservation and;
- Ramsar sites.

3.16 As a result of holding the existing defence line, a likely significant adverse effect on the designated harbours was identified. In accordance with the Habitats Directive an Appropriate Assessment was carried out. It identified that 56.1 Ha of compensatory habitat will be required to compensate for the detrimental environmental impact of Coastal Squeeze and the loss of intertidal habitat. The strategy confirms that compensatory habitat will be delivered through the Environment Agency's Regional Habitat Creation Programme, this approach has been approved by Natural England. Costs for providing compensatory habitat have been included within the strategy.

3.17 The Defra Flood and Coastal Defence Project Appraisal Guidance used to evaluate a coastal strategy has identified an optimum level of financial investment and proposes a standard of protection of 1 in 200 with the exception of Flood Cell 5 – Tipner. It is the view of officers that as the Benefit/Cost ratio is high that PCC should seek to discuss with the Environment Agency to promote a higher standard of protection between 1 in 500 and 1 in 1000.

#### **4 Financial Implications**

4.1 There are no financial implications arising directly from this report. Project management, design and construction of future capital projects are eligible for full scheme funding (100%) from the Environment Agency's Flood Defence Grant in Aid (FDGiA). Schemes are already identified on the "Medium Term Programme" which is the Environment Agency's forward-looking financial plan. In order to keep future revenue costs to the Council down, capital schemes will be designed to incorporate solutions with low maintenance requirements. The ongoing revenue implications arising from a particular scheme will be assessed as part of the financial appraisal of that scheme and reported to members when the scheme is submitted for approval.

#### **5 City Solicitor Comments**

- 5.1 This report has been considered by the City Solicitor for legal issues and he has no comment to make.

## **6 Equality Impact Assessment**

- 6.1 This report has undergone an effective Equality Impact Assessment.

## **7 Consultation Undertaken**

- 7.1 Public Exhibition was held in April 2008, which was attended by 61 people. Following this exhibition the Strategic Environmental Assessment was publicly advertised for comment.
- 7.2 Full Council adoption of the strategy will be required before the strategy is submitted to the Environment Agency's National Review Group (NRG). NRG will scrutinise the technical detail of the strategy to ensure it meets current government guidelines before it is forwarded to the Secretary of State, Defra and HM Treasury for full strategy approval.

## **8 Other Options Considered and Rejected**

- 8.1 *No Active Intervention – Do nothing (baseline option):*

This option is the economic baseline for the strategy and has been used to calculate the damages of doing nothing (benefits of doing something). Do nothing was not considered technically feasible due to the large number of assets (properties) and contaminated landfill that would be placed at increasing risk of flooding and erosion over the next 100 years.

- 8.2 *Limited Intervention – Do minimum:*

This option was considered in the strategies economic appraisal as the 'least cost option' but like the do nothing option it was not considered technically feasible due to the large number of assets (properties) and contaminated landfill that would be placed at increasing risk of flooding and erosion over the next 100 years.

- 8.3 *Advance the existing defence line:*

This option was not considered viable for the study area due to the detrimental environmental impact of causing direct loss of habitat within environmentally designated sites.

- 8.4 *Managed re-alignment:*

Was considered on all frontages but all sites that were investigated were unsuitable due to the presence of contaminated landfill, the proximity of built up areas and the loss of locally important features such as promenades, shingle beaches and open spaces.

Signed..... Date.....  
HEAD OF TRANSPORT AND STREET MANAGEMENT

### Background List of Documents

Section 100D of the Local Government Act 1972

*The following documents disclose facts or matters which have been relied upon to a material extent by the author in preparing this report:-*

<i>Title of document</i>	<i>Location</i>
Portsea Island Coastal Strategy Study – Strategic Appraisal Report (February 2009)	TSM/Coastal/MAR318/Reports/StAR

The recommendation(s) set out above were approved/approved as amended/deferred/rejected by the Cabinet

Signed: ..... Date: .....

Councillor: ..... Cabinet member for: .....

## **Appendix**

1. Strategy Project Plan
2. Flood Cell Map
3. Strategic Appraisal Report
4. Equality Impact Assessment

## APPENDIX 1

### Portsea Island Coastal Strategy Study – Project Plan

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