

Environment Agency in
partnership with



planning for the future



Portchester Castle to Emsworth draft coastal
flood and erosion risk management strategy

Summary document

Strategic Overview of the coast

In April 2008, the Environment Agency became responsible for overseeing the management of all coastal flood and erosion risk in England. Under the new arrangements the Environment Agency now:

- ensures that proper and sustainable long-term Shoreline Management Plans are in place for our coastline, and approves them on behalf of Defra (Department for Environment Food and Rural Affairs);
- allocates all flood and coastal erosion risk management capital funding.

Management strategies along the coast including this *Portchester Castle to Emsworth coastal flood and erosion management strategy* will continue to be developed in partnership between local authorities and the Environment Agency.

The Environment Agency, coastal groups and local authorities are working hard to ensure that we deliver this new way of working in a partnership approach.

Published by:

Environment Agency in partnership with
Fareham Borough, Portsmouth City, Havant Borough and Chichester District Councils

Environment Agency
Guildbourne House
Chatsworth Road
Worthing
West Sussex
BN11 1LD
Tel. 08708 506 506

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The Environment Agency is working in partnership with Fareham Borough, Portsmouth City, Havant Borough and Chichester District Councils to produce the *Portchester Castle to Emsworth coastal flood and erosion risk management strategy*.

This document introduces the key issues we need to address and presents our draft strategy findings.

Flooding and erosion are real risks facing people and their property on the coastline between Portchester and Emsworth. With the climate changing, sea levels rising and

increasingly frequent and intense storms, our existing coastal defences are under constant threat.

If there were no coastal defences today, more than 900 residential properties in low-lying areas could flood each year from a 1 in 200 chance event. With rising sea levels this number could increase to 4,200 in 100 years time.

The coastal defences between Portchester and Emsworth are managed by a number of landowners as well as the following authorities:

- Fareham Borough Council
- Portsmouth City Council

- Havant Borough Council
- Chichester District Council
- Environment Agency
- Ministry of Defence
- Highways Agency.

This is a draft strategy and no final decisions have been made. Your input is important to ensure that we can consider your opinions in producing the final strategy.

We welcome your comments and will make use of any new information when we make our final recommendations. You can find out how to send us your comments on page 23.

What is a coastal flood and erosion risk management strategy?

This strategy identifies the best way of managing coastal flood and erosion risk over the next 100 years. Flood risk is the chance that an area of land will be flooded by sea water while erosion risk is the chance that the coast will be eroded away by the sea.

A strategy aims to protect local communities and the natural environment in the long term.

The way we make plans to manage our coast fits into a three-tiered framework:

- *Shoreline Management Plans (SMPs)* – set out high level management policies for 100 years across wide areas of coastline.
- *Strategies* – define how to deliver these high level policies for smaller local areas.
- *Schemes* – these are the projects we carry out on the ground.

Why have a strategy?

The flood defences are managed by a range of authorities and private landowners. The defences have been developed over time, resulting in varying standards of protection in different areas. Some of the defences are in poor condition and are reaching the end of their lives.

A strategy is needed to:

- Assess the risk of flooding and erosion to people, land, properties and the environment, both now and in future with predicted sea level rise.
- Look at ways of managing these risks and the best options for the next 100 years.
- Plan for individual schemes including securing funding where possible and looking at alternatives where national funding is unlikely.

If there were no defences then more than 900 properties, cultural heritage sites (such as Portchester Castle) and key infrastructure (such as road and rail links) would be at risk from coastal flooding and erosion.

We need to consider the impact of defences on the internationally important and protected wildlife habitats covering this coastline. These include Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar sites.

We believe our draft strategy identifies the best options for managing coastal flood and erosion risk over the next 100 years. We need to complete the strategy to ensure that investment of public funds can be justified and that money is spent where it will give the most benefit.

Strategies will be reviewed to take account of any changes that happen over time.



Who is involved in coastal management?

The Environment Agency with Fareham Borough, Portsmouth City, Havant Borough and Chichester District Councils are the operating authorities managing coastal erosion and flood risk for this coastline. We are responsible for producing the strategy in accordance with government policy and appraisal guidance.

There is generally no legal duty to build and maintain coastal defences. We have permissive powers that allow us to protect both people and property where it is economically, technically and environmentally viable, and where affordable within national budgets.

Government guidance states that the statutory environmental bodies must be involved in developing the strategy. Natural England is responsible for recreational issues, landscape issues and the protection of wildlife. English Heritage has responsibility for protection of the historic environment. We have worked with both of these organisations and their views have been taken into account within the draft strategy.



Langstone

What previous work has been done?

In February 2006 we consulted you (the public) on certain sections of the coastline included within this strategy. At that time we were at an early stage in our assessment of the options.

We have now used the feedback we received and undertaken further work to review our preferred options for this coastline as a whole.

Some of the earlier options that we presented in 2006 have now changed as a result of this work.

the Portchester to Emsworth coastline

The strategy area includes the mainland frontage from Portchester Castle to Emsworth in Hampshire. Portsea Island and Hayling Island are not included, as separate strategies are being developed for these areas. The strategy area covers 27km along the northern (mainland) coastline of Portsmouth Harbour, Langstone Harbour and Chichester Harbour. It covers the main centres of population in the north of the strategy area, including Portchester, Cosham, Drayton, Farlington, Langstone and Emsworth.

The area consists mainly of low-lying land protected by man-made coastal defences. The defences protect residential and commercial buildings, agricultural land and infrastructure, including the main west-east road and rail links. The frontage also includes transport connections to Portsea Island and Hayling Island.

Portsmouth, Langstone and Chichester Harbours provide opportunity for sailing and other water-based recreational activities and the area is a popular destination with visitors. There is significant archaeological interest along the frontage and Portchester Castle is a scheduled monument.

The strategy area has been divided into seven frontages (see map on page 12-13). These frontages are:

- Portchester Castle to Paulsgrove
- Horsea Island
- M27 and Farlington Marshes
- Brockhampton Quay
- Langstone and South Moor
- Warblington and Conigar Point
- Emsworth.



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Natural wildlife sites in the area

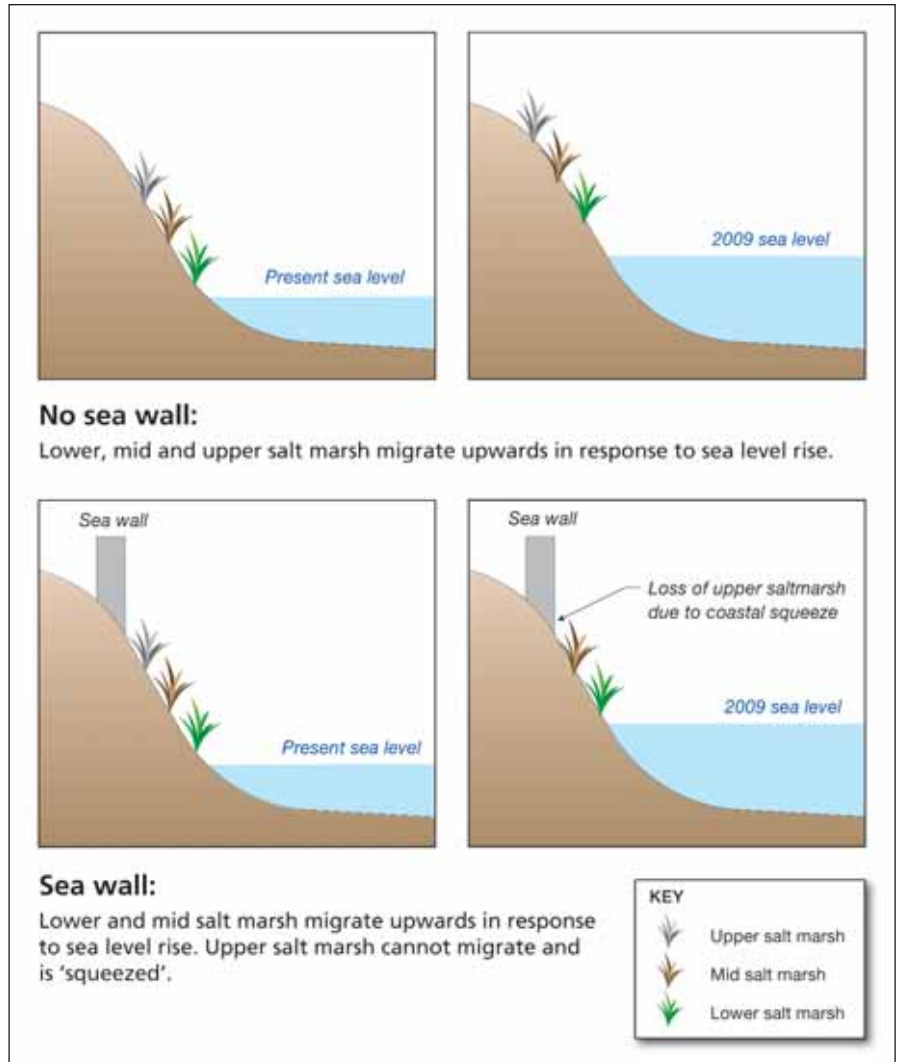
Portsmouth, Chichester and Langstone Harbours are internationally protected for their wildlife value. In Chichester and Langstone Harbours this also includes some areas of land behind the coastal defences such as Farlington Marshes.

The international protection recognises that the harbours and their wildlife play an important role in keeping the environment in good health. Climate change is contributing to rising sea levels and is likely to change the habitat in the harbours over time.

The rise in sea levels is also increasing the risk of flooding to coastal areas during high tides. 'Coastal squeeze' is the term used to describe the process by which saltmarsh and mudflats are lost as they become trapped between rising sea-levels and fixed seawalls.

Where defences prevent this habitat from migrating landwards we need to consider realigning the defences or compensating elsewhere for the habitat that will be lost due to flood defences.

The effects of 'coastal squeeze' are reflected in some of our draft recommended options.





how will our proposals be paid for?

Our strategy makes recommendations to manage coastal flood and erosion risk in the:

- short term (0 – 20 years)
- medium term (20 – 50 years)
- long term (50 – 100 years).

Our strategy does not propose detailed schemes or guarantee funding. We recognise that availability of money is likely to limit our ability to deliver works.

In this document we set out our draft recommendations and highlight the frontages that are unlikely to attract

government funding due to their low priority nationally.

At these locations the flood or erosion risk will increase over time in the absence of investment. We will need to work with communities to identify possible alternative sources of funding.

Central government spending on flood and erosion risk management has more than doubled over the last ten years, rising from £312 million in 1999 to a forecast £800 million by 2011. Despite these large increases, funds still have to be prioritised to ensure the maximum benefit for the money spent.

The large scale floods in Hull and Gloucestershire in 2007 highlighted that many areas of the country are at significant risk of flooding and need investment in flood risk management.

Funding is allocated nationally and priority is given to schemes protecting large numbers of houses and where flooding will cause significant damage.

If funding is not provided from central government, then funds from local, public and private sources will need to be explored.

options appraisal

We have assessed various options for each frontage of the coastline against technical, economic, social and environmental criteria to make our recommendation for the best option. For each option we have considered:

- how it would address flood and erosion risk to people and properties;
- whether it is going to work for the short term and equally importantly, the medium and long term, given the effects of sea level rise;
- how it would be built or maintained (if it is a structure);
- how it could impact on you, the people who live in, work in and visit the area;
- the cost of the option and the value of flood and erosion damages avoided by providing defences;
- the effect it could have on the environment.

We have considered four main types of options within the draft strategy as outlined in the table below.

Management option	Description
Do nothing – no active intervention	Let nature take its course – no further maintenance or repair work is undertaken except to manage health and safety at the site, allowing existing defences to deteriorate over time.
Do minimum	Maintain existing defences until they fail and then revert to no active intervention.
Hold the line – active intervention with three sub-options	<p>Maintain – defences are maintained at their current levels, but as sea levels rise flood risk increases over time.</p> <p>Sustain – defences are raised and strengthened as sea levels rise keeping the level of flood risk the same as it is now.</p> <p>Improve – defences are improved to reduce flood and erosion risk.</p>
Managed realignment	Improve coastal stability by moving coastal defences to a more sustainable location further inland, allowing controlled flooding to occur.

The following pages describe each frontage in turn and set out:

- the flood and erosion risk affecting the frontage;
- a summary of feedback from the initial consultation (2006);
- a brief explanation of the recommended management option.



Emsworth

proposal summary

The table below summarises our assessment of the number of residential properties at risk of coastal flooding and erosion each year, from a 0.5 per cent (1 in 200 chance) event. We show the draft strategy recommendations and costs over the first 20 years and full 100 years of the strategy. We have also shown the likelihood of securing national funding.

	Number of properties at risk if the defences are not maintained			Draft strategy recommendation	Cost over first 20 years £million (cost over 100 years)	Likelihood of securing central government funding
	Frontage	2008	2058			
Portchester Castle to Paulsgrove	392	539	685	Hold the line - Improve	7.0 (22)	Defences are likely to be funded.
Horsea Island	0	Port Solent development, HMS Excellent, Landfill site		Hold the line - Maintain	4.6 (19)	Unlikely (landowners responsible for maintenance).
M27 and Farlington	259	606	3102	M27: Hold the line - Sustain Farlington Marshes: Maintain for about 10 years whilst long-term options are studied	20.5 (38)	Highways Agency should continue ongoing maintenance along M27 / A27. Government funding for Farlington Marshes is likely.
Brockhampton Quay	0	Budds Farm Waste Water Treatment works, Landfill site		Hold the line - Sustain	4.6 (20)	Unlikely (landowner responsible for maintenance).
Langstone and South Moor	56	73	81	Langstone: Hold the line – Improve (Maintain until funding available)	3.1 (5.0)	Unlikely.
	0	0	0	South Moor: Do Minimum for about 10 years then Managed Realignment	1.0 (1.3)	Unlikely.
Warblington and Conigar Point	0	0	0	Do Minimum	<0.1 (<0.1)	No capital funding required.
Emsworth	194	259	389	Hold the line – Improve (Maintain until funding available)	15.9 (29)	Unlikely.

Portchester Castle to Paulsgrove

Portchester and Paulsgrove are considered as one frontage. This allows us to manage coastal flood and erosion risk more efficiently. The defences along this frontage vary in type and condition.

Residential properties and the A27 Southampton Road are

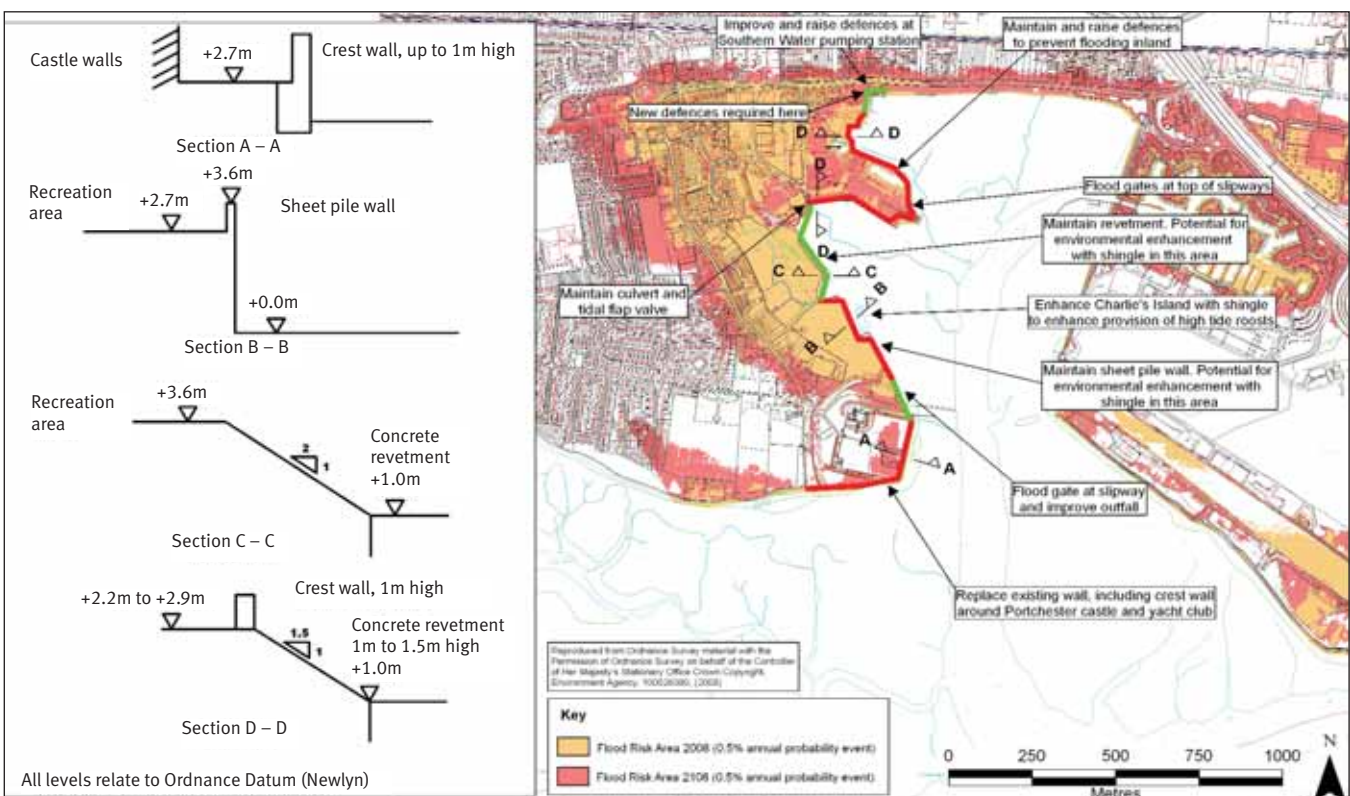
currently at risk of coastal flooding. In the long term, if there were no defences then 685 residential properties, Portchester Castle, the recreation ground and the Vosper Thorneycroft (VT) Halmatic site would be at risk from flooding.

During the initial consultation (2006) it became clear that the coastal path and the setting of Portchester Castle are important to the local community. The recreation ground and access to the sea for sailing were also identified as valuable by the local community.

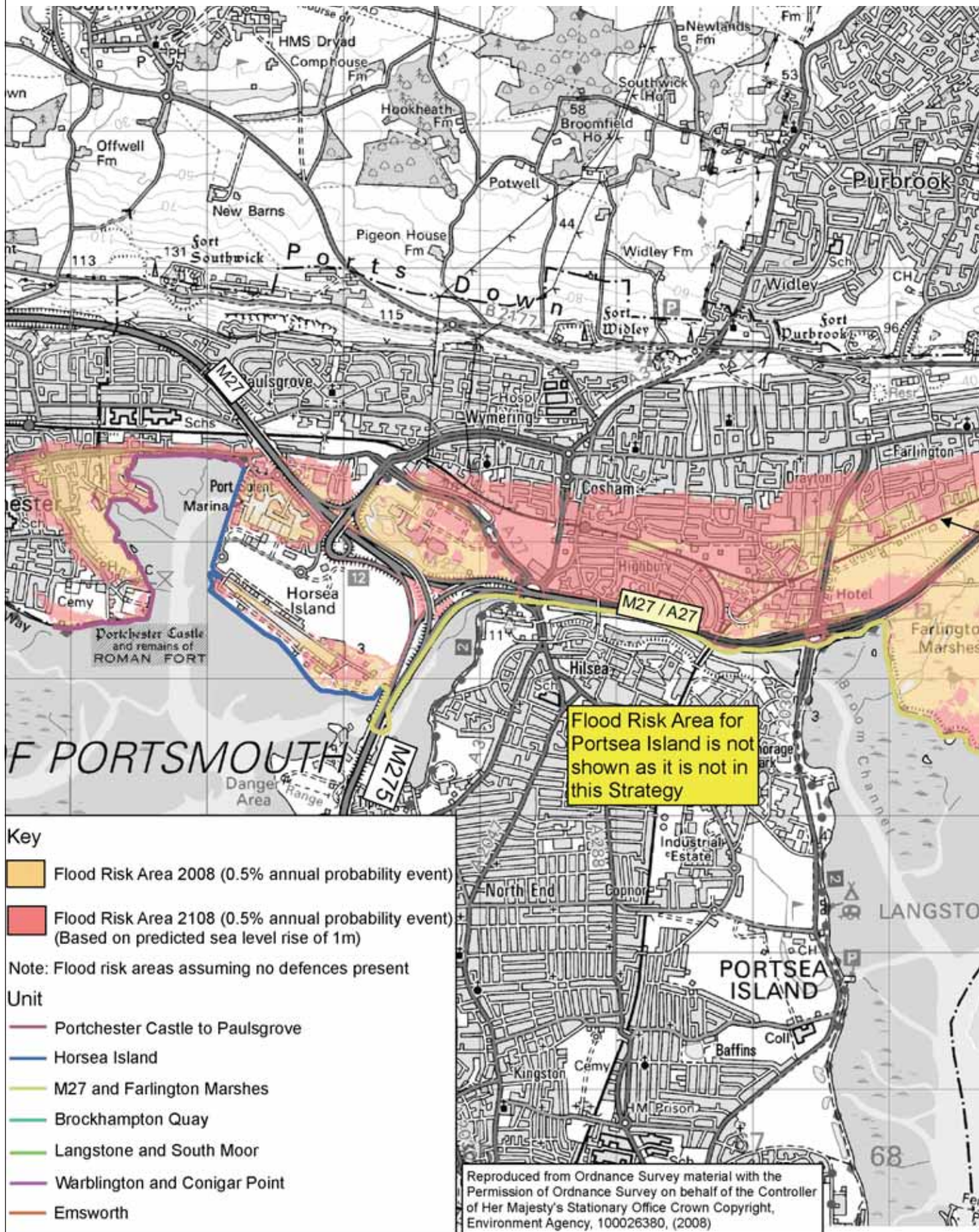
Our recommendation: Hold the Line – Improve

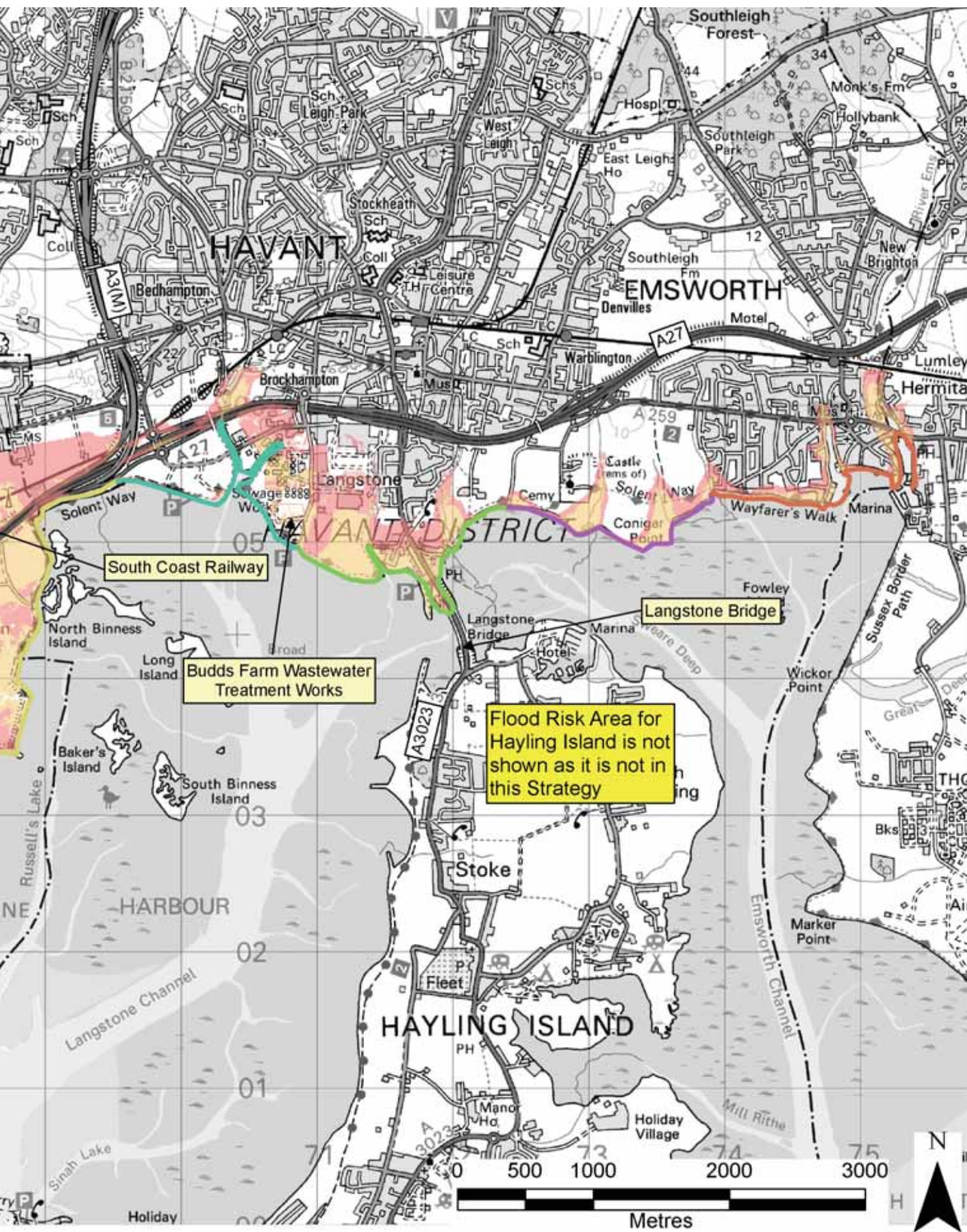
The existing defences at Portchester need to be improved to reduce flood risk. The condition of the defences along the Paulsgrove frontage is good, so improvement work will not be necessary for about 30 years. This option continues to offer protection to Portchester Castle, the recreation ground, residential and commercial properties. The figure below shows the works likely to be required.

Number of properties at risk if the defences are not maintained			Cost over first 20 years £million (cost over 100 years)	Likelihood of securing central government funding
2008	2058	2108		
392	539	685	7.0 (22)	Likely.



Strategy boundaries and coastal flood risk map





Horsea Island

Horsea Island is home to the Port Solent Marina and HMS Excellent Defence Diving School. The southern frontage of the island is owned and maintained by the Ministry of Defence (MoD). Portsmouth City

Council maintains the defences along the western frontage.

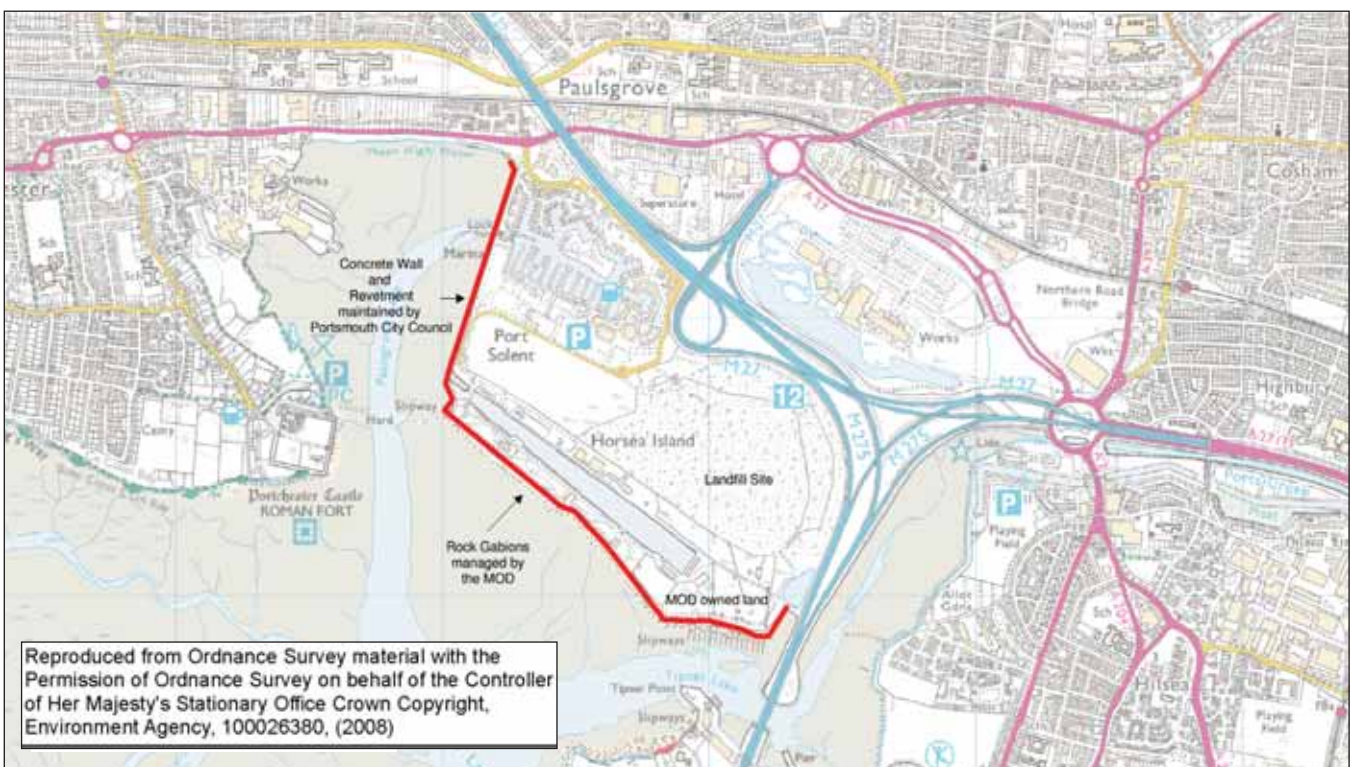
The island is a reclaimed landfill site, potentially containing contaminated materials and it is important that it remains protected to

prevent Portsmouth Harbour from pollution from the old landfill site. The existing defences at Horsea Island provide a very high standard of protection. We consider them to be in good condition.

Our recommendation: Hold the Line – Maintain

We recommend that the current standard of protection is maintained for the next 100 years. This will provide Port Solent Marina and HMS Excellent Defence Diving School with an appropriate level of protection from flood risk. This also reduces the risk of pollution to Portsmouth Harbour and the designated nature conservation sites through erosion of the landfill site. We recommend that the landowners should continue ongoing maintenance.

Number of properties at risk if the defences are not maintained			Cost over first 20 years £million (cost over 100 years)	Likelihood of securing central government funding
2008	2058	2108		
0	Port Solent development, HMS Excellent Defence Diving School, Landfill site		4.6 (19)	Unlikely (landowners responsible for maintenance).



M27 and Farlington

The M27 and Farlington frontage includes the coastal frontage between the M275 in the west and the eastern end of Farlington Marshes. The coastal defences provide erosion protection for important roads (M275, M27, A3(M), A27) and rail infrastructure, with densely populated residential areas present on the landward side of the M27. The defences along this frontage are in need of some repair.

At the eastern end of the frontage are Farlington Marshes

which is a mosaic of habitats subject to international and national nature conservation designations. It is noted as a vital habitat for wading birds. The Solent Way, a long-distance footpath, runs along the defences in the eastern part of the frontage. The defences at Farlington Marshes have failed in places in the past and have been repaired on several occasions. This strategy has considered various options to maintain and sustain the existing defences. However, in the long

term the current defences are not sustainable against rising sea levels. Various options have been considered to manage the flood risk to the properties to the north of the A27.

From the initial consultation (2006) it was clear that Farlington Marshes is an important recreational asset to the local community and there is a desire to improve the coastal footpath along the defences.



Farlington Marshes

Our recommendation: M27: Hold the Line – Sustain

We recommend that the existing defences along the western end of the frontage continue to be maintained by the Highways Agency. The defences will need to be raised in Year 50 to ensure that the risk of flooding to the residential areas north of the M27/A27 does not increase.

Our recommendation: Farlington Marshes: Maintain for about 10 years with a study to confirm long-term recommendations

At Farlington Marshes we recommend that the existing defences are maintained for about 10 years. A more detailed environmental study is currently looking at the long term impacts on the area of holding the line or realigning the existing defences.

It is possible that some form of managed realignment will be required due to the costs associated with maintaining the existing defences. A sustainable location for the defences is needed to ensure that the flood risk to the residential areas north of the A27 does not increase. Managed realignment could create valuable tidal habitat for wildlife that would otherwise be lost from the harbour as sea levels rise. If a realignment will cause a loss of existing habitat, then this would need to be recreated elsewhere within the Solent.

Number of properties at risk if the defences are not maintained			Cost over first 20 years £million (cost over 100 years)	Likelihood of securing central government funding
2008	2058	2108		
259	606	3102	20.5 (38)	M27/A27– Highways Agency should continue ongoing maintenance. Farlington – government funding is likely.



Farlington Marshes

Brockhampton Quay

Brockhampton Quay is an industrial area with the A27 immediately to the north. A key issue is the Budds Farm wastewater treatment works, which serves more than 450,000 people in and around Portsmouth and Havant.

The existing defences currently provide a good standard of protection and are generally in

good condition. There are two channels within the quays separated by a dredging wharf, and deep mudflats are exposed at low tide. The surrounding ground is relatively high, but there is a landfill site at Broadmarsh, which needs to be protected from flooding and erosion to prevent contamination of

Langstone harbour and designated wildlife sites.

The defences along the frontage are not considered to require work in the immediate term, although they will need to be raised to continue to provide the required standard of protection in the future.

Our recommendation: Hold the Line – Sustain

Given the relatively high standard of protection provided by the current defences, our recommended option for the frontage is to hold the existing line, raise low sections of existing defences in the short term and replace structures in the long term. We recommend that the landowner should continue ongoing maintenance.

This option continues to protect the sewage treatment infrastructure at Budds Farm. It will also prevent damage to the environment of the harbour, which could otherwise occur due to pollution if the sewage works were flooded or the landfill site eroded.

Number of properties at risk if the defences are not maintained			Cost over first 20 years £million (cost over 100 years)	Likelihood of securing central government funding
2008	2058	2108		
0	Budds Farm Waste Water Treatment, Landfill site		4.6 (20)	Unlikely (landowner responsible for maintenance).



Brockhampton



Broadmarsh

Langstone and South Moor

This frontage along the mainland to the north of Hayling Island includes Langstone village and South Moor (Special Protection Area). The A3023 runs north to south through Langstone and provides the only permanent connection between Hayling Island and the mainland. To the east of Langstone there is a narrow promenade and seawall between the coast and residential properties. The coastal defences at Langstone

and South Moor are mainly privately owned and there are some lengths of the coastline where ownership cannot be determined.

The land levels from South Moor to east Langstone are generally low. There is a high risk of coastal flooding at present to residential properties, Langstone High Street and the mainland road approach to Hayling Island. Local residents currently live

with the risk of flooding but the frequency is likely to increase with rising sea levels.

Feedback from the initial consultation (2006) highlighted the importance of views towards the harbour. Langstone village is a Conservation Area and it is important that the appearance of the area is not adversely affected by coastal defences.

Langstone

Our recommendation: Langstone: Hold the Line – Improve

The defences around Langstone could be improved by raising the crest height or by using demountable defences. This would reduce the risk of coastal flooding to residential properties and the northern A3023 approach to Langstone Bridge and Hayling Island. The defences east of Langstone Mill would be maintained at their current level. It is recognised that securing central government funding will be difficult and existing defences should be maintained where possible. We encourage homeowners to continue to be prepared and to take action to protect their properties from flooding whilst funds for improvement works are sought.

Number of properties at risk if the defences are not maintained			Cost over first 20 years £million (cost over 100 years)	Likelihood of securing central government funding
2008	2058	2108		
56	73	81	3.1 (5.0)	Unlikely.



Langstone

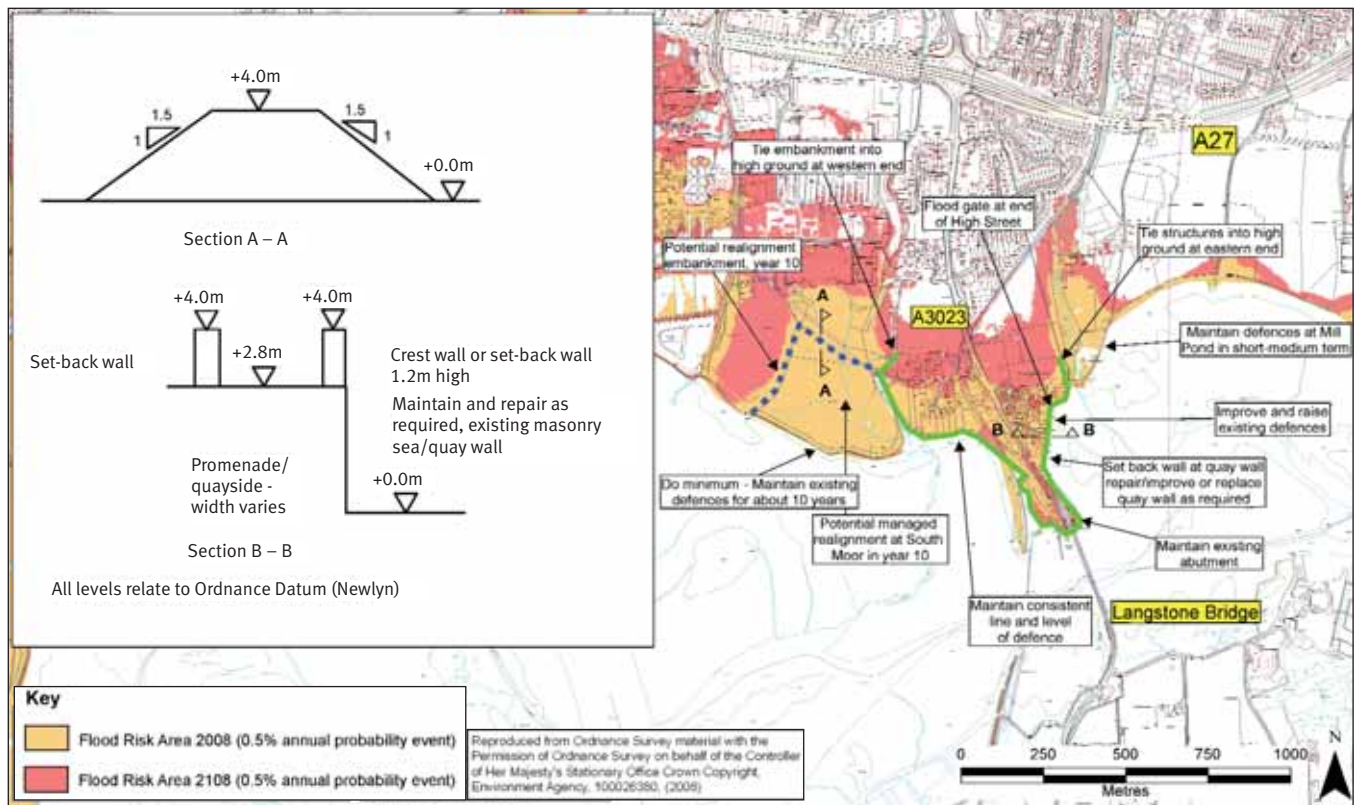
South Moor

Our recommendation: South Moor: Do Minimum for about 10 years, then managed realignment

Managed realignment at South Moor is proposed in about 10 years time to improve the standard of protection in the long-term to properties and assets at Langstone and create inter-tidal habitat. South Moor cannot be protected in the long term as holding the line of the current defences will cause irreplaceable loss due to coastal squeeze of the important inter-tidal habitats in Langstone Harbour.

Number of properties at risk if the defences are not maintained			Cost over first 20 years £million (cost over 100 years)	Likelihood of securing central government funding
2008	2058	2108		
0	0	0	1.0 (1.3)	Unlikely.

The figure below shows the works likely to be required:



Warblington and Conigar Point

This length of coast is generally undeveloped. There is a risk of coastal erosion and flooding to Warblington Meadow Special Site of Scientific Interest, areas of agricultural land, part of Warblington cemetery and Nore Barn Woods Site of Importance for Nature

Conservation. Defences have been constructed in a piecemeal manner over the years.

During the initial consultation, (2006) when we were considering managed realignment, concerns were expressed regarding the

potential impact on West Emsworth if the defences were allowed to fail. Concerns were also expressed about the state of the informal foreshore footpath.

Our recommendation: Do Minimum

We recommend that the existing defences are maintained by the landowners until they reach the end of their existing life and then revert to no active intervention. It is estimated that the existing defences will last between 1 – 10 years, depending on the severity of the flooding to which they are exposed. Warblington and Conigar Point are not likely to be protected in the long term as the coastal defences are in very poor condition and holding the line will cause coastal squeeze damage to the important inter-tidal habitats in Chichester Harbour.

Number of properties at risk if the defences are not maintained			Cost over first 20 years £million (cost over 100 years)	Likelihood of securing central government funding
2008	2058	2108		
0	0	0	<0.1 (<0.1)	No capital funding required.



Conigar Point

Emsworth

The Emsworth frontage is located in the Emsworth Conservation Area and contains two tidal mill ponds of high historical value. The diverse and historic nature of the area is reflected in the

combination of defences along the frontage.

During the initial consultation (2006) concerns were raised about erosion of the coastal footpath at West

Emsworth and the track providing access to properties along the frontage. Views were expressed that sailing and other water sports facilities must not be adversely affected by coastal defences.

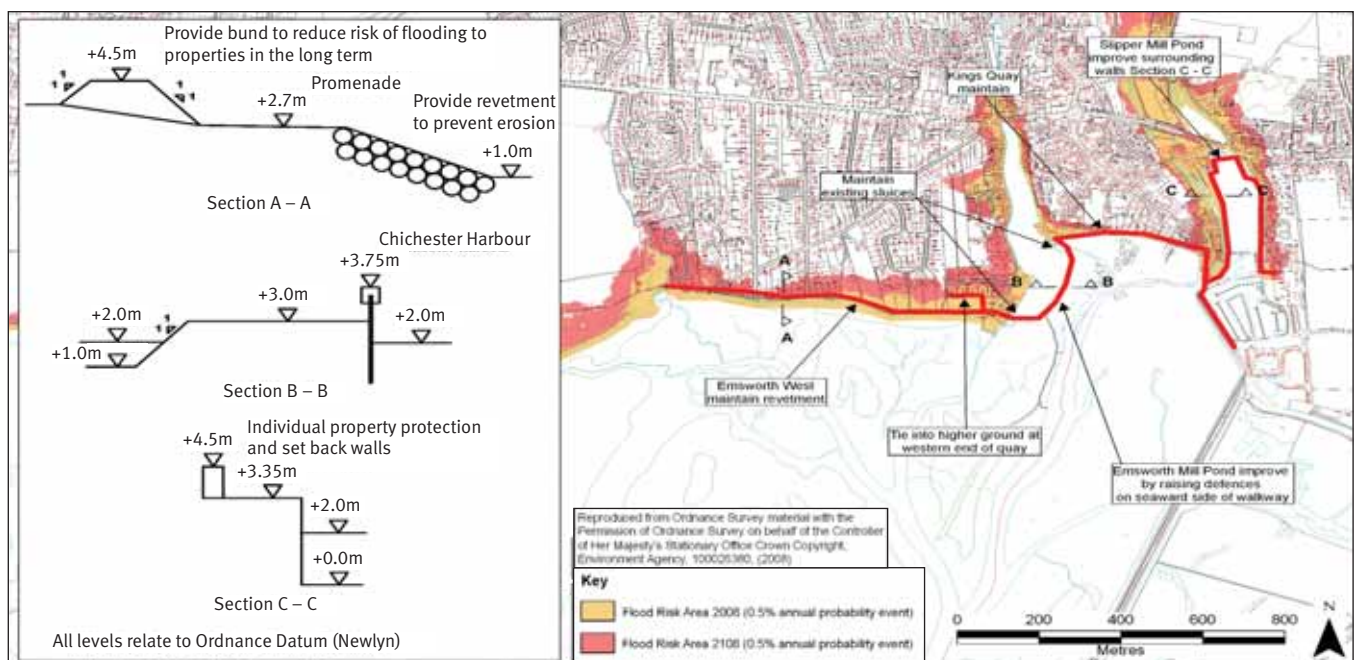
Our recommendation: Hold the line – Improve

The defences at Emsworth could be improved by raising the crest height at Emsworth Mill Pond and improving walls at Slipper Mill Pond. This would reduce the risk of flooding to residential and commercial properties in Emsworth.

It is recognised that securing central government funding will be difficult, and existing defences should be maintained where possible to the end of their residual life (about ten years), whilst funding is sought. In the meantime, homeowners are encouraged to adopt methods to reduce their risk of flooding. Further information can be found at the bottom of page 22 of this document.

Number of properties at risk if the defences are not maintained			Cost over first 20 years £million (cost over 100 years)	Likelihood of securing central government funding
2008	2058	2108		
194	259	389	15.9 (29)	Unlikely.

The figure below shows the works likely to be required:





where can I find out more?

This document has been designed for public consultation to inform people of the key issues and explain the recommendations set out in the draft strategy. If you know of someone who you think should see this document, please refer them to our website for an electronic copy:

www.environment-agency.gov.uk/consultations

If you do not have access to a computer, additional hard copies are available at Fareham Library, Portchester Library, Havant Library, Emsworth Library, Environment Agency offices and Local Authority civic offices. Or you can call us on 08708 506 506 or write to us at the address on the next page.

We have completed a *Strategic Environmental Assessment* of our draft strategy. You can review copies of this report on our website and at the civic offices of Portsmouth City Council, Chichester District Council, Havant Borough Council and Fareham Borough Council. Please contact the customer services of the Local Authorities to make an appointment to review the *Strategic Environmental Assessment* documents.

As part of the consultation on the draft strategy we are holding exhibitions at three locations along the coastline. We encourage everyone to attend and talk with members of the project team about our recommendations. If you would like to come and talk to us about our work, we will be at the following locations from 1pm to 8pm:

- Portchester – Friday 27 February, Portchester Community Centre, Westlands Grove, Portchester
- Emsworth – Friday 6 March, Emsworth Centre, 35-37 South Street, Emsworth
- Langstone – Thursday 19 March, Langstone Sailing Club, Langstone Road, Langstone

If you would like more information on how to protect yourself and your property from flooding please visit www.environment-agency.gov.uk/homeandleisure/floods or call 0845 988 1188.



This is a draft strategy and no final decisions have been made. We want to hear from you to help us to identify anything we may have missed in the preparation of this draft strategy. Please share with us your views of our recommended management options and any concerns you may have regarding strategy funding and implementation by **13 April 2009**.

Your opinions on the recommended options are important:

- Do you support the recommended options?
- Do you have ideas for improvements?
- Do you have any other comments?

By email: pemscds@environment-agency.gov.uk

Or by writing to:

Portchester Castle to Emsworth Draft Strategy Consultation 2009
Environment Agency
Guildbourne House
Chatsworth Road
Worthing
West Sussex
BN11 1LD

What happens next?

Please let us have your comments by 13 April 2009. We will consider all of the responses before making our final strategy recommendations later in 2009. Your comments will help define the construction, improvement or maintenance works that are required between Portchester Castle and Emsworth within the next five years, and inform the overall 100 year coastal flood and erosion risk management strategy.

We will keep you informed of our progress and share the outcomes of this consultation with you.

**Would you like to find out more about us,
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