

Christchurch Bay and Harbour Flood and Coastal Erosion Risk Management (FCERM) Strategy - Consultation

Information Document

Bournemouth, Christchurch and Poole Council (BCP) and New Forest District Council (NFDC) are working together with the Environment Agency to produce a new coastal Strategy. It will guide how the frontage from Hengistbury Head to Hurst Spit, encompassing Christchurch Harbour, may be sustainably managed for the next 100 years.

We have developed a phased approach to deliver the Christchurch Bay and Harbour Flood and Coastal Erosion Risk Management Strategy (FCERM) by early 2024. It will identify where, when and broadly what type of works are needed to manage the risks of coastal flooding and erosion and what they may cost, over the next century. It will also consider the effects of predicted climate change on coastal communities, including sea level rise and increased levels of storminess.

Phase 5 Consultation - 5 June to 27 August 2023

Climate change is putting significantly more properties, infrastructure and open spaces at risk from coastal flooding and erosion. Calculations have revealed that if we do nothing over the next 100 years, the coastal frontage will suffer around £1 billion in damages which includes erosion risk to approximately 1,600 properties and coastal flood risk to over 2,200 properties (homes and non-residential buildings). The figures are not designed to alarm but to help us evidence and justify doing something to manage the risks.

During the fourth phase of engagement in Winter 2022, we asked for feedback on the proposed short list for managing the risks. Each of the options were then appraised to assess their economic, technical, environmental and social viability. The process identified the proposed leading options for each of the 18-option development units and these proposals are the focus of this consultation.

The findings from this consultation will help confirm the **proposed** adaptive options to manage coastal flood and erosion risk across the strategy area. These will be included in the final Strategy for adoption by BCP Council, New Forest District Council and the Environment Agency; anticipated in 2024. You can find all our

technical reports and engagement feedback on the FCERM Strategy Hub:
haveyoursay.bpcouncil.gov.uk/christchurchstrategy.

Please read the information in this document and fill in the online survey by **midnight on Sunday 27 August 2023**. Alternatively, you can collect a paper copy of the survey and information document from the following libraries:

- Christchurch Library - Druitt Buildings, High Street, Christchurch, BH23 1AW
- Highcliffe Library - Gordon Road, Highcliffe, BH23 5HN
- Lymington Library - North Close, Lymington, SO41 9BW
- New Milton Library - Gore Road, New Milton, BH25 6RW
- Tuckton Library - Wick Lane, Tuckton, Bournemouth, BH6 4LF

You can also download a copy of the paper survey and information document from our main consultation page:

haveyoursay.bpcouncil.gov.uk/christchurchstrategyphase5.

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A New Coastal Strategy

Introduction

BCP Council successfully secured £525,000 of government funding to produce the new Strategy on behalf of Bournemouth, Christchurch and Poole Council (BCP), New Forest District Council (NFDC) and the Environment Agency (EA). It will guide how the frontage from Hengistbury Head to Hurst Spit, encompassing Christchurch Harbour, may be sustainably managed for the next 100 years. As well as identifying where, when and broadly what type of works are needed to manage the risks of coastal flooding and erosion and what they may cost, it will also consider the effects of predicted climate change, including sea level rise and increased storminess.

As Coast Protection Authorities, BCP and NFDC have permissive powers* to manage coastal erosion risk where it is appropriate and feasible to do so. In addition, along with the EA, BCP has statutory responsibilities for managing flood risk as the Lead Local Flood Authority (LLFA). Hampshire County Council is the LLFA covering the New Forest District Council area. In Partnership with the EA, both councils are working to develop the Strategy and we have appointed specialist technical consultants AECOM to help support this work.

**Local Authorities may carry out, but do not have a statutory duty to undertake coast protection work.*

Shoreline Management Plan (SMP)

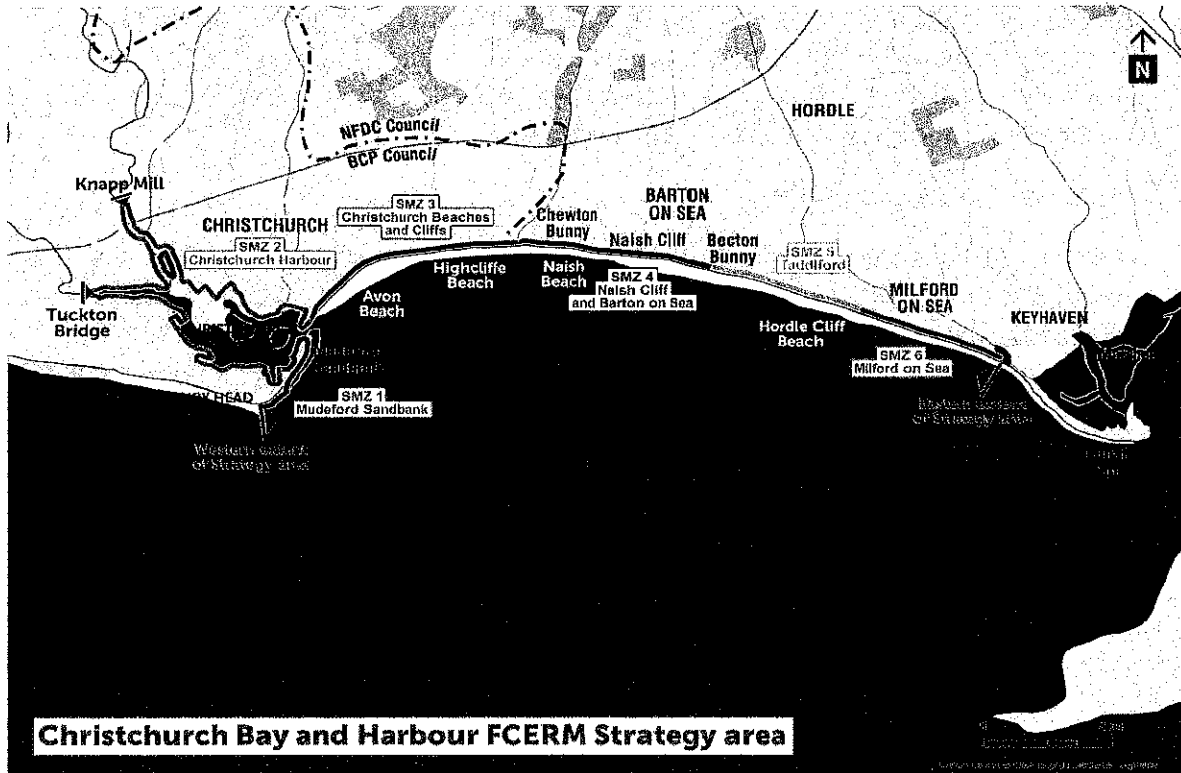
The development of the new Strategy follows on from the Poole and Christchurch Bays Shoreline Management Plan that was adopted in 2011. The Shoreline Management Plan promotes the management policies for our coastline, helping us move from the present to the future.

Stakeholder Engagement

Since summer 2021, your feedback has been helping us to shape the Strategy. So far nearly 12,000 people have viewed our website information, approximately 5,500 have engaged with our social media posts, around 680 people have attended our face-to-face and online events and over 250 people have completed a survey.

You can find all our technical reports and engagement feedback on the FCERM Strategy Hub: haveyoursay.bcpCouncil.gov.uk/christchurchstrategy.

Strategy area



The Strategy area stretches from immediately east of Hengistbury Head long groyne to the western end of Hurst Spit and encompasses Christchurch Harbour up to Tuckton Bridge on the River Stour, and Knapp Mill on the River Avon.

There are six Strategic Management Zones (SMZs) which each have their own specific coastal risks. The SMZs help us to identify and manage the links between each coastal area. The smaller Option Development Units (ODUs) in each zone, of which there are 18 enable us to identify how we can manage local requirements.

Below is an overview of the key information for the Christchurch Bay and Harbour Strategy, which is the area of focus of this consultation, as well as the Hurst Spit to Lyminster Strategy which is being overseen by the Environment Agency:

Option Appraisal

Option Development and Appraisal

A multi-staged option appraisal has been undertaken for the Strategy frontage to select proposed leading options for managing the coastal flood and erosion risks. The appraisal followed a step-by-step process, starting with a long list, narrowing this down to a short list, and then identifying leading options.

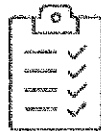
Since the last round of engagement, the proposed leading options have been selected from the short list. This has involved appraising the options against economic, environmental, social and technical factors. To facilitate the option appraisal process, the Strategy frontage was divided into six Strategy Management Zones (SMZs). These zones were further divided into 18 Option Development Units (ODUs) in which different options were appraised.

Types of Leading Option

In each ODU, up to three types of proposed leading options have been identified. These include the National Economic Leading Option, the Local Aspirational Option and the Backup option. Each type of option outlines the planned coastal defence interventions during different periods of time, the short, medium and long term.

A National Economic Leading Option has been identified in each ODU and forms the basis of the appraisal. In some locations a Local Aspirational Option has also been identified. This option delivers wider / local benefits compared to the National Economic Option. In some cases, the funding shortfall to deliver either of these options is expected to be large, and therefore a Backup option has also been identified. The Backup option is typically lower cost, has lower capital investment requirements and should be more deliverable. A breakdown of each option type is shown below:

**National
Economic
Leading Option**



This is the leading option which is identified by following the Environment Agency's Flood and Coastal Erosion Risk Management Appraisal Guidance.

**Local
Aspirational
Option**



This option considers local opportunities, wants and needs to deliver wider benefits. This option typically costs more than the National Economic Leading Option.

**Backup
Option**



This option has been identified when there is a large funding shortfall. It is typically a lower cost option that will be more easily delivered if funding is limited.

Environmental Enhancements

The appraisal has considered areas where environmental enhancements may be possible and the proposed leading options include the key opportunities.

Funding

Funding is a key constraint when undertaking flood and coastal erosion risk management schemes. Funding from central government is known as Flood and Coastal Erosion Risk Management Grant in Aid (FCERM-GiA) and is available for coastal defences. However, this typically does not cover the full cost of a coastal defence scheme and is distributed based on the benefits that are delivered. Central government funding will need to be topped up by other sources of funding and contributions in order to deliver the Strategy.

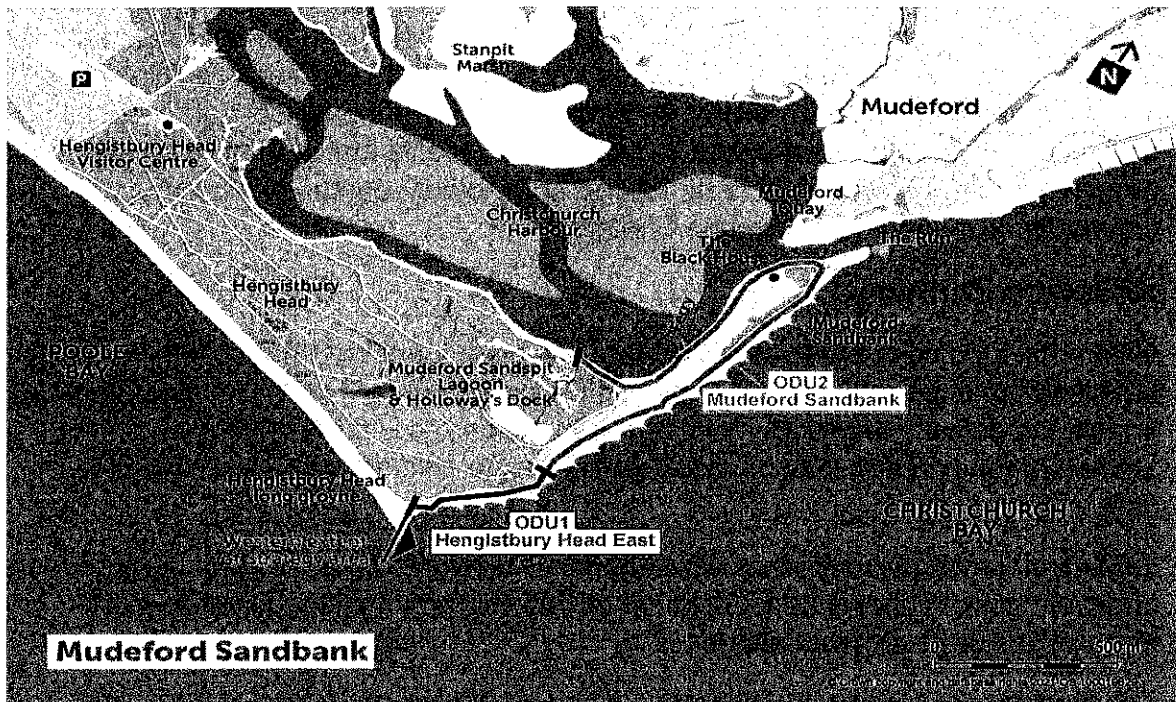
Adaptive Pathways

Given that funding is a key constraint that has been identified, the project team has identified the three option types (National Economic, Local Aspirational and Backup) so that the delivery team can move between options over time, depending on the amount of funding that may be available for coastal defences at a certain point in time.

Other factors will also influence which option is delivered in each ODU, such as the onset of coastal flooding and erosion risks and the rate of change that may occur in these risks due to climate change.

The movement between the different options are known as 'Adaptive Pathways'. It provides the delivery team with the required flexibility to adjust course depending on the risks / funding availability. For example, if more funding becomes available than expected, the delivery team could switch from delivering the National Economic Leading Option to the Local Aspirational Option.

Muddeford Sandbank - SMZ 1



Background

SMZ 1 (Muddeford Sandbank) includes ODUs 1 and 2, covering the area to the east of Hengistbury Head long groyne and Muddeford Sandbank. The key feature to manage in this location is the Sandbank, which has businesses and beach huts and is an important area for recreation and amenity use. The Sandbank also provides shelter to Christchurch Harbour, helping to reduce wave activity in the harbour and reducing the potential flood risk. With projected sea level rise, the Sandbank will become under increasing pressure from coastal flooding and erosion.

Properties at risk and economic damages

ODU	Properties at risk of coastal erosion by 2123	Properties at risk of coastal flooding by 2123 (200yr return period)	Economic damages over the next 100 years (£million)
1	Not calculated	0	£0
2		6	£1.1

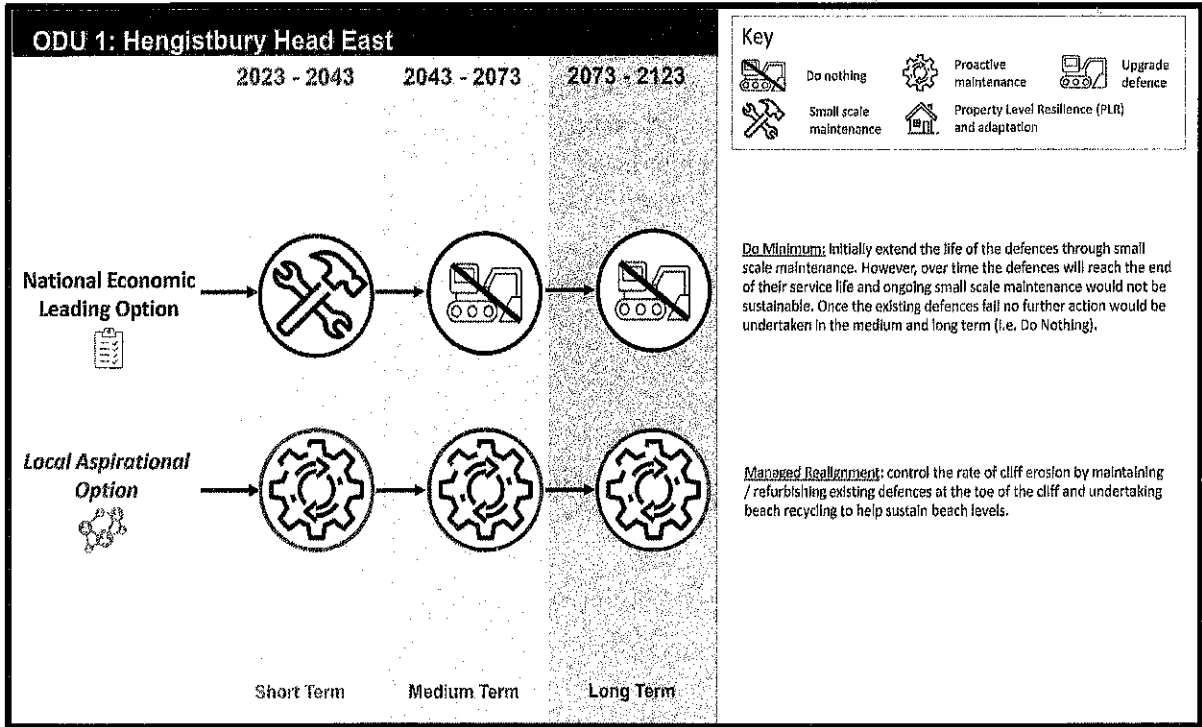
Proposed Leading Options

A detailed breakdown of the proposed leading options in ODUs 1-2 is shown on the following image. The table below shows the key economic information for each leading option such as the estimated cost and funding. Due to the lack of permanent properties on Mudeford Sandbank the amount of central government funding (FCERM-GiA) for coastal defences in SMZ 1 is expected to be very limited. Therefore, the leading options will need to be funded from non-GiA sources.

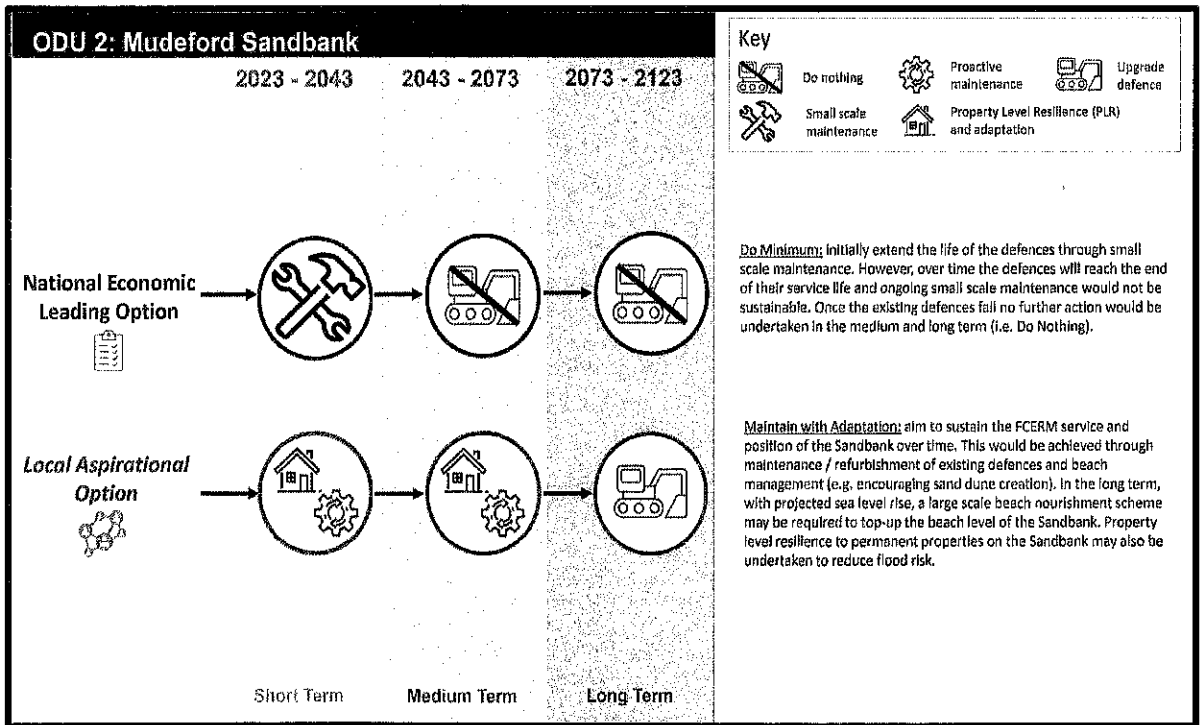
ODU	Proposed Leading Option	Estimated whole life cost of option* (£million)	Approximate funding available from government for scheme (£million)	Estimated funding shortfall / contribution needed (£million)
1	National	0.5	0	0.5
1	Local	6.4	0	6.4
2	National	1	0	1
2	Local	15.2	0	15.2

**estimated costs subject to change when more detailed appraisal to developed schemes are undertaken in future years*

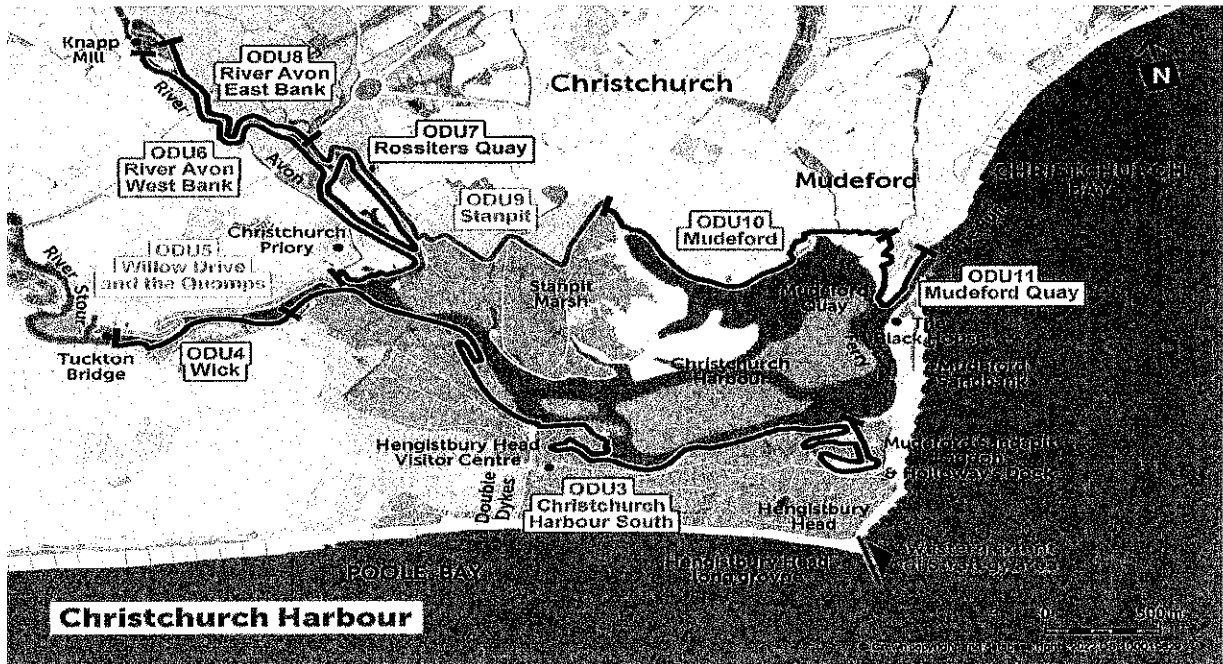
1.1 Hengistbury Head East (ODU1)



1.2 Mudeford Sandbank (ODU2)



Christchurch Harbour - SMZ 2



Background

SMZ 2 (Christchurch Harbour) includes ODUs 3 to 11*, covering the area within Christchurch Harbour, up to Tuckton Bridge on the River Stour and up to Knapp Mill on the River Avon. SMZ 2 is a sheltered harbour environment and generally the main risk of flooding is from tidal inundation rather than wave overtopping.

There are a large number of properties at risk from tidal flooding around the harbour and sea level rise is expected to make this risk worse over time. The risk from erosion within the harbour is generally low (compared to the open coast), but there are numerous areas of historic landfill along the coastline that may be at risk from erosion and have been considered in the appraisal.

Properties at risk and economic damages

ODU	Properties at risk of coastal erosion by 2123	Properties at risk of coastal flooding by 2123 (200yr return period)	Economic damages over the next 100 years (£million)
3	Not calculated	8	3.9
4		121	42.3
5		562	221.3
6		126	39.2
7		57	18.6
9		867	261.0
10		370	86.7
11		12	5.4

**ODU 8 is not included as it has been agreed with the Environment Agency to develop options for this area in a separate project*

Proposed Leading Options

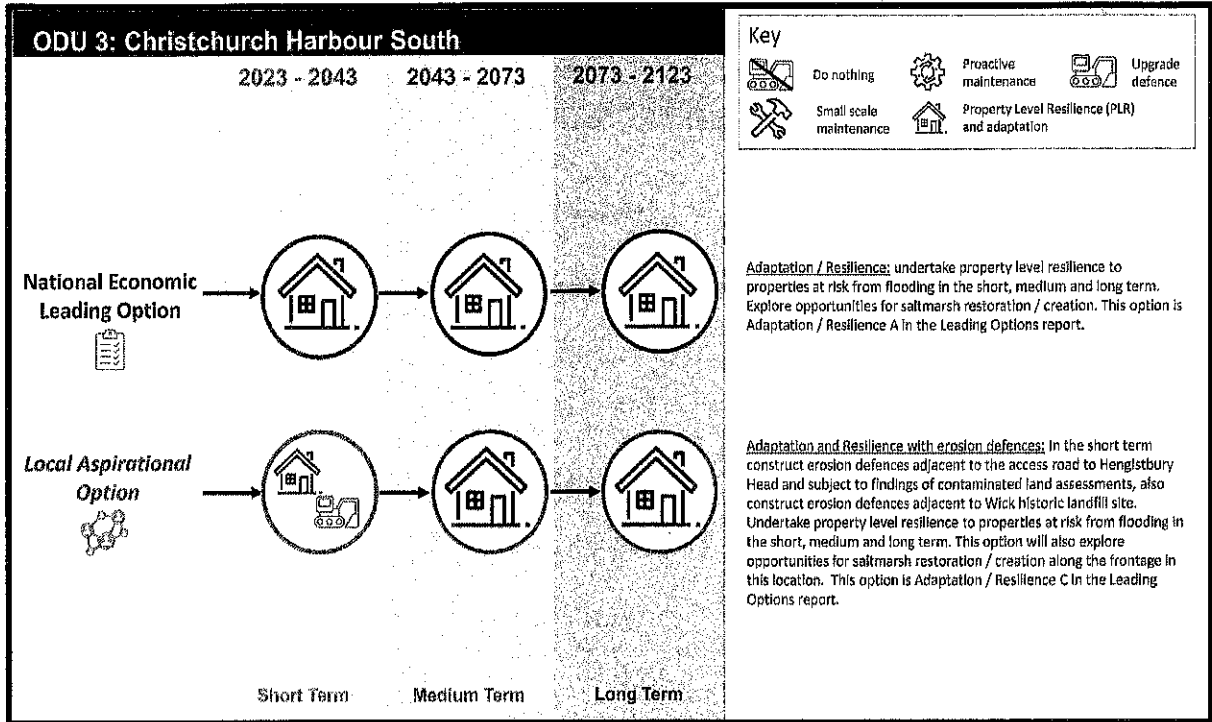
A detailed breakdown of the proposed leading options in ODUs 3-11 is shown on the following images. The table below shows the key economic information for each leading option such as the estimated cost and funding.

Backup options have also been identified in some units in SMZ 2. These are not shown in the table below but would be more deliverable and focussed on more frequent, smaller interventions over time and property level resilience rather than larger capital schemes.

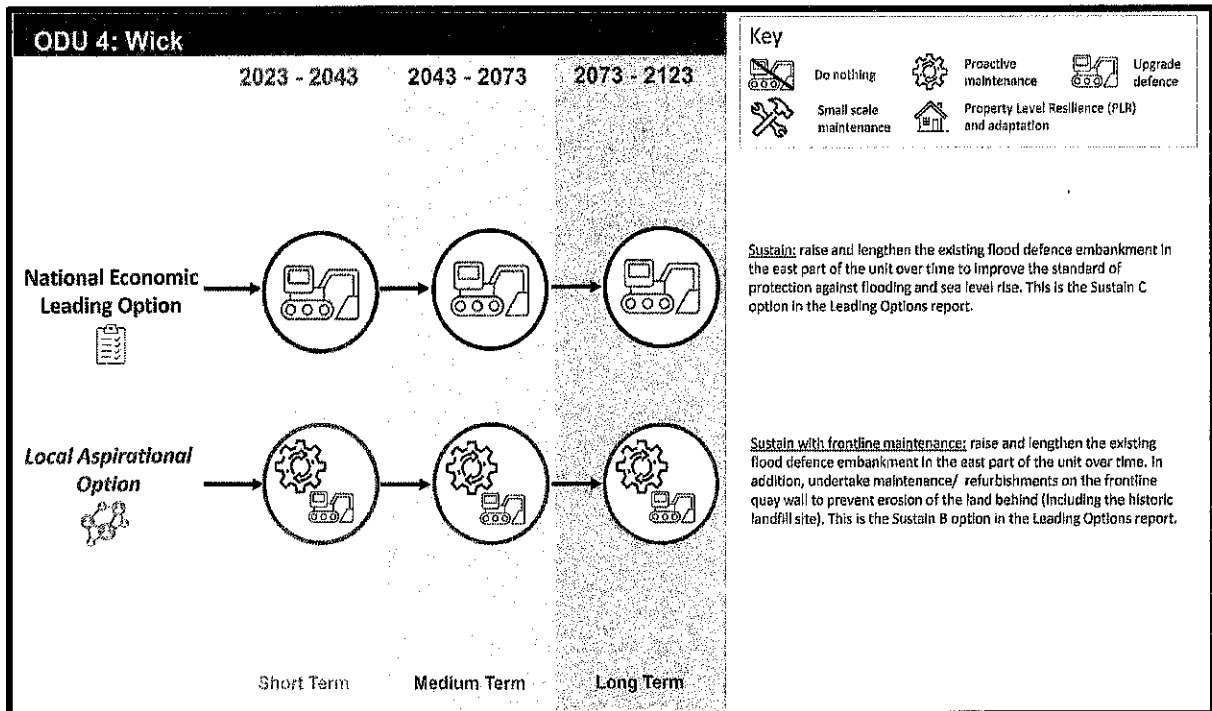
ODU	Proposed Leading Option	Estimated whole life cost of option (£million)**	Approximate funding available from government for scheme (£million)	Estimated funding shortfall / contribution needed (£million)
3	National	0.3	Requires further assessment	
3	Local	2.5		
4	National	3.3	0.7	2.6
4	Local	10.1	0.7	9.4
5	National	27.0 - 28.7	Varies ± 4.0	23.0 - 24.7
5	Local	27.0 - 27.7	Varies ± 4.0	23.0 - 23.7
6	National	7.8	Requires further assessment	
7	National	7.3	0.6	6.7
9	National	21.0	2.9	18.1
10	National	27.3	2.1	25.2
11	National	0.5	0	0.5
11	Local	27.3	Requires further assessment	

*** estimated costs subject to change when more detailed appraisal to developed schemes are undertaken in future years*

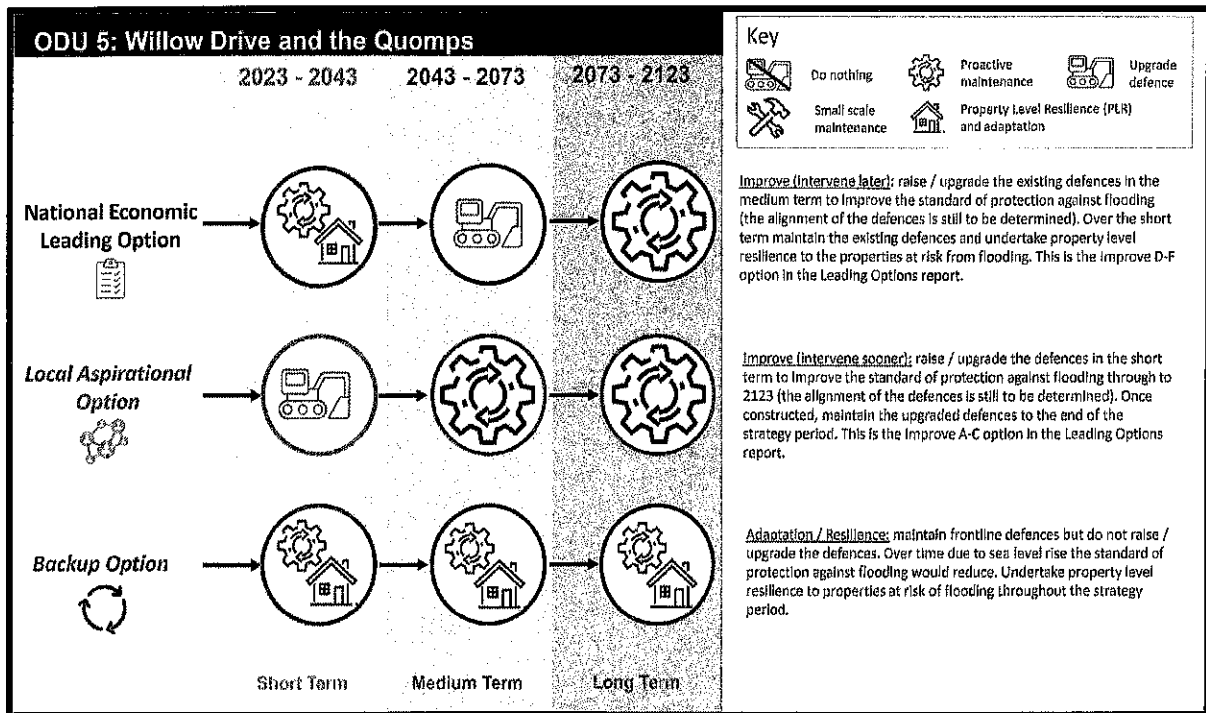
1.3 Christchurch Harbour South (ODU3)



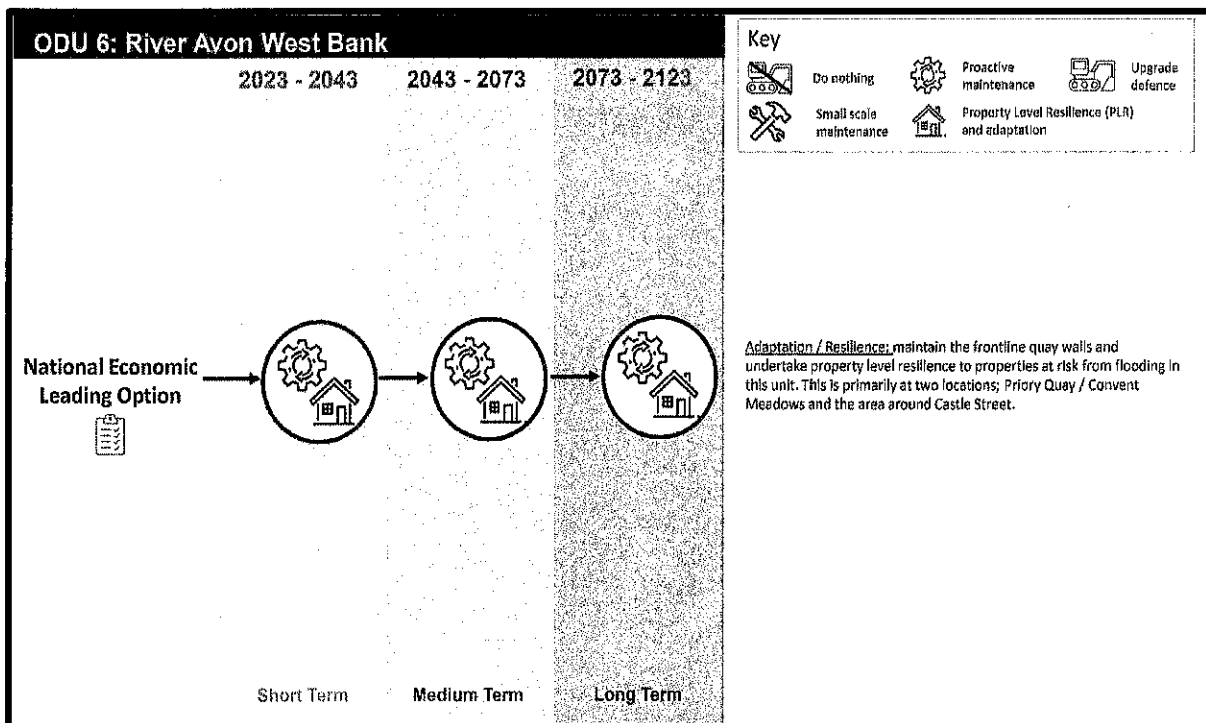
1.4 Wick (ODU4)



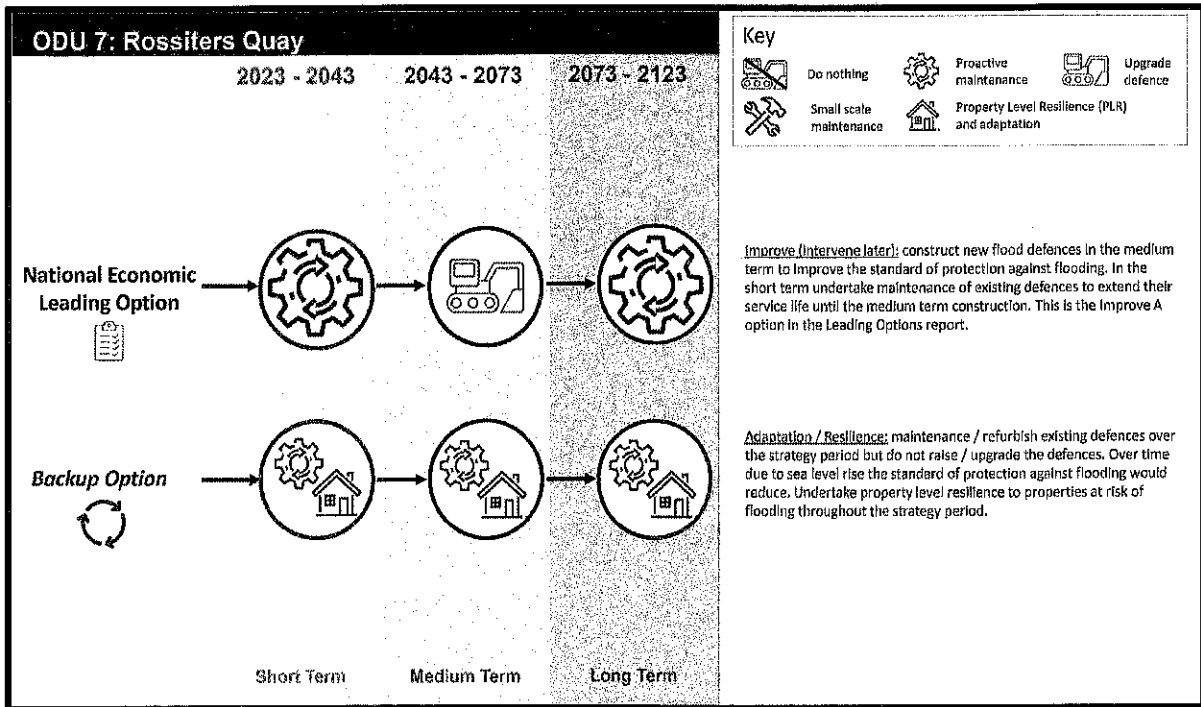
1.5 Willow Drive and the Quomps (ODU5)



1.6 River Avon, West bank (ODU6)

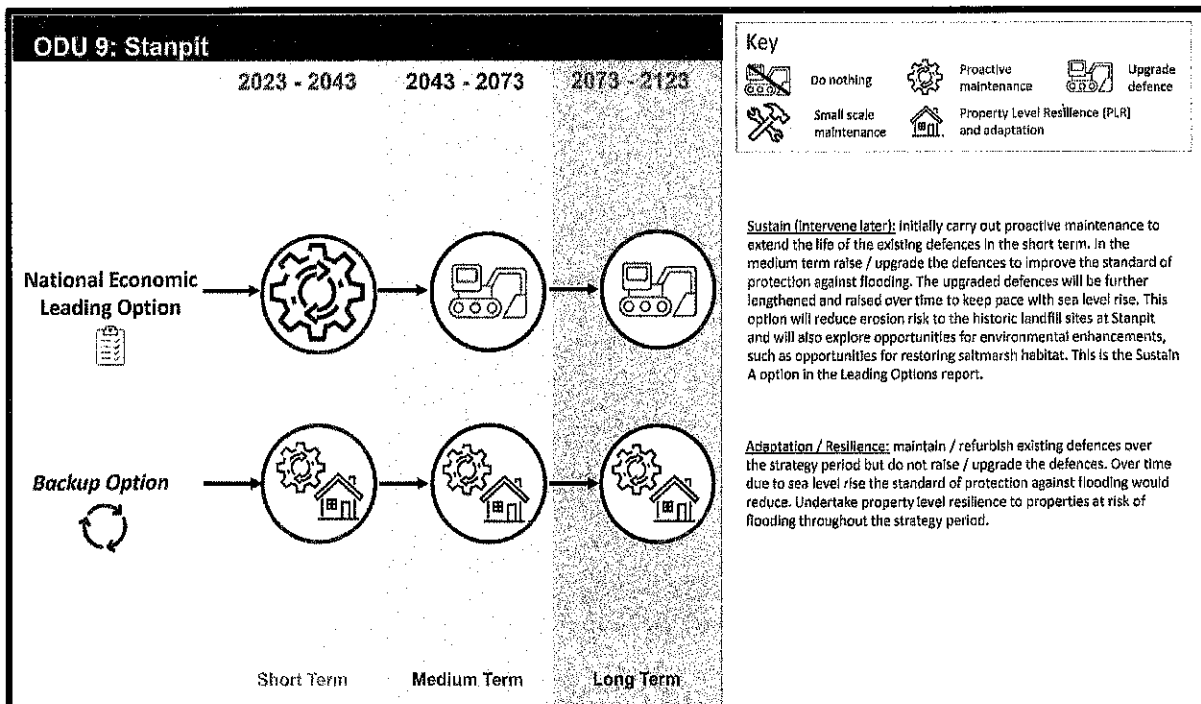


1.7 Rossiters Quay (ODU7)

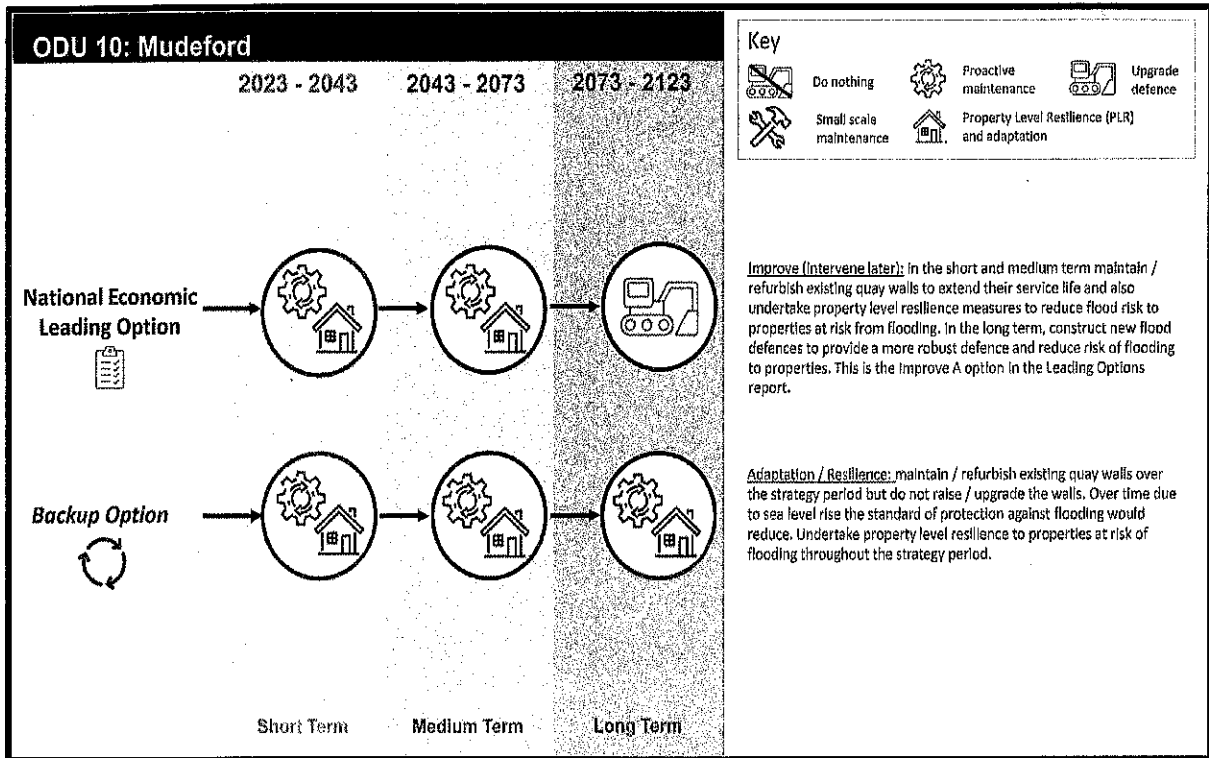


1.7 River Avon, East bank (ODU8) – not included as it has been agreed with the Environment Agency to develop options for this area in a separate project

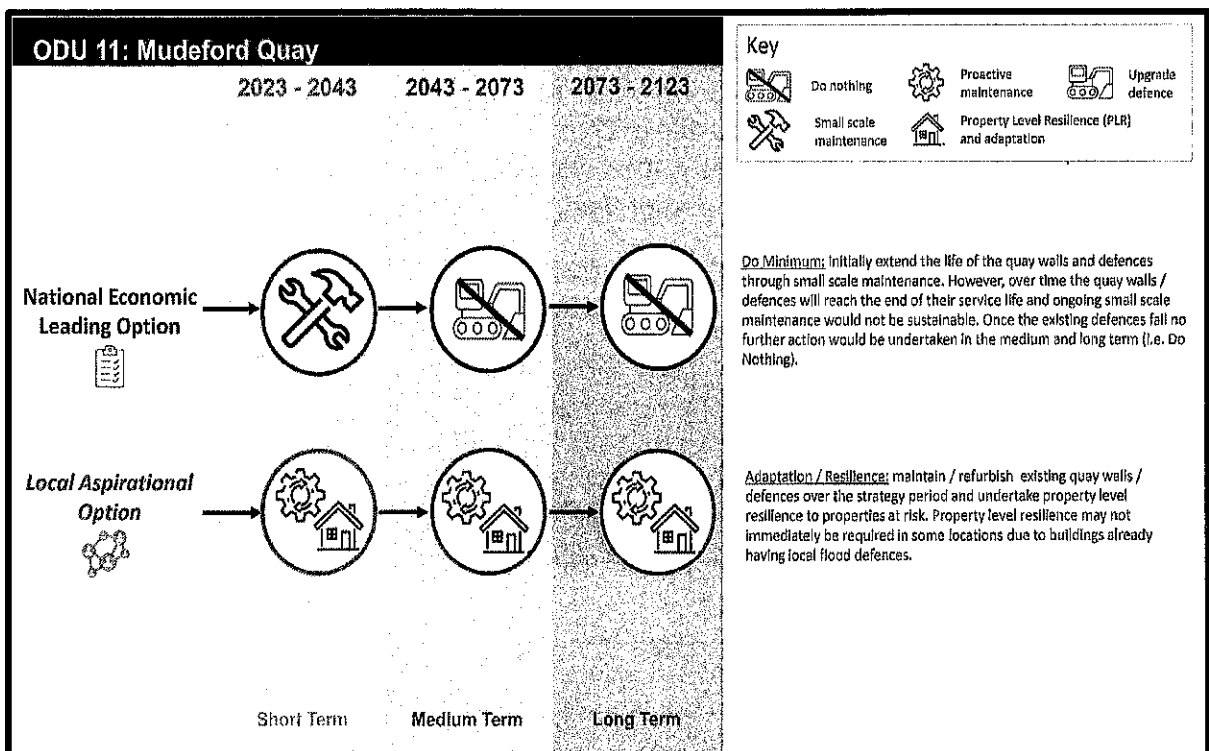
1.8 Stanpit (ODU9)



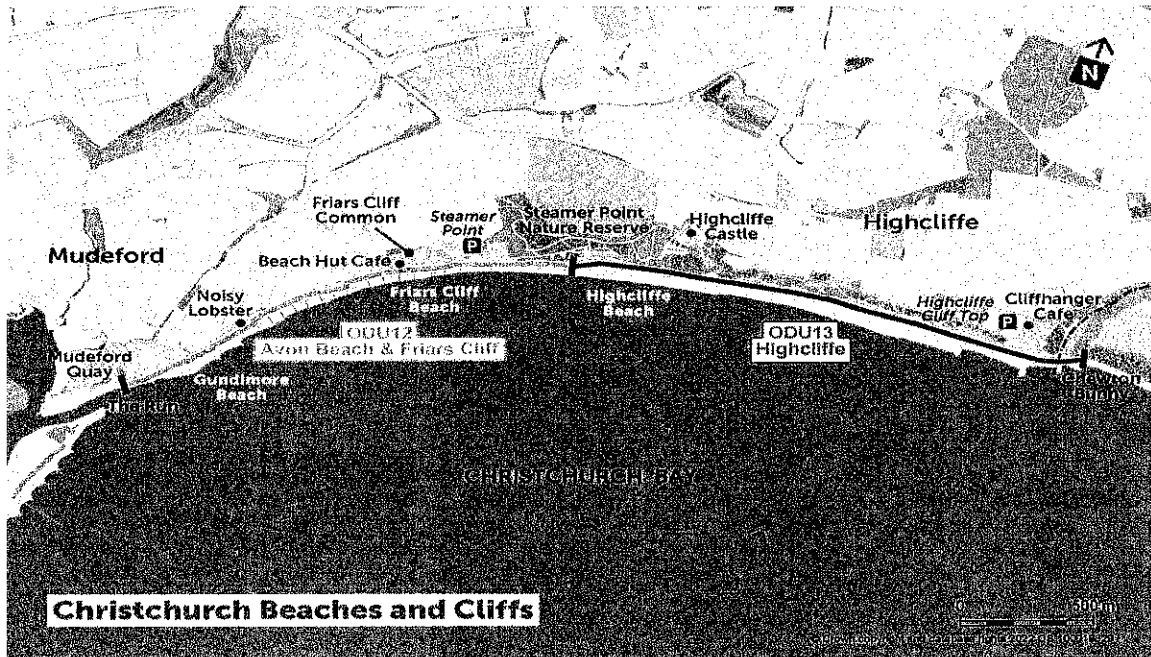
1.9 Mundeford (ODU10)



1.10 Mundeford Quay (ODU11)



Christchurch Beaches and Cliffs – SMZ 3



Background

SMZ 3 (Christchurch Beaches and Cliffs) includes ODUs 12 and 13 spanning the area between Avon Beach and Highcliffe. The main risk in this zone is from coastal erosion. A beach is present along the length of this zone and provides an important recreation and amenity benefit to the area. There are many important environmental designations in SMZ 3, including designated cliffs and a nature reserve. The interaction with the currently undefended Naish Cliff to the east of this zone has been an important consideration for the appraisal.

Properties at risk and economic damages

ODU	Properties at risk of coastal erosion by 2123	Properties at risk of coastal flooding by 2123 (200yr return period)	Economic damages over the next 100 years (£million)
12	172	12	56.3
13	191	0	51.7

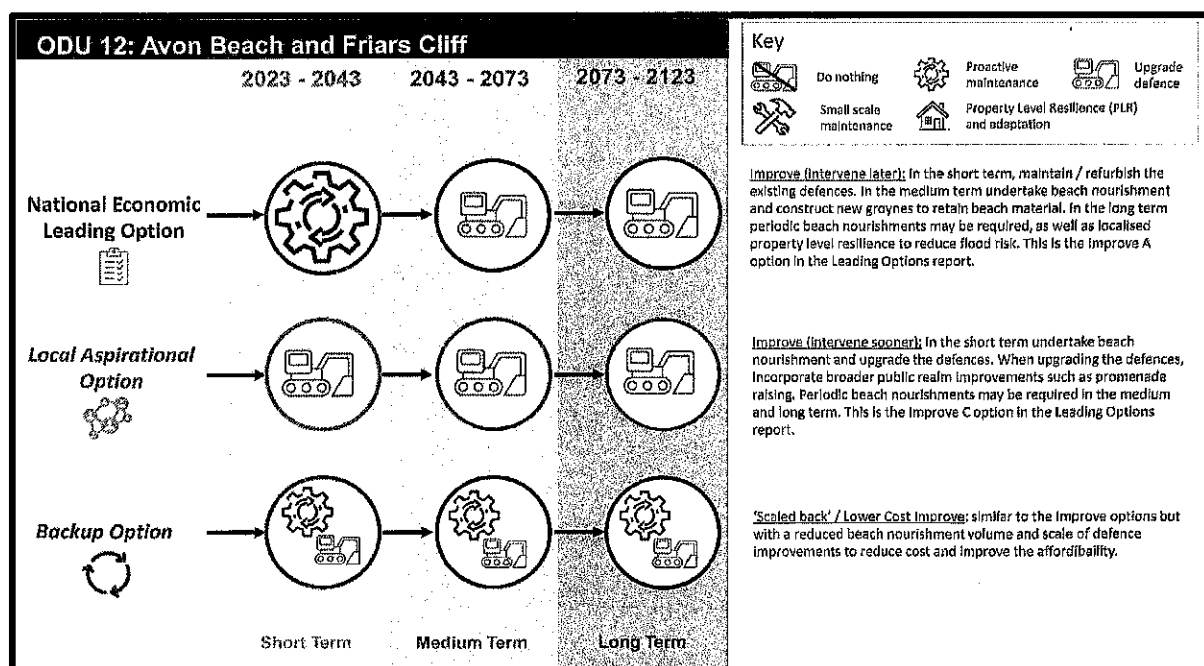
Proposed Leading Options

A detailed breakdown of the proposed leading options in ODUs 12-13 is shown on the following images. The table below shows the key economic information for each leading option such as the estimated cost and funding. The leading options in SMZ 3 are likely to obtain between 12-37% of capital scheme funding from central government, with the rest of the cost needing to be funded by alternative sources. If the National or Local Options cannot be delivered in ODUs 12-13 then Backup options have also been identified that would deliver less beach nourishment / defence upgrades.

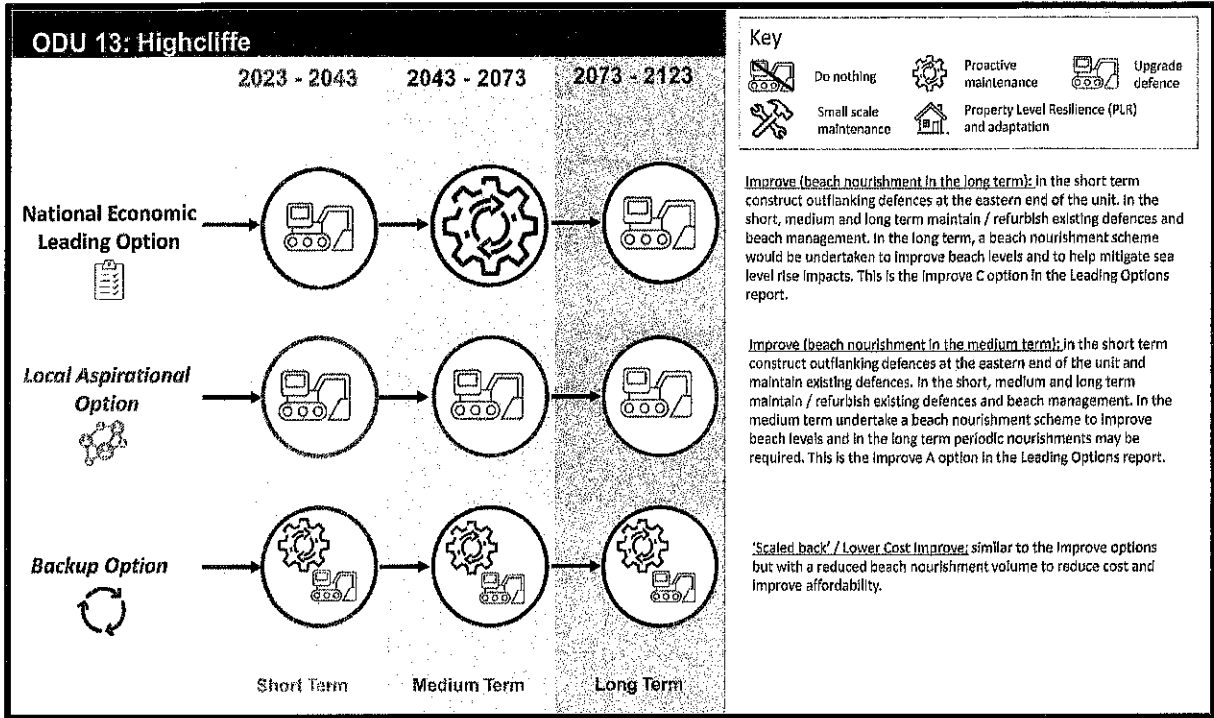
ODU	Proposed Leading Option	Estimated whole life cost of option (£million)*	Approximate funding available from government for scheme (£million)	Estimated funding shortfall / contribution needed (£million)
12	National	17.6	1.4	16.2
12	Local	21.4	1.4	20
13	National	13.0	2.2	10.8
13	Local	14.5	1.5	13.0

*estimated costs subject to change when more detailed appraisal to developed schemes are undertaken in future years

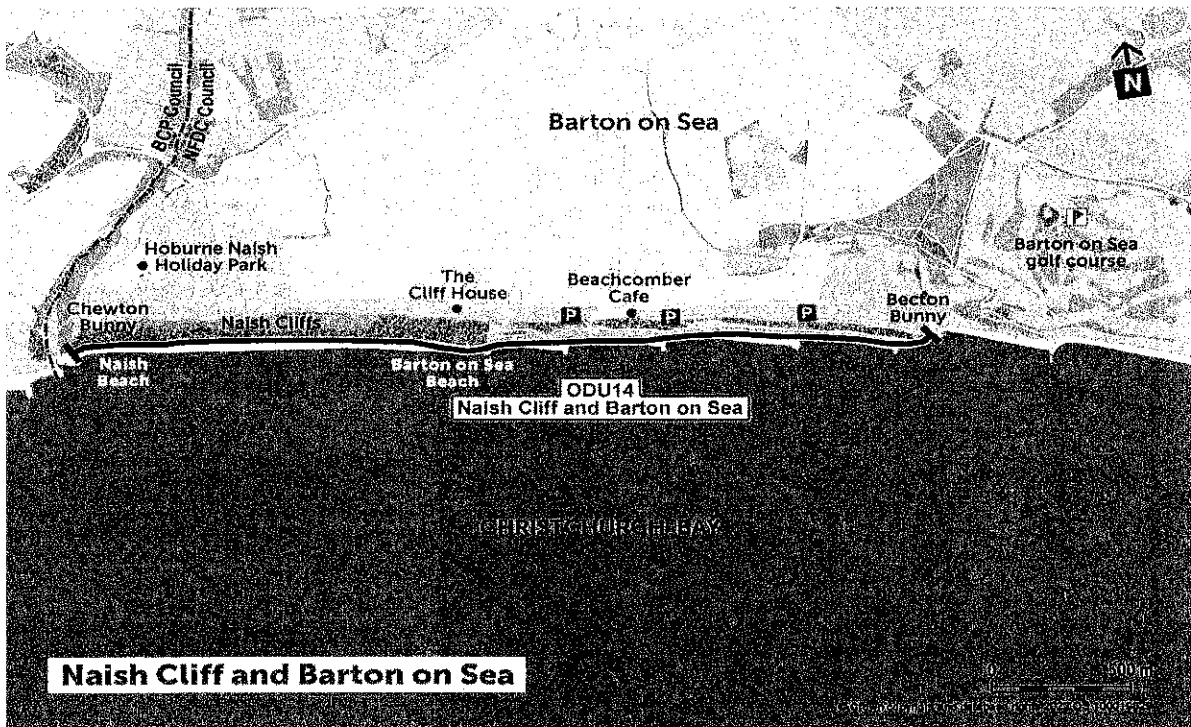
1.11 Avon Beach and Friars Cliff (ODU12)



1.12 Highcliffe (ODU13)



Naish Cliff and Barton on Sea – SMZ 4



Background

SMZ 4 (Naish Cliff and Barton on Sea) includes the settlement of Barton on Sea and the currently undefended stretch of coastline at Naish Cliff. There is only one ODU in this zone, ODU 14, and the main risk facing this area is from erosion. ODU 14 is characterised by steep topography and an active cliff face that is environmentally designated as a Site of Special Scientific Interest (SSSI). The cliff in this area is a complex cliff and when undefended it erodes from the combined influence of sea erosion of the cliff toe and groundwater induced instability. Considering affordability constraints, and environmental designations along the cliff, it is unlikely to be possible to completely stop cliff erosion in this location.

Properties at risk and economic damages

ODU	Properties at risk of coastal erosion by 2123	Properties at risk of coastal flooding by 2123 (200yr return period)	Economic damages over the next 100 years (£million)
14	607	0	£180.8

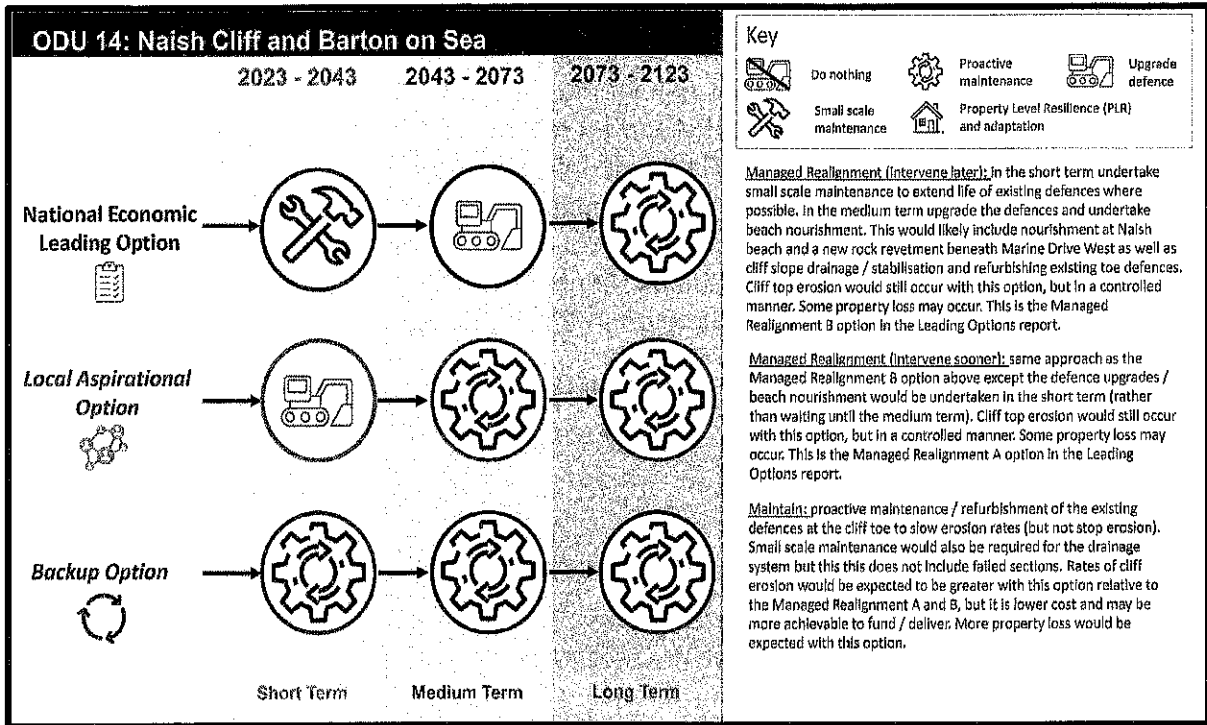
Proposed Leading Options

A breakdown of the proposed leading options in ODU 14 is shown on the following image. The table below shows the key economic information for each leading option such as the estimated cost and funding. The leading options in ODU 14 are likely to obtain central government funding for only a small proportion of the scheme costs (around 12%). Therefore, the majority of the cost will need to be funded from alternative sources. The National Economic and Local Aspirational Options will lead to continued cliff erosion, but this will be in a controlled manner aiming to minimise property loss where possible. Some property loss may still occur (but considerably less than the Do Nothing scenario).

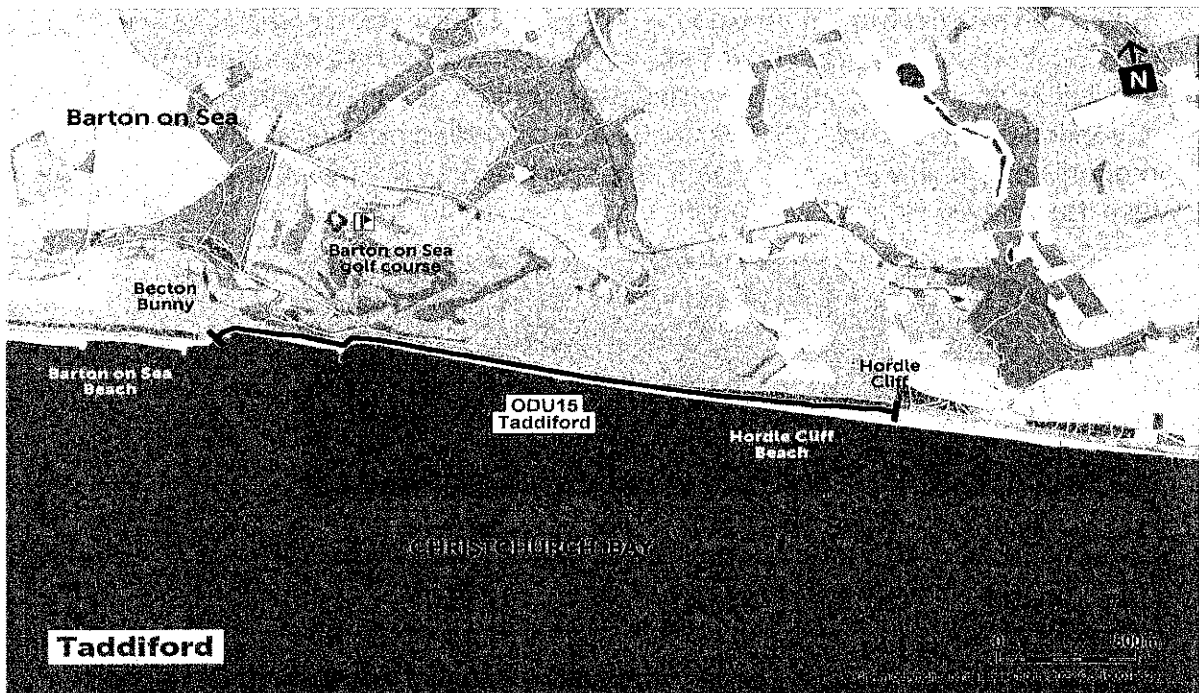
ODU	Proposed Leading Option	Estimated whole life cost of option (£million)*	Approximate funding available from government for scheme (£million)	Estimated funding shortfall / contribution needed (£million)
14	National	45.0	3.5	41.5
14	Local	45.0	3.5	41.5

**estimated costs subject to change when more detailed appraisal to developed schemes are undertaken in future years*

1.13 Naish Cliff and Barton on Sea (ODU14)



Taddiford: Barton on Sea to Hordle Cliff - SMZ 5

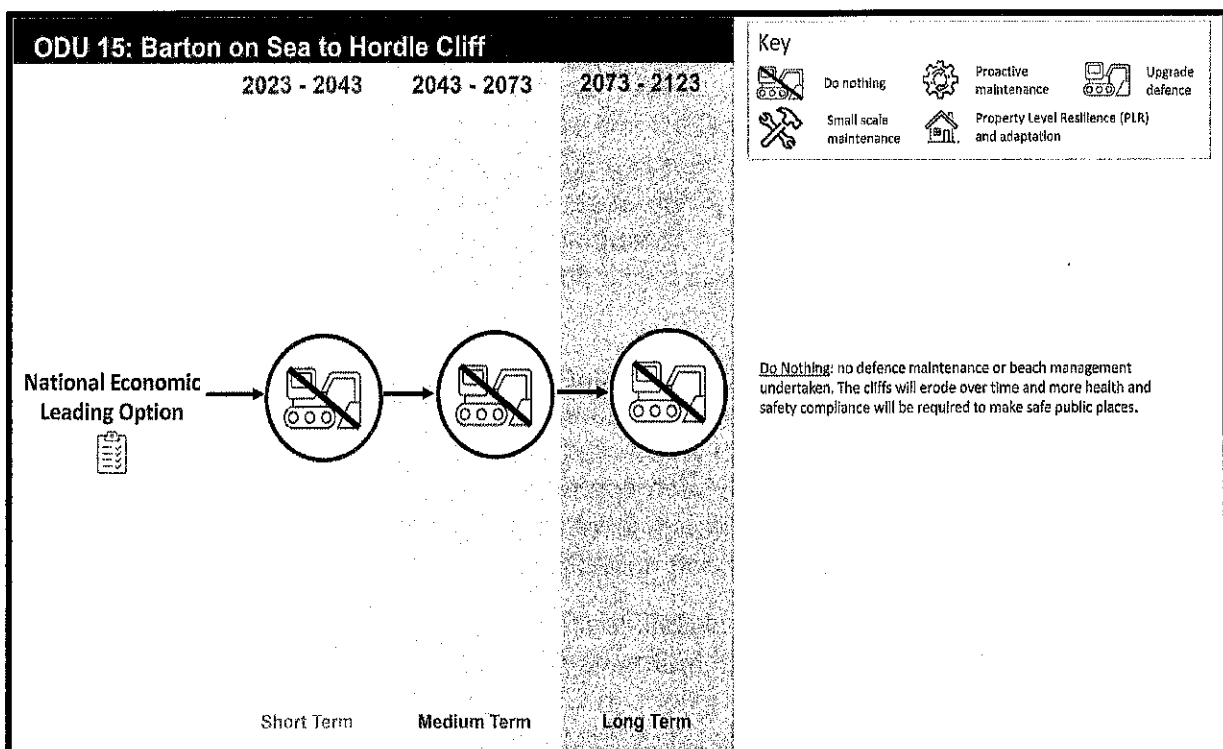


Background

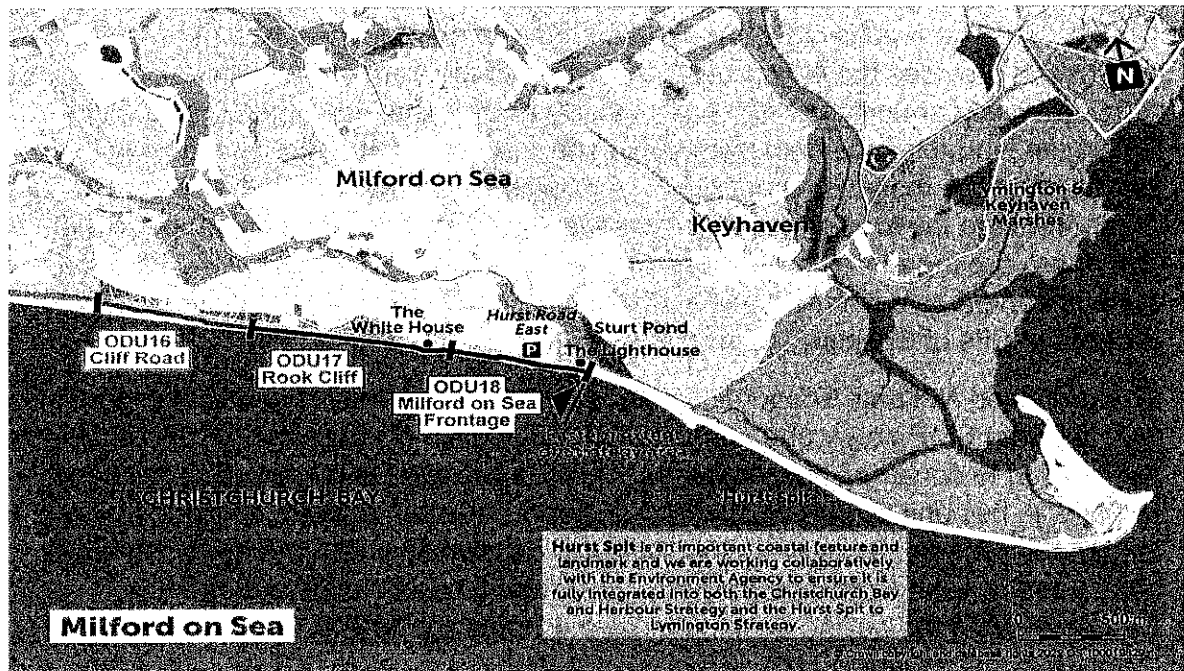
SMZ 5 (Taddiford) includes ODU15 and covers the area between Barton on Sea and Hordle Cliff. The area is currently undefended with no defences in front of the cliff. The beach provides the only protection to the cliff toe from erosion and also provides a recreational / amenity benefit. A permissive path exists along the cliff top (part of European long-distance path, route E9). There is no risk from tidal flooding in this location and the main source of risk is from erosion. However, relative to other parts of the frontage the erosion risk to properties is very low with minimal properties at risk (there are therefore no economic damages in this unit). The full length of this zone is fronted by a marine Special Protection Area designation and the cliffs are part of the Site of Special Scientific Interest (SSSI).

The proposed National Economic Leading Option for this unit is to Do Nothing. This is in line with SMP policy and due to there being minimal properties at risk there is no justification to construct new defences. There is potential to place additional beach material in this unit as part of a wider beach nourishment scheme and due to the longshore transport direction being from west to east, this would provide benefit to SMZ 6 to the east. Options for material placement may be explored after the Strategy during the outline design of future schemes in SMZ 6.

1.14 Taddiford (ODU15) - Barton on Sea to Hordle Cliff



Milford on Sea – SMZ 6



Background

SMZ 6 (Milford on Sea) includes ODUs 16, 17 and 18 and covers the frontage between Hordle Cliff and the western end of Hurst Spit. The cliff elevation reduces from west to east in this zone. There is a risk of coastal erosion in this location and there is also localised flood risk at the eastern end of ODU 18 where the cliff elevation is reduced. Here wave overtopping can occur from the open coast, and there is also a risk of tidal inundation and fluvial flooding from the Sturt Pond and Danes Stream area.

A key issue for this frontage is the management of beach levels. There has been a recent trend of beach erosion that has increased the pressure on the defences at the back of the beach. Here a beach is required to protect the toe of the existing seawall and in the past low beach levels have contributed to seawall failures. The leading options focus on managing the beach levels in this location through periodic nourishment and larger scale beach nourishment schemes.

The appraisal of options for Hurst Spit itself is being led by the adjacent Hurst Spit to Lynton Strategy. Both project teams have collaborated to ensure a joined-up approach is taken. The leading options in ODUs 16-18 will ensure that the options for managing Hurst Spit can also be undertaken (and vice-versa).

Properties at risk and economic damages

ODU	Properties at risk of coastal erosion by 2123	Properties at risk of coastal flooding by 2123 (200yr return period)	Economic damages over the next 100 years (£million)
16	238	0	61.8
17	287	0	81.4
18	137	78	60.0

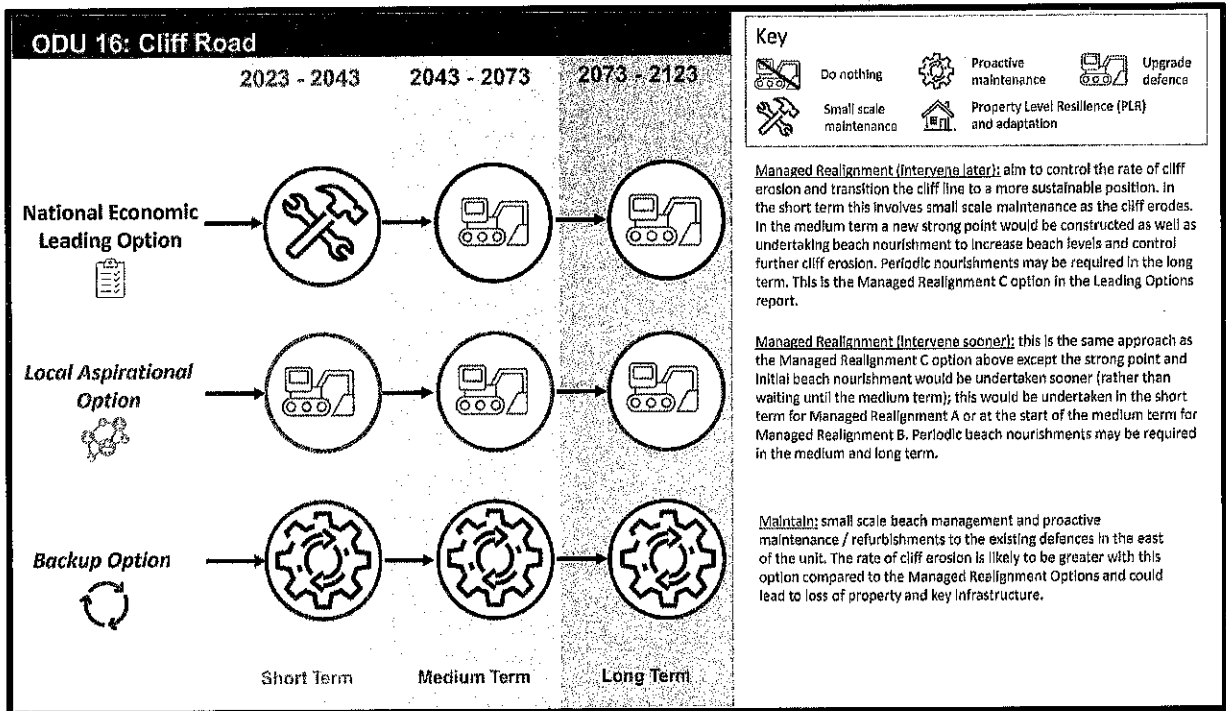
Proposed Leading Options

A detailed breakdown of the proposed leading options in ODUs 16-18 is shown in the following images. The table below shows the key economic information for each leading option such as the estimated cost and funding. The leading options in ODU 14 are likely to obtain central government funding for only a small proportion of the scheme costs (14-35%). Therefore, the majority of the cost will need to be funded from alternative sources. If the National or Local Options cannot be delivered in ODUs 16-18 then Backup options have also been identified that would be focussed on maintaining existing assets rather than delivering capital schemes.

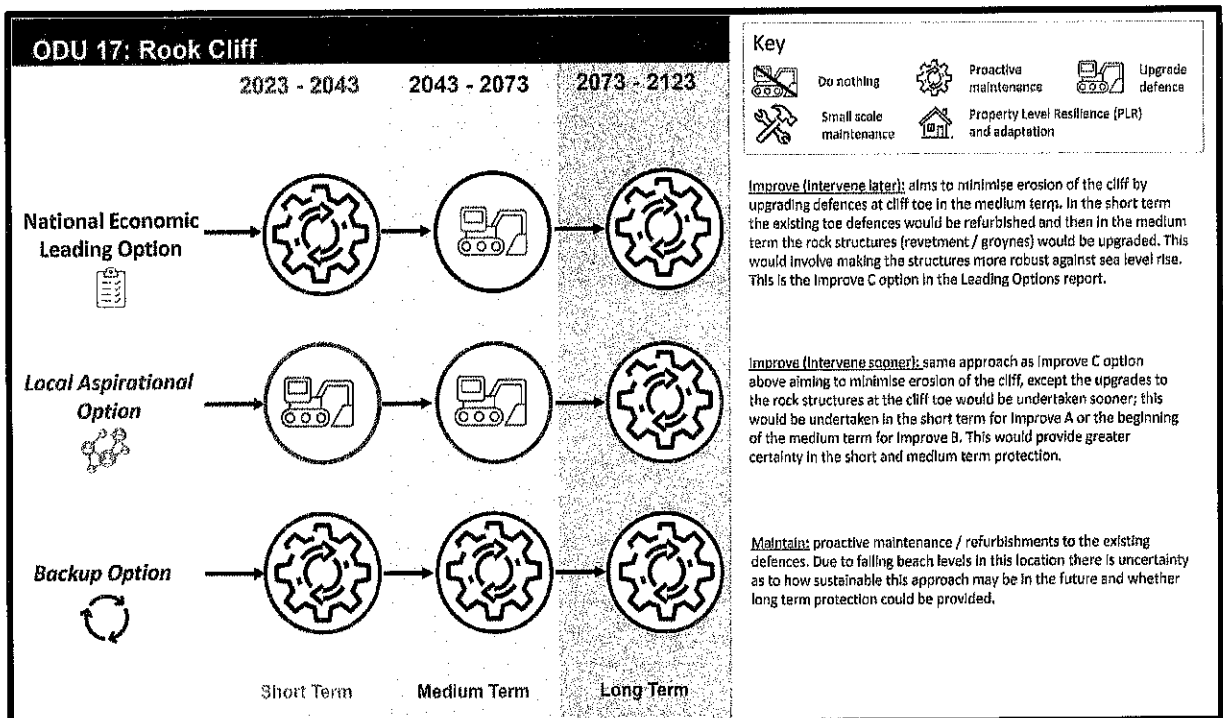
ODU	Proposed Leading Option	Estimated whole life cost of option (£million)*	Approximate funding available from government for scheme (£million)	Estimated funding shortfall / contribution needed (£million)
16	National	12.6	2.0	10.6
16	Local	9.4 - 11.8	1.4 - 1.7	8.0 - 10.1
17	National	16.8	3.4	13.4
17	Local	14.2	2.4 - 2.6	11.8
18	National	21.0	1.7	19.3
18	Local	18.5	Requires further assessment	

**estimated costs subject to change when more detailed appraisal to developed schemes are undertaken in future years*

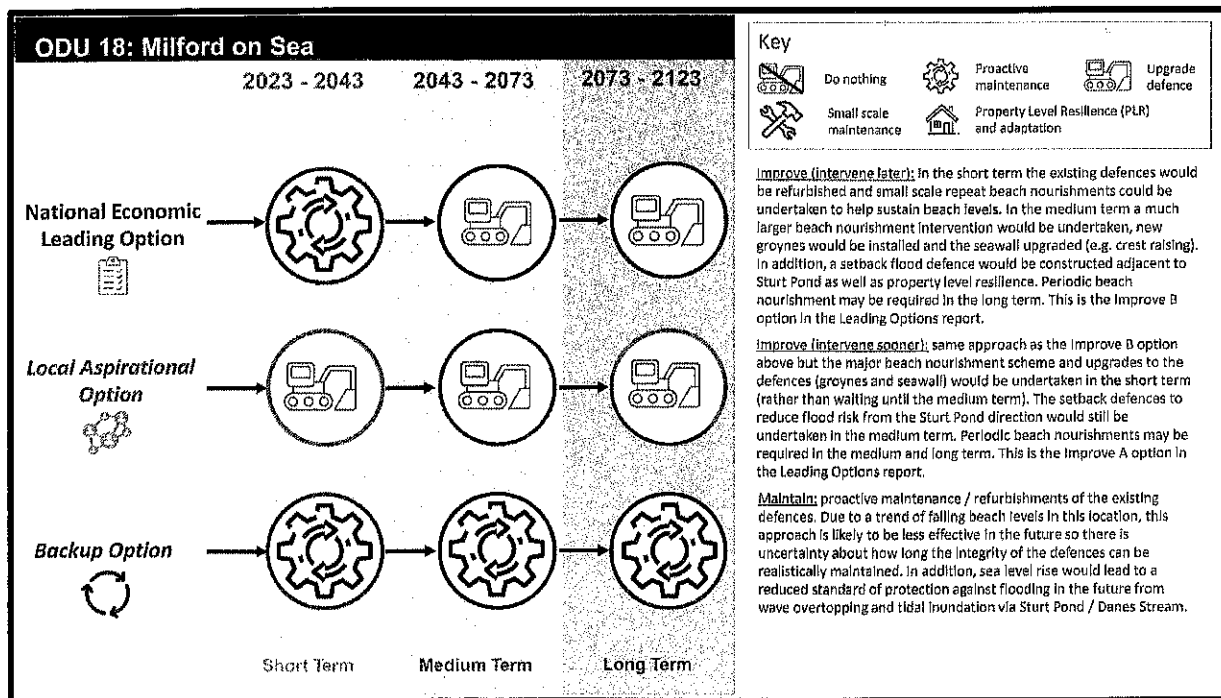
1.15 Cliff Road (ODU16)



1.16 Rook Cliff (ODU17)



1.17 Milford on Sea frontage (ODU18)



How to have your say

Please give us your views on the consultation by using our [online survey](#).

Alternatively, you can print a PDF version of the surveys which are available on the [main consultation page](#) and in [BCP libraries](#). Please send your completed paper survey to the following address: Flood & Coastal Team, BCP Council, Town Hall, Bourne Avenue, Bournemouth, BH2 6DY or drop it into the 'Have Your Say' box in any of [BCP's libraries](#).

Support

If you have any questions or require the documents in an alternative format, please email coastal@bcpcouncil.gov.uk.

The consultation runs from **5 June 2023** until **midnight on 27 August 2023**.

Next steps

The findings from this consultation will help confirm the proposed adaptive options to be included in the final Strategy for adoption by BCP Council, New Forest District Council and the Environment Agency; anticipated in 2024. If you have any questions about the FCERM Strategy, please email coastal@bcpcouncil.gov.uk.

