5 Policy Statements

5.1 Introduction

This section presents the preferred policies and implications for individual sections of coast. These are to provide local detail to support the overall SMP presented in **Section 4**, and consider locally-specific issues and objectives which are presented in **Appendix E**. These statements must be read in conjunction with the wider objectives and in the context of the wider-scale issues and policy implications.

5.2 Content

Each policy statement contains the following:

- **Location reference** – This provides the general location covered by the statement, together with the policy unit or units covered by the statement. The policy units are identified by a number which is sequential along the shoreline from west to east (to accord with a new national notation).
- **Summary of the SMP recommendations and justification** – This summarises each location's plan and explains the reasoning behind it. These statements focus upon the long term policy but also note any different short term requirements necessary to achieve the long term aim.
- **Preferred policies** – This describes the preferred policies and activities to be adopted in the short, medium, and long term. In this respect, "short term" is broadly representative of the next 20 years, "medium term" the next 20 to 50 years, and "long term" the next 50 to 100 years or more. These timescales should not be taken as definitive and should be considered as phases in the management of a location. Similarly, the policy unit boundaries shown should not be taken as definitive, as the SMP is based upon high-level assessment and more detailed studies may justify the need to 'go across' boundaries to appropriately deliver the plan's policies.
- **Predicted implications of the preferred policies for this location** – This table summarises the consequences at this location only resulting from the preferred policies. These come under the categories of "property and population", "land use, infrastructure and material assets", "historic environment", "landscape", "earth heritage, soils and geology", "water", and "biodiversity, flora and fauna" and correspond with information being entered into the national database of SMPs. The implications have been assessed for the situation by years 2025, 2055 and 2105 to provide a nationally consistent picture, and consider the impact of the local policy and also policies along adjacent stretches of coast, as necessary.
- **Maps** – The maps show the erosion that is expected to occur under the preferred policy option in each area. It should be noted that in some areas no erosion is predicted to occur and so the erosion lines shown sit on top of each other (and so only a single erosion line is visible). 2008 Environment Agency flood zone maps have been used. The reader should note that these are continually updated by the Environment Agency (refer to www.environment-agency.gov.uk) but do not include the effects of climate change or raised defences. The maps, where appropriate, show potential realigned defence positions to illustrate possible implications of policies. It should be noted that the realignment extent where managed realignment is proposed will be subject to further studies before any realignment scheme is undertaken (refer to Section 5.2.2). Not all data used in the SMP is shown on these policy unit maps. Additional data used can be viewed on the maps provided in Appendix D.

5.2.1 Policy units

Policy statements are provided for the following policy units:

5.2.2 Additional policy information

Historic environment features

Where a proposed policy results in the loss of Historic Environment features (known and unknown) it will be important to consider surveys and investigations to record these important sites, and any features not yet identified.

Footpaths

Where a proposed policy results in the loss of footpaths, there is potential, subject to planning consents, for footpaths to be re-routed as the shoreline retreats and/or when defences are realigned. It is important to note, however, that the provision of defences to support a footpath is not sufficient justification alone for

providing the defence, as evidenced by the policy of the South-West Coast Path (www.southwestcoastpath.com).

Land use within defended areas or those affected by policies

Flood and erosion defences reduce the risk to the assets they protect but they do not remove the risk completely. To be suitably adaptable to future change and future risks, all new development in flood and erosion risk areas should be appropriately adaptable, resilient and resistant. Decisions on development land use within flood and erosion risk areas should fully consider the risk and be adaptable to change. This should follow national planning policy, particularly PPG20 and PPS25 which states development should first be directed to low risk areas. Appropriate emergency/contingency plans should also be put in place to manage any residual risks of sudden extreme flooding.

Where the SMP recommends managed realignment of existing defences, the effect on parties currently protected by defences will be part of the 'management' of that change.

Health and safety and removal of defences

All the policies presented will need to be supported by strategic monitoring and must, when implemented, take due account of existing health and safety legislation. Where a policy of No Active Intervention will result in present defences not being maintained, then consideration will need to be given to removing defences so that they do not present a risk to public safety as they deteriorate.

Erosion risk

Within the policy statements, 'total erosion' is stated for a given period and refers to total erosion from the present day and not the erosion during that period. For example, if the 20 to 50 year statement states that there is 10m erosion and the 50 to 100 year statements states there is 25m erosion, then this would mean that there was a potential for 15m recession between years 50 and 100, resulting a cumulative recession of 25m by year 100.

The erosion risk stated is the maximum extent of risk expected along the stretch of coastline discussed. However, it should be recognised that erosion is not linear due to local variations in geology and structure and exposure conditions, and varying rates of erosion will occur along any length of coastline.

Economic viability

Although economic viability has been considered in putting together this plan, a proposed policy of hold the line or managed realignment does not guarantee funding for defence maintenance and/or capital works along these sections of the shoreline (see **Appendix H** for further detail on the economic appraisal for the preferred policy options presented).

Private defences

Along parts of this coast there are private defences that have been constructed by individual landowners. The policy statements indicate where we believe these existing private defences could, or should not, be maintained for technical and/or environmental reasons. However, it is acknowledged that at some point other individuals may wish to build new defences where presently there are none. In these situations, new defences might be permitted, but the landowner would need to demonstrate that these would have no adverse impacts on coastal processes and designated features, as part of the statutory planning process. It is not possible to prescribe specific policies for this situation as it is unknown as to if, when or where this situation may arise.

Managed realignment policies

Managed realignment extents are not defined in the following SMP policy unit statements because further studies are needed to:

- identify the best alignment and extent of defences that best manages flood risk on technical, social, economic and environmental grounds;
- define the exact standard of protection of any realigned defences along these frontages;
- investigate implementation methods;
- assess hydrodynamic impacts of managed realignment;
- investigate future morphological evolution;
- assess potential impacts on Designated or Registered Historic Environment assets and their settings;
- assess the potential impact on internationally designated sites; and
- investigate any mitigation measures required for loss of any designated habitats.

Theoretically the maximum extent of any realignment is limited by the extent of the floodplain, but in reality there are a number of other constraints which restrict it further. Within the present SMP, example realignment extents have been identified after considering:

- the provision of a more sustainable estuary alignment;
- the avoidance of built assets, infrastructure and internationally designated habitats where practicable;
- more economic, shorter and sheltered defences, incorporating high land where possible;
- the creation of intertidal habitat; and
- the potential effects on estuary dynamics.

These are indicative extents and definition of the actual realignment extent will depend upon further studies.

There should be detailed consideration of future land use, development and infrastructure improvements in all areas of flood and erosion risk, particularly where the policy is to enable the shoreline, and the assets affected by it, to adapt in a sustainable, controlled and balanced way.

Location reference:	**Lundy**
Policy unit reference:	**7c01 and 7c02**

Summary of preferred plan recommendations and justification

Plan:

The long term plan for Lundy, which is extensively designated for its environmental features, is to allow it to evolve naturally with minimal human interference. Cliff erosion will continue at low rates and may result in local loss of up to five Scheduled Monuments by 2105. Due to the slow rate of cliff retreat, there may also be a loss of key intertidal features of the Lundy Site of Special Scientific Interest, Marine Nature Reserve and Special Area for Conservation, as beaches at the toe of the cliffs narrow due to sea level rise and the limited supply of fresh sediment.

Access will still need to be maintained to the island in Landing Bay. Defences provided here to enable this are only expected to have a very localised impact on adjacent beaches and cliffs, and are not considered detrimental to the long term plan for Lundy. There could be some limited impact on features of the Lundy Special Area of Conservation through a reduction in sediment supply, although supply from the remaining unprotected cliffs should reduce this effect.

Preferred policies to implement plan:

From present day (short term):	Under a policy of **hold the line**, the existing defences at Landing Beach will need to be improved in this period. This is expected to involve re-building existing sea walls and introducing cliff stabilisation measures largely through funding provided from sources other than the flood and coastal defence budget. For the rest of Lundy natural coastal evolution will be allowed to continue through a policy of **no active intervention**.
Medium term:	At Landing Beach the defences would be maintained under a continuing policy of **hold the line**. For the rest of Lundy, natural coastal evolution will be allowed to continue through a policy of **no active intervention**.
Longer term:	A continuing policy of **hold the line** at Landing Beach would see the defences maintained to provide access to Lundy. In the long term this would mean less sediment eroded from the backing cliffs, which could result in a slight reduction of the sandbanks that form part of the Lundy Special Area of Conservation. There may also be narrowing of the shoreline and gradual loss of Landing Beach, which could impact on the conservation value of the Lundy Special Area of Conservation if sediment pathways were interrupted. These impacts will only be very localised however and should be relatively minor due to sediment supply from other unprotected cliffs. For the rest of Lundy, natural coastal evolution will be allowed to continue through a **no active intervention** policy. Cliffs could recede by up to 10m in the south-east of the island over the long term. Depending on where this occurs, there is a risk that several Scheduled Monuments could be lost or damaged, namely: Marison Castle, remains of two gun batteries; Brazen Ward in the north east of Lundy; and a battery in the central western area. Cliff erosion will vary location to location and could also result in the potential loss of non-scheduled prehistoric features, but recession rates are generally low.

The above provides the local details in respect of the SMP-wide policy presented in the preceding sections of this Plan document. These details must be read in the context of the wider-scale issues and policy implications, as reported therein.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7c01	**Landing Beach**	Improve existing defences to continue protecting the only access to the rest of Lundy, through **hold the line**.	Maintain the defences to continue protecting the only access to the rest of Lundy, through **hold the line**.	Maintain the defences to continue protecting the only access to the rest of Lundy, through **hold the line**.
7c02	**Lundy (except Landing Beach)**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.

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Location reference:	Lundy
Policy unit reference:	7c01 and 7c02

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Continuation of management practises at Landing beach through improvement to existing defences. Cliffs would continue to retreat around the rest of the island. No management activities	No impact to properties or the lighthouse on Lundy Island.	Improvement of coastal defence assets will protect long-term access to the island. No loss to the access road due to erosion. No loss to Grade 3 and minimal loss to low grade agricultural land.	No predicted losses to Historic Environment features.	Localised minor adverse impact on Lundy Heritage Site & Coastal Preservation Area due to increasing height and size of coastal defence assets.	Reduction in spatial extent of the island's pocket beaches due to erosion	HTL in this coastal process unit should be implemented so as to not adversely impact on the water quality status of the coastal waters, and not to compromise the achievement of WFD water quality targets.	Continuation of management practises at Landing beach through improvement to existing defences. Cliffs would continue to retreat around the rest of the island. No management activities
2025 to 2055	Continuation of management practises at Landing beach through maintenance of existing defences. Cliffs would continue to retreat around the rest of the island. No management activities	No impact to properties or the lighthouse on Lundy Island.	Improvement of coastal defence assets will see long-term access to the island protected. This will preserve the island's economy and community. No loss to the access road due to erosion. No loss to Grade 3 and minimal loss to low grade agricultural land.	No predicted losses to Historic Environment features.	Localised minor adverse impact on Lundy Heritage Site & Coastal Preservation Area due to increasing height and size of coastal defence assets.	Reduction in spatial extent of the island's pocket beaches due to erosion	HTL in this coastal process unit should be implemented so as to not adversely impact on the water quality status of the coastal waters, and not to compromise the achievement of WFD water quality targets.	Continuation of management practises at Landing beach through maintenance of existing defences. Cliffs would continue to retreat around the rest of the island. No management activities
2055 to 2105	Continuation of management practises at Landing beach through maintenance of existing defences. Cliffs would continue to retreat around the rest of the island. No management activities	No impact to properties or the lighthouse on Lundy Island.	Improvement of coastal defence assets will see the access road, jetty and therefore access to the island protected. This will preserve the island's economy and community. No loss to Grade 3 and minimal loss to low grade agricultural land.	There is the potential loss of 5 Scheduled Monuments comprising of Marison Castle in lee of Landing Beach, 2 remains of Batterys and Brazen Ward in the North East of the island and a Battery in the central western area.	Localised minor adverse impact on Lundy Heritage Site & Coastal Preservation Area due to increasing height and size of coastal defence assets.	Loss of some pocket beaches around the island. Cliff recession of up to 10m is possible in the south-east of the island, due to erosion of the soft slate cliffs	HTL in this coastal process unit should be implemented so as to not adversely impact on the water quality status of the coastal waters, and not to compromise the achievement of WFD water quality targets.	Continuation of management practises at Landing beach through maintenance of existing defences. Cliffs would continue to retreat around the rest of the island. No management activities

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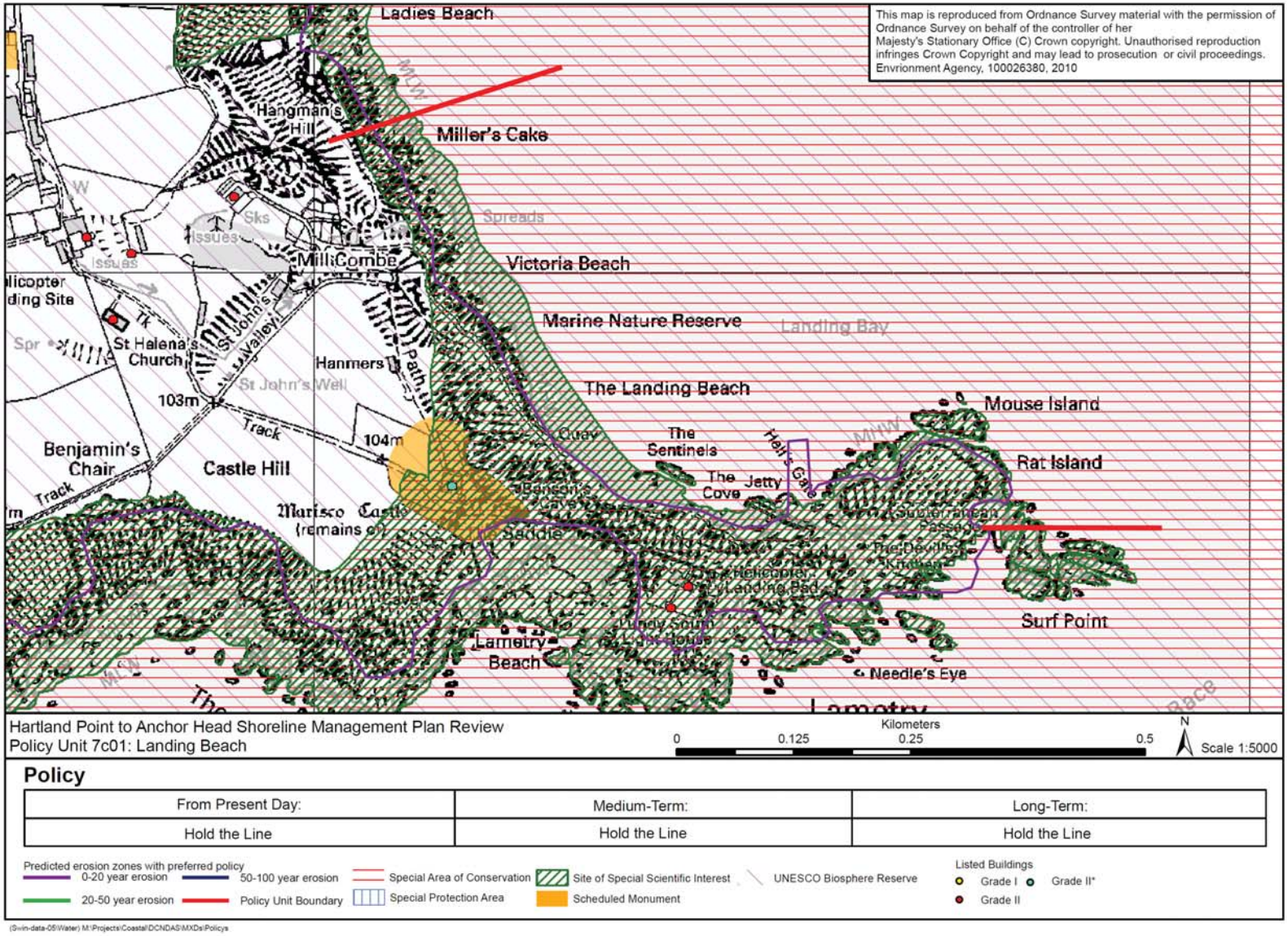

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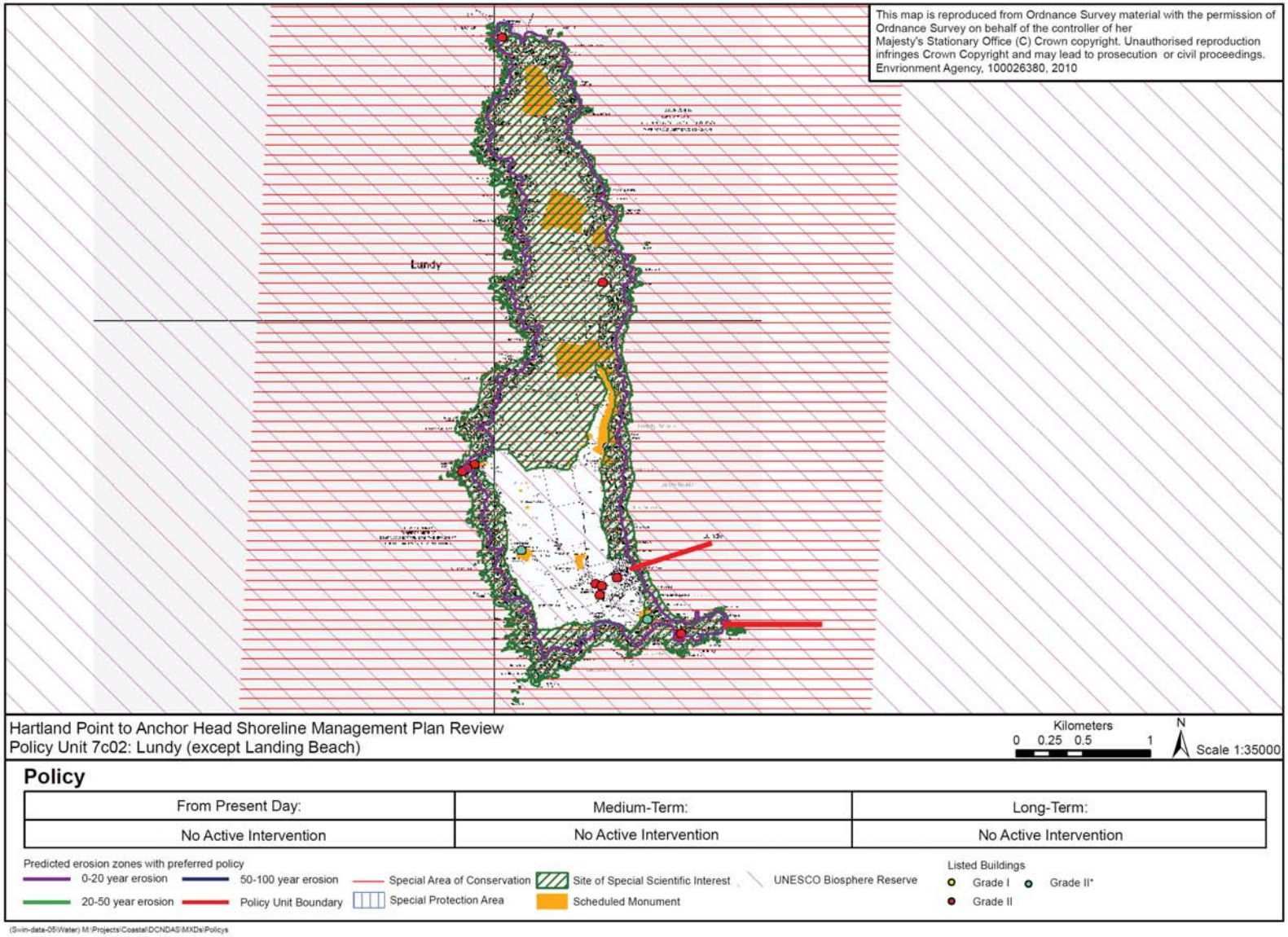

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Location reference:	**Hartland Point to Westward Ho! (Seafield House)**
Policy unit reference:	**7c03 to 7c05**

Summary of preferred plan recommendations and justification

Plan:

This coast is largely undefended with very few assets at risk from erosion or flooding and the long term plan is to allow it to evolve naturally with minimal human intervention. This will maintain environmental interests and provide continued sediment supply to beaches locally. There may be loss of internationally important cliff-top habitats and historic environment features, although cliff recession rates tend to be slow and vary along the coast. There may also be an impact on sections of the South West Coast Path and relocation will need to be considered.

The exception is at Clovelly where the town is a key tourism attraction and therefore of economic benefit to the wider region. The long term plan for Clovelly is to continue to protect assets here through defending the present position. This is technically sustainable due to the indented position of Clovelly, which means that there would be limited impact upon adjacent shoreline, provided that the annual intervention to transfer pebbles from the west to east continues. However, there is some uncertainty about the economic justification and funding for the long-term defence of Clovelly and this requires further investigation.

At Bucks Mills, continued provision of defences is also unlikely to affect adjacent areas, so will not be detrimental to the wider-scale long term vision. However, defending here is unlikely to attract public funds from national flood and coastal defence budget, and will therefore depend on alternative sources of funding.

Preferred policies to implement plan:

From present day (short term):	For most of this length of coast, natural coastal evolution will be allowed to continue through a policy of **no active intervention**. At Clovelly, a policy of **hold the line** would ensure that flooding and erosion risk continues to be reduced. The existing seawall and breakwater will require ongoing maintenance and possible improvement during this period Implementation of this policy would also include the continued annual transfer of pebbles across the harbour from west to east to reduce sediment starvation downdrift. It is unlikely that continued defence of Bucks Mills would attract public funding from national flood and coastal defence budget. However, if alternative funds are available and intervention measures will not starve the downdrift shoreline of sediment, there is no reason not to permit current defences being retained.
Medium term:	The continuation of a **hold the line** policy at Clovelly will involve the existing seawall and breakwater being maintained and eventually re-built during this period. Larger structures will be required to continue to protect Clovelly against the risk of flooding and erosion in the long term as sea level rises further. Consideration could also be given to constructing a new breakwater arm around the outside of the existing structure in order to preserve this historic feature, a concept currently being investigated by the landowner at Clovelly, rather than replacing the historic breakwater itself. Implementation would be supported by continuing the annual transfer of pebbles across the harbour from west to east. This will minimise any impact of retaining defences at Clovelly on down-drift lengths of coast further east. Working with the landowner to deliver the long-term protection of Clovelly presents opportunities for co-funding of defences and should be investigated. Along the rest of this section of coast, natural coastal evolution will continue through a policy of **no active intervention**. Parts of the coastal path may need to be relocated further inland as they become at risk from erosion; this is

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	in line with South West Coast Path policy. Some cliff-top habitats may also be at risk from erosion, such as heath and woodland designated as Tintagel-Marsland-Clovelly Coast Special Area of Conservation and Marsland to Clovelly Site of Special Scientific Interest. There is also a potential risk of erosion to Gallantry Bower Scheduled Monument and other non-designated archaeological features. It is unlikely that continued defence of Bucks Mills would attract public funding from the flood and coastal defence budget so any intervention will be subject to alternative funding. At some point existing structures would need to be replaced with much larger structures to provide adequate levels of protection; at this time an environmental appraisal may be necessary to assess potential impacts including interruption to sediment supply to adjacent shorelines from larger structures and visual impacts upon the landscape character of the area.
Longer term:	At Clovelly, under a continuing policy of **hold the line**, the defences will require ongoing maintenance to ensure the risk of flooding and erosion continues to be reduced. This would need to be supported by continuing the annual transfer of pebbles across the harbour from west to east. For the rest of this section of coast, natural coastal evolution will be allowed to continue through a **no active intervention** policy. This may present a potential risk of erosion to Windbury Head Scheduled Monument and potential loss of Listed Buildings near Blackchurch Rock and to the west of Clovelly, as well as a number of non-designated archaeological features. Loss of these features will depend on where the cliffs recede in future. Further sections of the coastal path may be at risk, requiring relocation to be considered. At Bucks Mills, provision of defences will depend upon decisions made during earlier time periods. Although defences along this short stretch would be unlikely to have a significant impact on coastal processes, larger defences would probably be required in the medium or long term and their introduction or otherwise may be subject to the outcome of any environment impact assessment.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7c03	**Hartland Point to Clovelly**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7c04	**Clovelly**	Maintain the existing seawall and breakwater to continue protecting Clovelly, through **hold the line**. This would be supported by continuing the annual transfer of pebbles across the harbour from west to	Maintain the defences and eventually replace, or add to the outside of, them with larger structures to continue protecting Clovelly, through **hold the line**. This would be supported by continuing the annual	Maintain the defences constructed in the medium term to continue protecting Clovelly, through **hold the line**. This would be supported by continuing the annual transfer of pebbles across the harbour from west to

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Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
		east.	transfer of pebbles across the harbour from west to east.	east.
7c05	**Clovelly to Westward Ho! (Seafield House)**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion and maintain visitor access. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion and maintain visitor access. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion and maintain visitor access. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.

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Location reference:	Hartland Point to Westward Ho! (Seafield House)
Policy unit reference:	7c03 to 7c05

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	No management activities along this section of coast except at Clovelly, where maintenance of the seawall and breakwater will be undertaken.	Clovelly: protection to properties and harbour infrastructure. This will also ensure the fishing fleet remains operational and the tourist industry remains unaffected. Bucks Mills: if not maintained then deterioration of coastal defence assets will interrupt access but not completely limit access to the sea.	Risk of occasional landslips removing up to 50m per event along parts of this section of coast resulting in sections of the South West Coastal Path requiring relocation inland and minimal loss of medium and low grade agricultural land.	No loss to Clovelly and Bucks Mills Conservation Area, Schedule Monuments, Listed Buildings or archaeological sites due to erosion.	Continuation of natural processes maintaining the character of the North Devon AONB, Hartland Heritage Coast and Coastal Preservation Area. Localised impact of defences at Clovelly.	Continuation of natural processes is key to the integrity of Marsland to Clovelly Coast Geological SSSI, Hobby to Peppercombe Geological SSSI and Mermaids Pool to Rowdens Gut Geological SSSI along this stretch of coast. The NAI will continue to maintain the geological features and integrity of the sites.	No known impact on water.	Potential small loss of heath and old sessile oak woods with *Ilex* and *Blechum* due to coastal erosion. The cliff habitats will continue to evolve naturally with no constraints except at Clovelly. These are designated under the Tintagel-Marsland-Clovelly Coast SAC therefore this policy is considered further within the Habitats Regulations Assessment (Appendix J). Continued natural erosion of cliffs with potential small loss of grassland, heathland and woodland/scrub, oak *Quercus petraea* woodland and lichens affecting designated features of the Marsland to Clovelly SSSI and Hobby to Peppercombe SSSI but this is due to natural processes of coastal erosion.
2025 to 2055	No management activities along this section of coast except at Clovelly, where maintenance and eventual replacement of the seawall and breakwater will be undertaken.	Clovelly: protection to properties and harbour infrastructure. This will also ensure the fishing fleet remains operational and the tourist industry remains unaffected. Bucks Mills: if not maintained then deteriorating defence assets will reduce access to the sea for tourist and limit fishing opportunities. Potential loss of residential and commercial properties also due to erosion and flooding.	Risk of occasional landslips removing up to 50m per event along parts of this section of coast resulting in sections of the South West Coastal Path requiring relocation inland and minimal loss of medium and low grade agricultural land.	Potential partial loss of 1 Schedule Monument; Gallantry Bower, due to erosion. No loss of Listed Buildings or archaeological sites due to erosion. The Conservation Area at Clovelly is protected from flooding and erosion. Bucks Mills Conservation Area is at risk from erosion and flooding unless defences are provided.	Continuation of natural processes maintaining the character of the North Devon AONB, Hartland Heritage Coast and Coastal Preservation Area. Localised impact of defences at Clovelly. Potential loss of the harbour wall, lime kilns and coastal properties at Bucks Mills which are considered to be integral to the AONB	Continuation of natural processes is key to the integrity of Marsland to Clovelly Coast Geological SSSI, Hobby to Peppercombe Geological SSSI and Mermaids Pool to Rowdens Gut Geological SSSI along this stretch of coast. The NAI will continue to maintain the geological features and integrity of the sites.	No known impact on water.	Potential small loss of heath and old sessile oak woods with *Ilex* and *Blechum* due to coastal erosion. The cliff habitats will continue to evolve naturally with no constraints except at Clovelly. These are designated under the Tintagel-Marsland-Clovelly Coast SAC therefore this policy is considered further within the Habitats Regulations Assessment (Appendix J). Continued natural erosion of cliffs with potential small loss of grassland, heathland and woodland/scrub, oak *Quercus petraea* woodland and lichens affecting designated features of the Marsland to Clovelly SSSI and Hobby to Peppercombe SSSI but this is due to natural processes of coastal erosion.
2055 to	No management	Clovelly: protection to	Risk of occasional landslips	Loss of 1 Schedule	Continuation of natural	Continuation of natural	No known impact on water	Potential small loss of heath

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Location reference:	Hartland Point to Westward Ho! (Seafield House)
Policy unit reference:	7c03 to 7c05

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2105	activities along this section of coast except at Clovelly, where maintenance of the seawall and breakwater will be undertaken.	properties and harbour infrastructure. This will also ensure the fishing fleet remains operational and the tourist industry remains unaffected. Bucks Mills: if not maintained then deteriorating defence assets will reduce access to the sea and limit fishing opportunities. Potential loss of residential and commercial properties also due to erosion and flooding.	removing up to 50m per event along parts of this section of coast resulting in sections of the South West Coastal Path requiring relocation inland and minimal loss of medium and low grade agricultural land.	Monuments; Gallantry Bower and partial loss of 1 Schedule Monument at Windbury Head, due to erosion. No loss of Listed Buildings or archaeological sites due to erosion. The Conservation Area at Clovelly is protected from Flooding and erosion. Bucks Mills Conservation Area is at risk from erosion and flooding unless defences are provided.	processes maintaining the character of the North Devon AONB, Hartland Heritage Coast and Coastal Preservation Area. Localised impact of defences at Clovelly. Potential loss of the harbour wall, lime kilns and coastal properties at Bucks Mills which are considered to be integral to the AONB	processes is key to the integrity of Marsland to Clovelly Coast Geological SSSI, Hobby to Peppercombe Geological SSSI and Mermaids Pool to Rowdens Gut Geological SSSI along this stretch of coast. The NAI will continue to maintain the geological features and integrity of the sites.		and old sessile oak woods with *Ilex* and *Blechum* due to coastal erosion. The cliff habitats will continue to evolve naturally with no constraints except at Clovelly. These are designated under the Tintagel-Marsland-Clovelly Coast SAC therefore this policy is considered further within the Habitats Regulations Assessment (Appendix J). Continued natural erosion of cliffs with potential small loss of grassland, heathland and woodland/scrub, oak *Quercus petraea* woodland and lichens affecting designated features of the Marsland to Clovelly SSSI and Hobby to Peppercombe SSSI but this is due to natural processes of coastal erosion.

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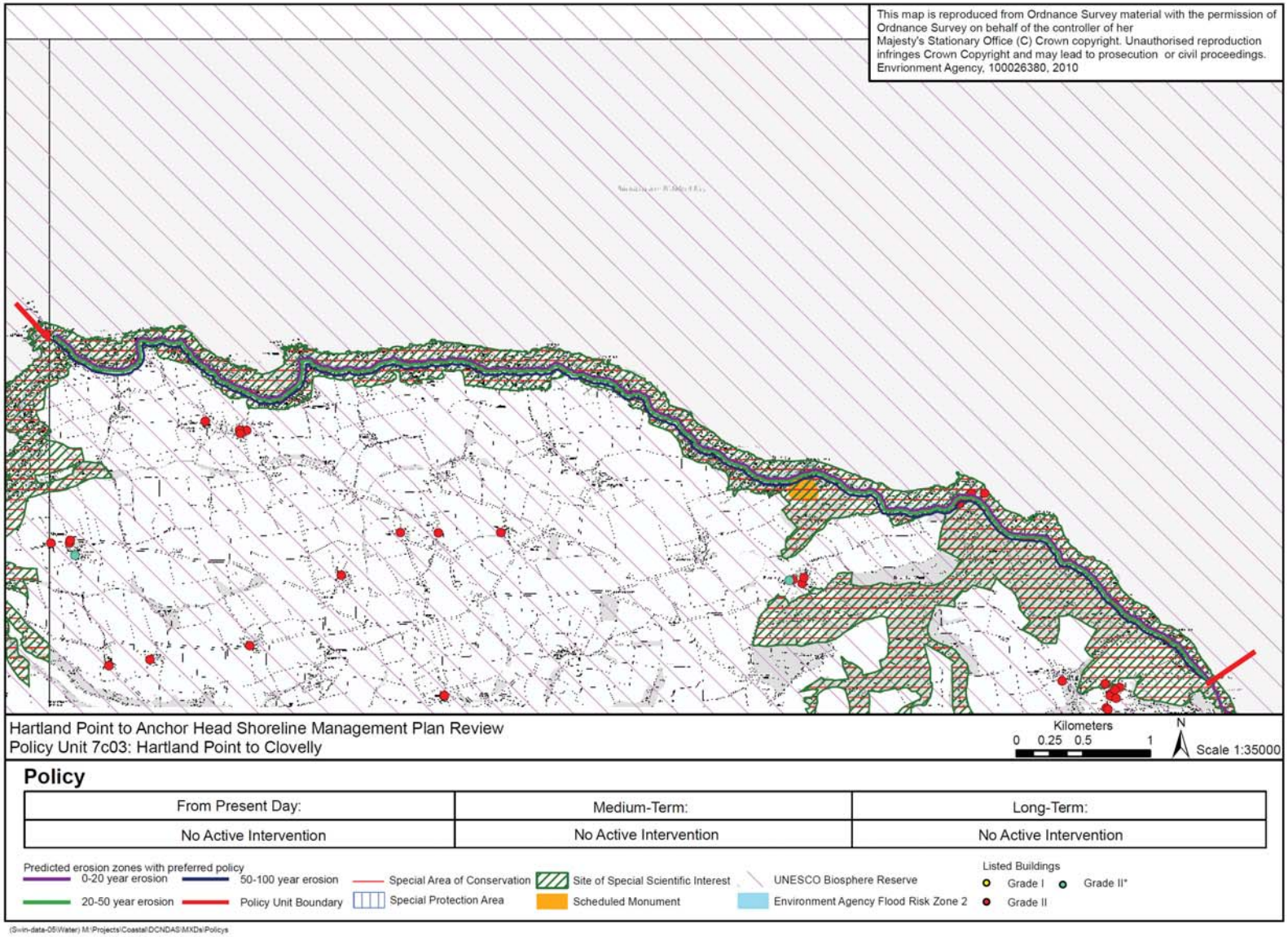

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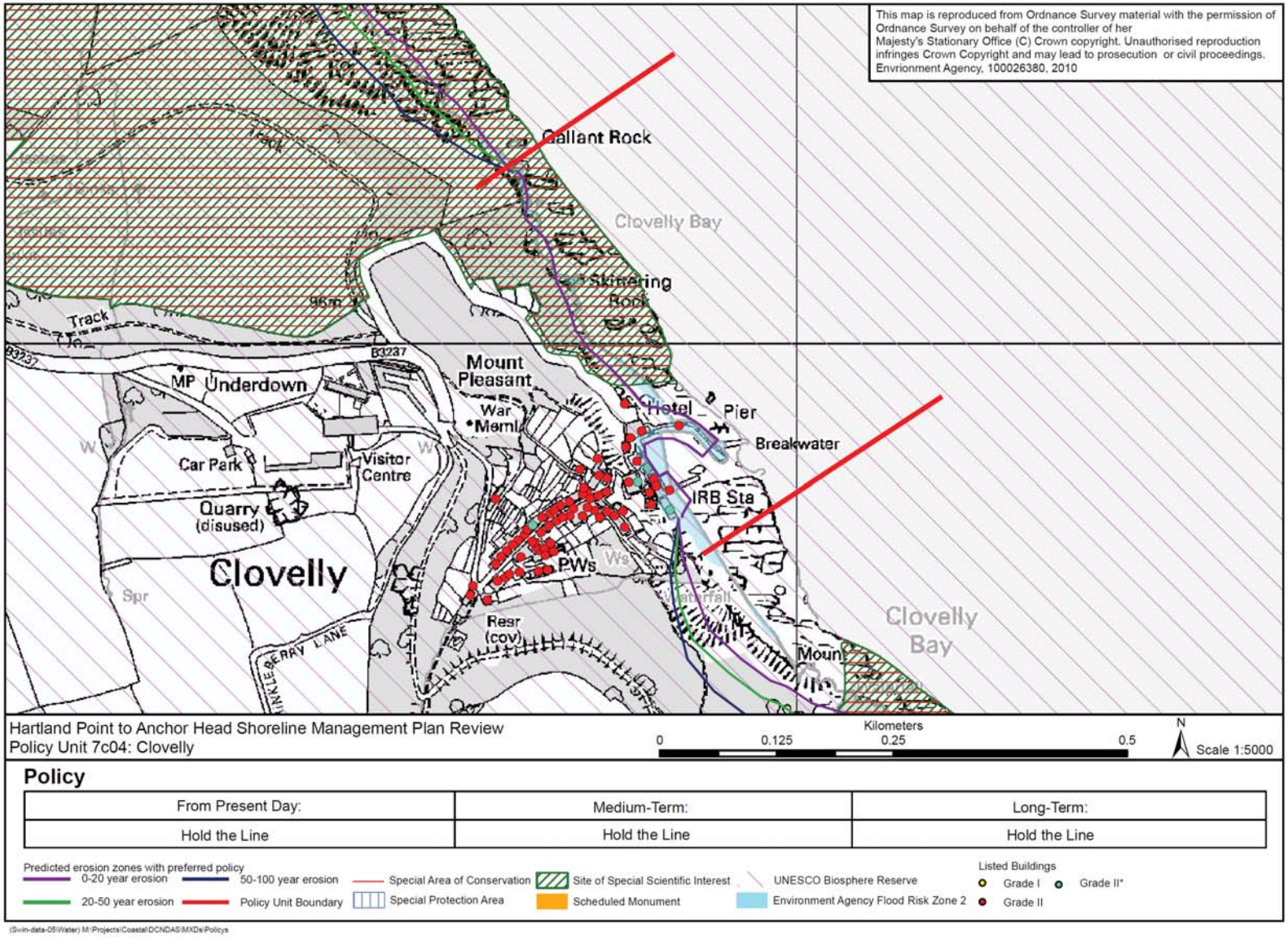

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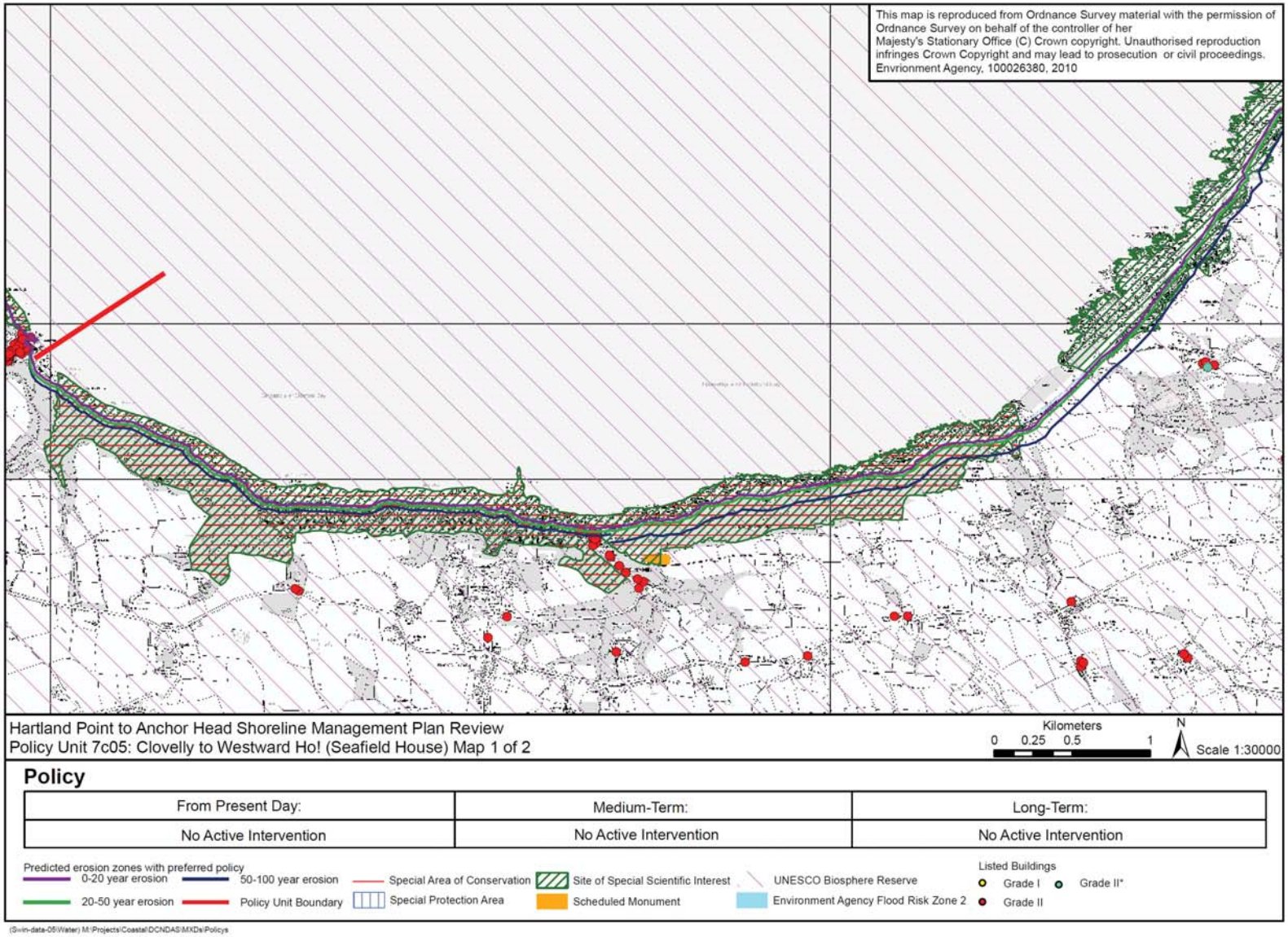

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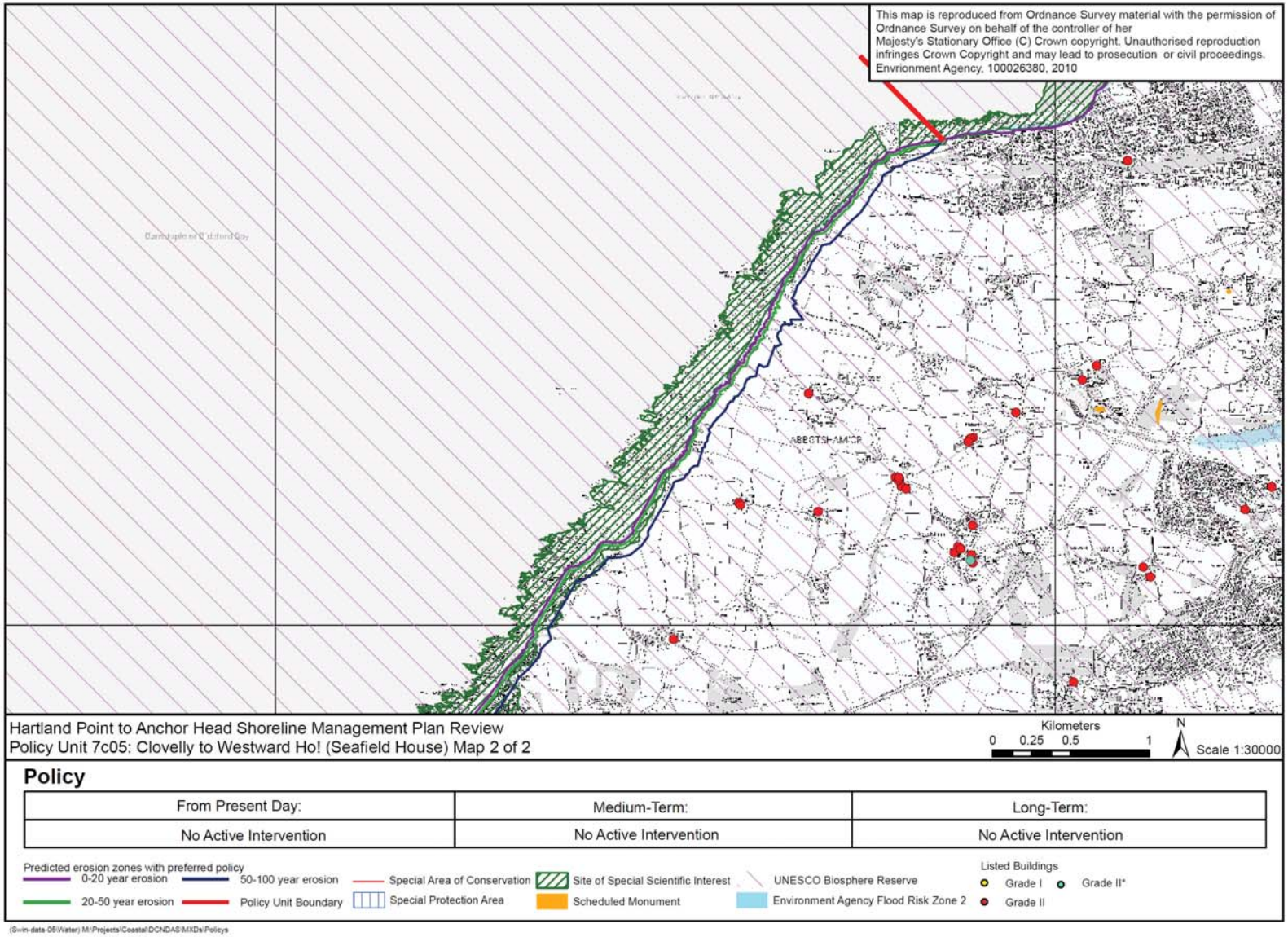

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Location reference:	**Westward Ho! to Appledore (west)**
Policy unit reference:	**7c06 to 7c08**

Summary of preferred plan recommendations and justification

Plan:

The long term plan is to continue to provide a sustainable long term solution for managing flood and erosion risk to people, property, infrastructure and the former landfill site, while working with the natural processes as far as possible. Key to this area is the future of Northam Burrows where the pebble ridge will be allowed to roll-back and become more swash aligned, with minimal human interference. This is the most technically sustainable solution and will also provide environmental benefits. Without management there would be a large flood risk to the string of settlements behind Northam Burrows, and large scale implications for the inner Taw-Torridge Estuary.

Implementation of this plan will include defences being extended north and eastwards at Westward Ho!, plus measures to prevent erosion of the former landfill site. The position of shoreline along the Skern frontage will be held to ensure Northam Burrows continues to protect the inner estuary, while retaining as much land area as possible for adaptive land-use in this area to address losses elsewhere. Consideration will be given to allowing tidal incursion into the eastern side of Northam Burrows to enable the wider area of the Burrows adapt to sea level rise in a more resilient way by creating habitat to act as a buffer for the transition whilst not compromising areas of landfill at the northern end of Northam Burrows and beneath the access road that runs along the Skern frontage. Implementation of policies here should consider the outcomes from detailed investigations of the interactions with the Taw-Torridge Estuary and open coast.

The plan will deliver long term protection of properties, community, recreational and amenity facilities at Westward Ho!, Appledore and Instow, as well as the former landfill site at the northern end of Northam Burrows. There will however be continued risk of flooding to shoreline assets within Northam Burrows, such as the golf course, caravan park, access roads, car park and non-designated archaeological features. There may also be impacts on the Northam Burrows Site of Special Scientific Interest and Braunton Burrows Special Area for Conservation.

Preferred policies to implement plan:

From present day (short term):

Replacement of the existing seawall defences with larger structures through a **hold the line** policy will protect Westward Ho! against the risk of flooding and erosion in to the long term.

Adjacent to the eastern end of Westward Ho!, at the southern end of Northam Burrows, the pebble ridge would be allowed to roll-back and rotate, within minimal interference. Roll-back of the pebble ridge here could be up to 150 to 200m. Under a policy of **managed realignment**, a new earth embankment or rock revetment structure could be constructed along a new alignment to reduce flood risk. The exact form and position of the defence would require full investigation as part of a detailed study. Beach management practices along the ridge could be used to support this process, for example building up the beach at the northern end of the spit. The need for this would be based on continuous monitoring. This is unlikely to be detrimental to the transport of material along the shore.

As part of this implementation, defences at the eastern end of Westward Ho! would need to be extended and raised as this area develops into a promontory. These would need to be sympathetic to the Area of Outstanding Natural Beauty and support biodiversity and sustainable development policies of the North Devon UNESCO Biosphere Reserve.

Under the managed realignment policy, the pebble ridge and dune system to the north of Westward Ho! would be allowed to function naturally, although any breaches that occur along the pebble ridge could be repaired if necessary. There is an agreed protocol with Natural England to allow this limited amount of intervention to occur. Implementation of this policy along this stretch would

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	also need to consider implications for environmental features and land use in the area, as well as appropriate measures for managing the risk of erosion to the landfill site. Under a policy of **hold the line** along the eastern side of Northam Burrows (Skern salt marsh) the existing revetments would require ongoing maintenance. Defences between Skern and the west side of Appledore may need to be re-built during this period.
Medium term:	The medium term policy for Westward Ho! is to continue to minimise the risk of flooding and erosion beyond the short term through **hold the line** policy. This will involve ongoing maintenance of the defences, assuming these were re-constructed in the short term. This will continue to protect assets within the town, although the beach in front of the defences is likely to diminish and may result in loss of intertidal habitat. Along the pebble ridge/Northam Burrows frontage implementation of the **managed realignment** policy will be to allow the Pebble Ridge to continue to roll-back and rotate with minimal human interference. This will provide flood protection to the southern parts of Northam Burrows and the landfill site. This policy may also require the defences along the southern end of Northam Burrows to be extended eastwards, depending upon the extent of ridge roll-back as sea levels rise. This requirement will be determined by continuous monitoring to appraise the actual risk to the landfill site in particular and adapt management approaches as appropriate. Although the pebble ridge and dune system would be allowed to function naturally, any breaches that occur along the pebble ridge could be repaired if required. There is an agreed protocol with Natural England to allow this limited amount of intervention to occur. Along the Skern salt marsh to Appledore (west) frontage, the policy is to continue to provide protection to the Taw-Torridge Estuary while minimising flood risk to parts of Northam Burrows and ensuring there is an access route to the landfill site. The **hold the line** policy here will probably require larger structures to be built and also allow tidal incursion into the eastern side of Northam Burrows to enable the Burrows to adapt to sea level rise to create habitat that in turn will act as a buffer to inundation from the open coast frontage of the Burrows. This would need to be implemented without increasing the risk of flooding to the landfill site or exposing the landfill beneath the road along the Skern frontage. Under these policies, assets within Northam Burrows would continue to be at risk from coastal flooding and there is likely to be loss of part of the minor road that provides access to the northern sections of Northam Burrows. It is possible that some of these assets could be relocated further landwards. There is likely to be loss of large sections of the South West Coast Path due to erosion and flooding; these sections will need to be moved inland inline with the South West Coast Path policy. There is also likely to be loss or damage to a number of non-designated archaeological features located on the western half of Northam Burrows.
Longer term:	In the long term the policy is to continue to protect assets at Westward Ho! through continuation of a **hold the line** policy. This would involve ongoing maintenance and possible further raising of the defences. This is likely to result in loss of beach in front of the defences during this period as a result of coastal squeeze.

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A continuation of the **hold the line** policy is also planned for the Skern salt marsh to Appledore (west) frontage. This will ensure continued protection to this site and allow continued access to the landfill site. This will involve ongoing maintenance of the seawall and revetment to continue to minimise the risk of flooding and erosion.

Along the Pebble Ridge/Northam Burrows frontage, the long term policy is to allow continued natural evolution of the ridge, while minimising the risk of flooding to assets further inland along the southern side of Northam Burrows. Implementation of this **managed realignment** policy will require ongoing maintenance of the seawall and revetment defences. Depending upon the extent of ridge roll-back as sea levels rise, measured through continuous monitoring, the defence constructed along the southern end of Northam Burrows in the short term may need to be extended further eastwards. Under this policy any breaches that occur along the pebble ridge could be repaired if necessary. There is an agreed protocol with Natural England to allow this limited amount of intervention to occur.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7c06	**Westward Ho!**	Maintain and improve the existing seawall defences, replacing them with much larger structures as required, to continue protection for Westward Ho!, through **hold the line**.	Maintain the seawall defences to continue protection for Westward Ho!, through **hold the line**.	Maintain the seawall defences to continue protection for Westward Ho!, through **hold the line**.
7c07	**Northam Burrows**	Continue to reduce flood and erosion risk for developed areas along the southern part of Northam Burrows by constructing low embankment/revetment type defences that reflect the wave's power. Continue to take measures to protect the former landfill site, while allowing the pebble ridge to roll back and rotate to become more aligned with the dominant wave direction (possibly aided by recycling beach material), through **managed realignment**.	Continue to reduce flood and erosion risk for developed areas along the southern part of Northam Burrows by maintaining and improving embankment defences. Continue to take measures to protect the former landfill site, while allowing the pebble ridge to adapt naturally to rising sea levels, through **managed realignment**.	Continue to reduce flood and erosion risk for developed areas along the southern part of Northam Burrows by maintaining and improving embankment defences. Continue to take measures to protect the former landfill site, while allowing the pebble ridge to adapt naturally to rising sea levels, through **managed realignment**.
7c08	**Skern salt marsh to Appledore**	Maintain the existing revetment defences to continue protecting the	Maintain and improve the revetment defences to continue protecting the	Maintain the revetment defences, improved in the medium term, to

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Policy unit		Preferred policies		
		Short term	Medium term	Long term
	(west)	rest of Northam Burrows and provide access to the landfill site, through **hold the line**.	rest of Northam Burrows and provide access to the landfill site, through **hold the line**.	continue protecting the rest of Northam Burrows and provide access to the landfill site, through **hold the line**.

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Location reference:	Westward Ho! to Appledore (west)
Policy unit reference:	7c06 to 7c08

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	In areas that are currently defended the defences will be maintained and improved as necessary. At Northam Burrows, managed realignment will continue to protect the landfill site whilst allow the pebble ridge to function more naturally.	Continued protection of properties at Westward Ho!, Appledore and Northam Burrows. Increased risk to tourist infrastructure assets potentially limiting access (as list in land use, infrastructure and material assets) may potentially impact the local economy through a reduction in tourist numbers.	Continued protection of community, recreational and amenity facilities at Westward Ho! and Appledore. Continued protection of the promenade and slipway from erosion. Tourist amenities (including a holiday camp, a park and a caravan site) at Westward Ho! and the South West Coastal Path are not at risk from erosion in this epoch. The Golf Course, car parks, minor roads and the Caravan Park are at risk from coastal flooding at Northam Burrows. Continued protection of, community, recreation and tourist amenity facilities, roads (A39, A386 and cycle path), shipyard and harbour infrastructure at Appledore. No loss of grazing land on Northam Burrows due to erosion but increase risk of flooding. Protection of sections of the Tarka Trail from flooding. Other sections may require relocation inland.	Continued protection of Appledore and Northam Conservation Areas. No risk to Scheduled Monuments, Listed Building or Registered Parks and Gardens.	Minor changes in landscape within North Devon AONB due to natural processes of increased erosion and flooding. Larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character within AONB Heritage Coast and Coastal Preservation Area.	Small changes in coastal geomorphological features at Northam Burrows SSSI due to natural processes. Any breach in the pebble ridge would be expected to reseal by littoral processes. Holding the line may prevent erosion of Westward Ho! SSSI's geological features. With the exception of the western end of this section which comprises of undefended cliffs. Natural processes will continue and will return the undefended areas of the SSSI to favourable status. Continued protection of the former landfill site at Northam Burrows from flooding. Loss of small sections of the beach at Westward Ho! through coastal squeeze.	Potential impacts on water quality due to realignment, potentially affecting landfill sites – see soils and geology. Works in areas selected for managed realignment should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets. Continued protection of the former landfill site at Northam Burrows from flooding helping prevent pollution.	Small changes in coastal geomorphological features at Northam Burrows SSSI creating limited impact on coastal habitats but this will be due to natural processes. Management decision on the other side of the channel (7c29) will have an impact on the status if the Northam Burrows SSSI.
2025 to 2055	In areas that are currently defended the defences will be maintained and improved as necessary. At Northam Burrows, managed realignment will continue to protect the landfill whilst allow the pebble ridge to function more naturally.	As above.	Continued protection of community, recreational and amenity facilities at Westward Ho! and Appledore. Continued protection of the promenade and slipway from erosion. Protection of tourist amenities (including a holiday camp, a park and a caravan site), promenade and slipway from erosion.	As above.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding. Larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character within	Reduction in spatial extent of Northam Burrow SSSI as the pebble ridge rolls back to the retreat line but this will be in accordance with natural processes. Holding the line may prevent erosion of Westward Ho! SSSI's geological features. With the exception of the western end of this section which comprises of undefended cliffs. Natural processes will	As above.	As above.

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Location reference:	Westward Ho! to Appledore (west)
Policy unit reference:	7c06 to 7c08

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
			Protection to sections of the South West Coastal Path. Other sections may require relocation inland. The Golf Course, car parks, minor roads and the Caravan Park are at risk from coastal flooding at Northam Burrows. Loss of sections of a minor road providing vehicular access to the northern sections of Northam Burrows due to erosion and flooding Adaptation of Golf Course and the associated infrastructure will be required in order to maintain this asset. Continued protection of, community, recreation and tourist amenity facilities, roads (A39, A386 and cycle path), shipyard and harbour infrastructure at Appledore. No loss of grazing land on Northam Burrows due to erosion but increase risk of flooding. Potential loss or damage to section of the Tarka Trail due to flooding at Skern Salt Marsh		AONB Heritage Coast and Coastal Preservation Area.	continue and will return the undefended areas of the SSSI to favourable status. Continued protection of the former landfill site at Northam Burrows from flooding. Reduction in the spatial extent of the beach, at Westward Ho!, through coastal squeeze.		
2055 to 2105	In areas that are currently defended the defences will be maintained and improved as necessary. At Northam Burrows, managed realignment will continue to protect the landfill whilst allow the pebble ridge to function more naturally.	As above.	Continued protection of community, recreational and amenity facilities at Westward Ho! and Appledore. Continued protection of the promenade and slipway from erosion. Protection of tourist amenity (including holiday camp, park and caravan site), promenade, coast guard station and slipway from erosion. The Golf Course, car parks,	As above.	As above.	As above.	As above.	As above.

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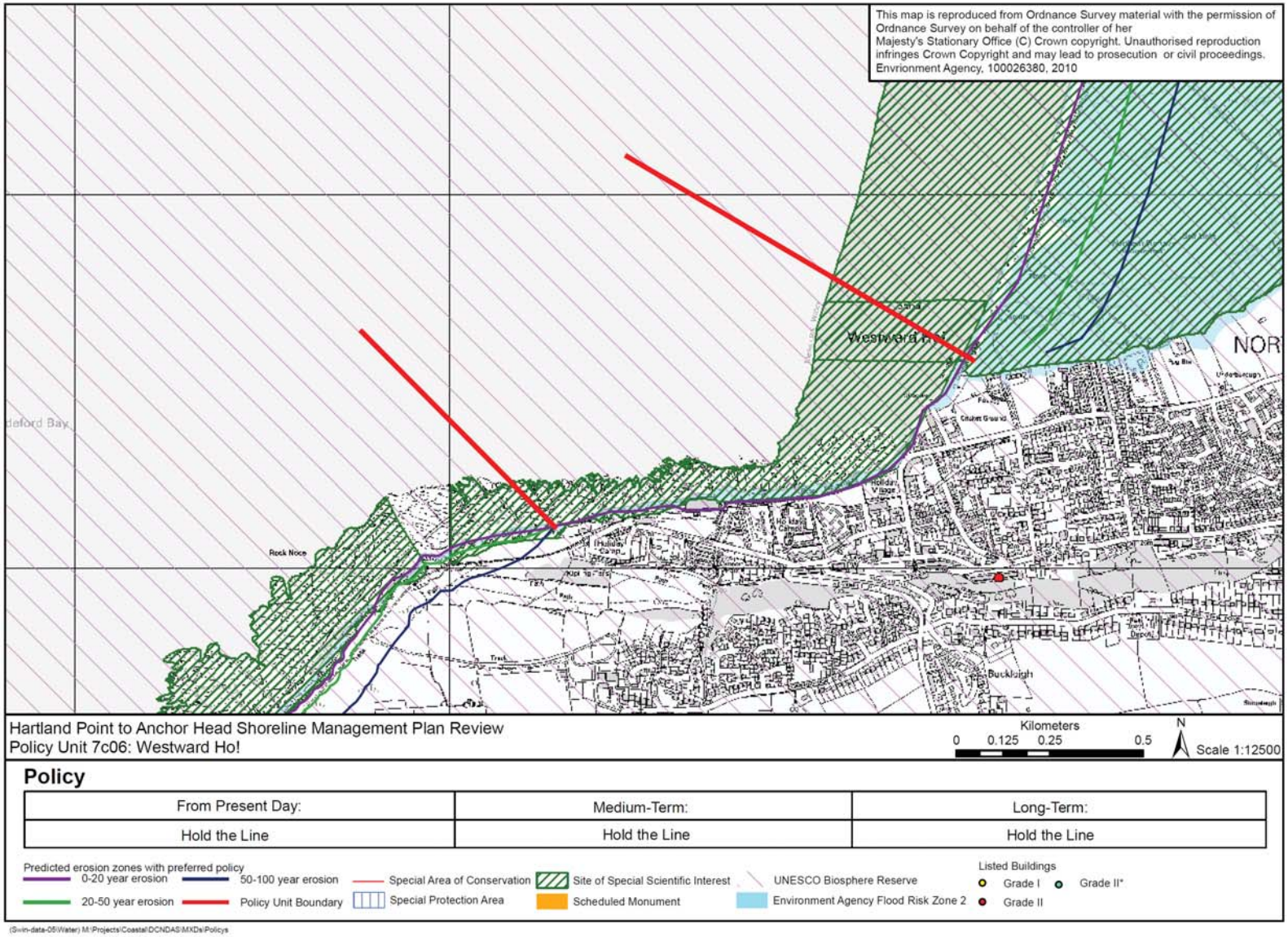
Location reference:	Westward Ho! to Appledore (west)							
Policy unit reference:	7c06 to 7c08							
Implications of the preferred plan for this location								
Time period	**Management activities**	**Human Health, Property and Population**	**Land use, infrastructure and material assets**	**Historic Environment**	**Landscape character and Visual Amenity**	**Geology and Soils**	**Water**	**Biodiversity, flora and fauna**
			minor roads and the Caravan Park are at risk from coastal flooding at Northam Burrows Loss of section of a minor road, providing vehicular access to the northern sections of Northam Burrows, the information centre and the car park due to erosion and flooding. Adaptation of Golf Course and the associated infrastructure will be required in order to maintain this asset. Continued protection of, community, recreation and tourist amenity facilities, roads (A39, A386 and cycle path), shipyard and harbour infrastructure at Appledore. Loss of grazing land on Northam Burrows due to erosion and increase risk of flooding. Potential loss or damage to section of the Tarka Trail due to flooding at Skern Salt Marsh. Some sections will require relocation.					



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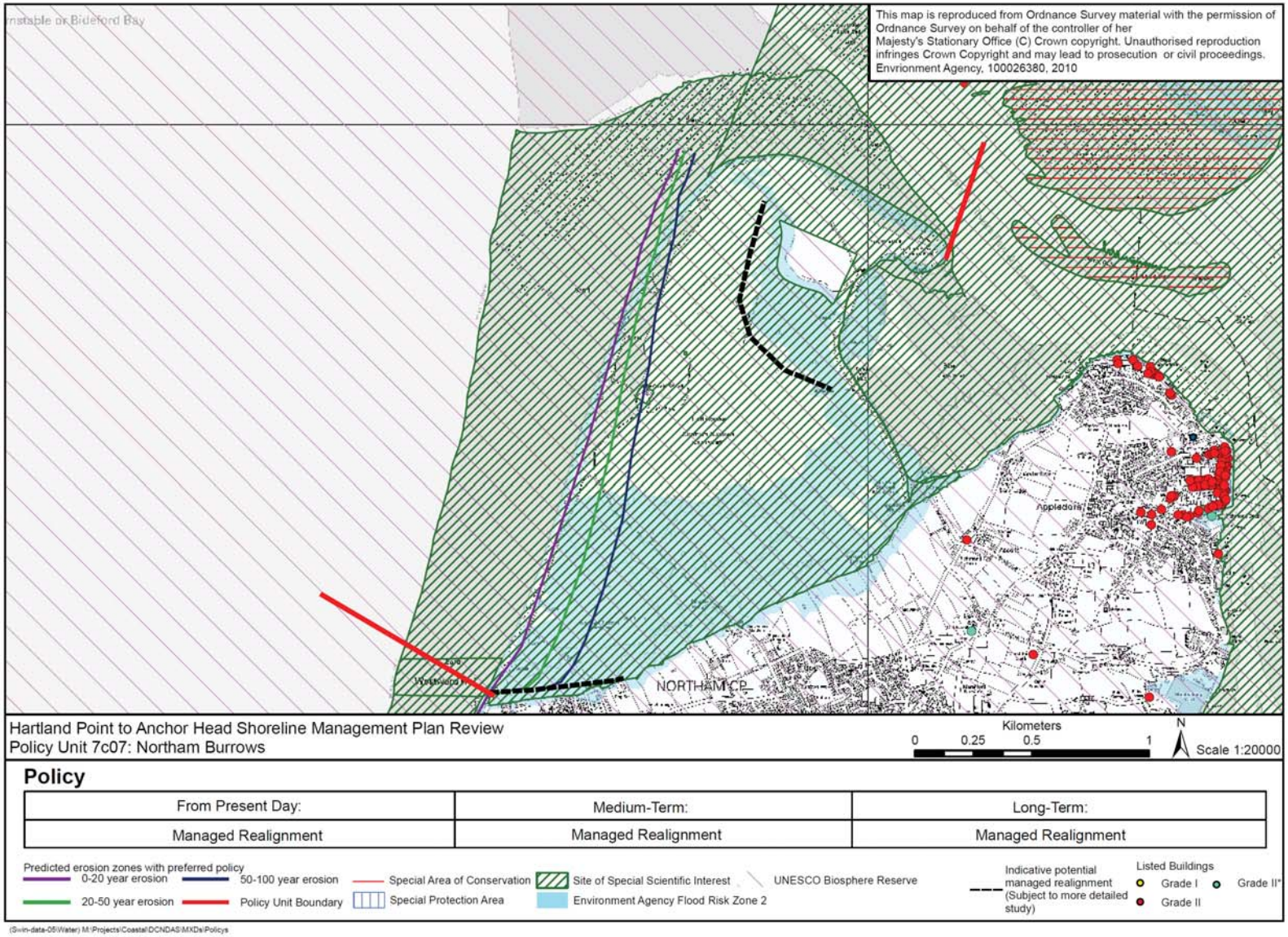

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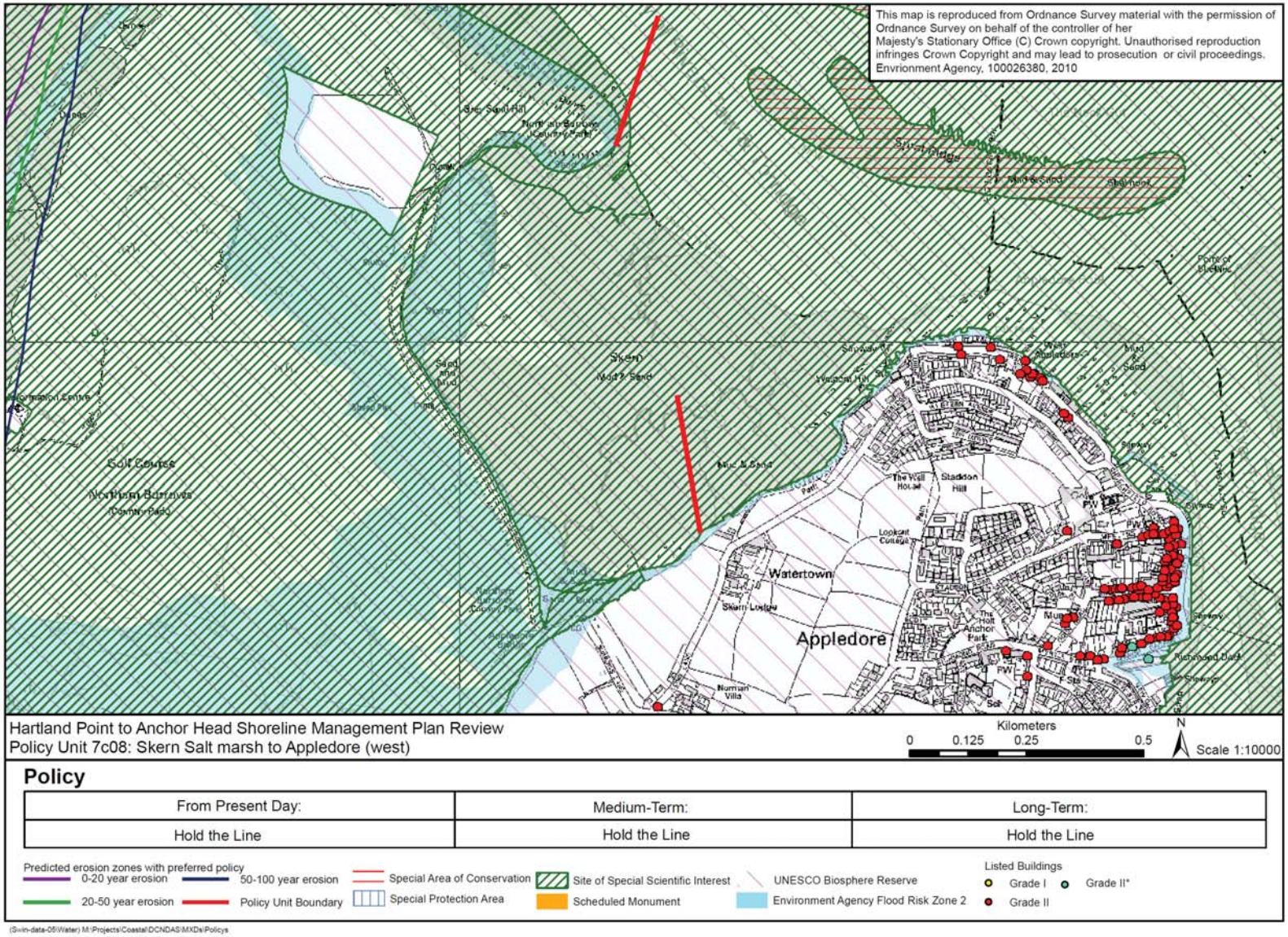

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Location reference:	**Torridge Estuary**
Policy unit reference:	**7c09 to 7c16**

Summary of preferred plan recommendations and justification

Plan:

The long term plan for the Torridge Estuary is to allow the estuary to respond naturally to climate change, particularly in its upper reaches, while continuing to provide flood defence to people, property and infrastructure where settlements exist. This means little change from present, with defences retained along the majority of the developed frontages and no further defence introduced elsewhere. There are a few areas for potential realignment within the upper estuary which could provide environment benefits without increasing flood risk.

This plan will ensure continued protection of key assets along this shoreline, but there may be potential loss of salt marsh and intertidal habitat due to coastal squeeze (narrowing of the shoreline) where defences remain, with potential impacts on Taw Torridge Site of Special Scientific Interest.

Implementation of policies here will also need to consider the outcomes from detailed investigations of the interactions with the Taw Estuary and open coast.

Preferred policies to implement plan:

From present day (short term):	The policy for Northam, Bideford, East-the-Water, Appledore and Instow is to continue to protect existing property and infrastructure assets through a **hold the line** policy. This will involve ongoing maintenance of existing flood defences at Northam, Bideford, and East-the-Water. At Appledore, Instow and some parts of East-the-Water, larger defences are likely to be required to provide an appropriate level of protection against the risk of flooding and erosion in the long term, although consideration to adapting land-use in some areas may also be feasible to help reduce flood risk. At Instow beach management might be appropriate, extending the dunes southwards along Instow Beach and altering highway drainage. Management of the dunes at Instow to ensure they provide a robust natural defence would be under a **managed realignment** policy. In the upper estuary, there may be opportunity for **managed realignment** either through set-back defences or regulated exchange through the Tarka Trail, still providing localised protection against the risk of flooding. Identification of areas where this policy rather than **hold the line** is more appropriate, will depend upon addition studies, as being undertaken for the developing Taw-Torridge Estuary Strategy Study (being led by the Environment Agency). Throughout the rest of the estuary the policy is **no active intervention**, which will allow the estuary to continue to evolve naturally.
Medium term:	In the medium term, the policy is to **hold the line** at Northam, Bideford, East-the-Water, Appledore and Instow. This will involve maintenance and improvement of defences during this period. Ongoing provision of defence will also need to include considerations for land drainage behind the defence line and its potential to cause flooding. Continuation of the **managed realignment** policy along the dunes at Instow would aim to retain these as a robust natural defence. If the defence offered by the dunes were to become compromised in this period as a result of sea level rise, then it may be necessary to construct a set-back defence to ensure the risk of flooding to Instow from this area continues to be reduced. Along the undeveloped west side of the outer estuary, between Appledore and Northam, and in areas of the upper Torridge Estuary, the recommended policy of **no active intervention** will allow the estuary to continue to evolve naturally. In parts of the upper estuary, the policy is to continue to minimise the risk of

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	flooding where assets are at risk. This could be through either **managed realignment** or **hold the line**, and should be informed by the Environment Agency-led Taw-Torridge Estuary Strategy Study.
Longer term:	The important socio-economic assets at Northam, Bideford, East-the-Water, Appledore and Instow, will continue to be defended through a **hold the line** policy. At Appledore, East-the-Water and Instow this will require the ongoing maintenance of defences, whereas at Northam and Bideford, the height of the existing flood wall defences will need to be increased to address rising sea levels. Ongoing provision of defence will also need to include considerations for land drainage behind the defence line and its potential to cause flooding. Continuation of the **managed realignment** policy along the dunes at Instow would aim to retain these as a robust natural defence. If the defence offered by the dunes were to become compromised in this period as a result of sea level rise, then it may be necessary to construct a set-back defence under this policy to ensure the risk of flooding to Instow from this area continues to be reduced. Along the outer, undeveloped, west side of the estuary between Appledore and Northam, and in areas of the upper Torridge Estuary, the long term policy is to allow the estuary to continue to evolve naturally, though a policy of **no active intervention**. Within the upper estuary, where there are assets at risk from flooding, there could be further opportunities for **managed realignment**, if not undertaken in short or medium terms; otherwise a **hold the line** policy is recommended. This will be informed by the Environment Agency led Taw-Torridge Estuary Strategy Study. Where defences are maintained, there is a risk that intertidal habitat could be lost as sea levels rise and habitat creation policies in other parts of the wider Taw/Torridge estuary system could be needed to offset this. This loss could also be mitigated in parts of the Torridge Estuary by introducing regulated flooding through the defended line onto low-lying areas of land behind parts of the defences.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7c09	**Appledore**	Maintain and improve the various seawall/quay wall defences to continue protecting Appledore, through **hold the line**.	Maintain and further improve the various seawall/quay wall defences to continue protecting Appledore, through **hold the line**.	Maintain the various seawall/quay wall defences to continue protecting Appledore, through **hold the line**.
7c10	**Appledore to Cleave Moorings, Northam**	Allow natural estuary evolution to continue through **no active intervention**.	Allow natural estuary evolution to continue through **no active intervention**.	Allow natural estuary evolution to continue through **no active intervention**.
7c11	**Cleave Moorings, Northam and**	Maintain the existing floodwall defences to continue protecting Northam and Bideford,	Maintain the existing floodwall defences to continue protecting Northam and Bideford,	Maintain the floodwall defences, eventually raising the height of the walls in response to sea

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Policy unit		Preferred policies		
		Short term	Medium term	Long term
	Bideford	through **hold the line**.	through **hold the line**.	level rise, to continue protecting Northam and Bideford, through **hold the line**.
7c12	**Upper Torridge Estuary (right (east) and left (west) banks between Bideford and Weare Gifford)**	Allow natural estuary evolution to continue through **no active intervention** along much of the upper Torridge Estuary, but implement **managed realignment** or **hold the line** locally where defences are required to protect infrastructure and property. Exact locations suitable for managed realignment will be informed by the ongoing Taw-Torridge Estuary strategy study.	Allow natural estuary evolution to continue through **no active intervention** along much of the upper Torridge Estuary, but implement **managed realignment** or **hold the line** locally where defences are required to protect infrastructure and property. Exact locations suitable for managed realignment will be informed by the ongoing Taw-Torridge Estuary strategy study.	Allow natural estuary evolution to continue through **no active intervention** along much of the upper Torridge Estuary, but implement **managed realignment** or **hold the line** locally where defences are required to protect infrastructure and property. Exact locations suitable for managed realignment will be informed by the ongoing Taw-Torridge Estuary strategy study.
7c13	**East-the-Water to Torridge Bridge (A39)**	Minimise flood risk, by maintaining existing defences, through a **hold the line** policy.	Minimise flood risk, by maintaining existing defences, through a **hold the line** policy.	Minimise flood risk, by maintaining or improving existing defences, through a **hold the line** policy.
7c14	**Torridge Bridge (A39) to Instow**	Minimise flood risk, by maintaining existing defences, through a **hold the line** policy.	Minimise flood risk, by maintaining or improving existing defences, through a **hold the line** policy.	Minimise flood risk, by maintaining the improved defences, through a **hold the line** policy.
7c15	**Instow**	Maintain the floodwall defences, eventually replacing them with larger structures, to continue to protect Instow through a **hold the line** policy.	Maintain the defences, improved in the short term, to continue to protect Instow through a **hold the line** policy.	Maintain the defences to continue to protect Instow through a **hold the line** policy.
7c16	**Instow Dunes**	Undertake dune management through a **managed realignment** policy to ensure that the dunes provide a robust natural defence against the risk of flooding.	Continue dune management through a **managed realignment** policy to ensure that the dunes provide a robust natural defence against the risk of flooding. If this becomes compromised, construct a set back defence.	Continue dune management through a **managed realignment** policy to ensure that the dunes provide a robust natural defence against the risk of flooding. If this becomes compromised, construct a set back defence.

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Location reference:	Torridge Estuary
Policy unit reference:	7c09 to 7c16

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Continuation of current management activities through maintenance and improvement of coastal defence and flood defence at Appledore, Northam, Bideford, and East-the-Water to Instow. In the Upper Torridge Estuary there is a planned continuation of current management activities through no active intervention and the implementation of managed realignment and hold the line locally where appropriate.	Protection of properties, community, recreation and tourist amenity facilities at Appledore, Bideford, East-the-Water, and Instow from flooding. The risk of flooding to villages along the Torridge and the development opportunity at East-the-Water will be reduced.	Protection of roads (A39, A386 and cycle path), shipyard and harbour infrastructure at Appledore, Bideford, East-the-Water, and Instow from flooding. The Yacht Club, at Instow, facilities will be protected from flooding. Protection of sections of the Tarka Trail from flooding. Other sections may require relocation inland. Minimal loss of higher grade agricultural land adjacent to the Estuary	Protection of Conservation Areas at Instow, Bideford, East-the–Water, from flooding. Tapeley Park is at risk from flooding.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding in areas of no active intervention. Larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.	Minimal impact soils and geology. No site designated along this stretch of coast for geological features.	Works in areas selected for managed realignment should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets.	There is likely to be a change in the composition and distribution of habitats within the Taw Torridge Estuary SSSI due to natural processes and coastal squeeze. Low lying areas of the Taw-Torridge under non active intervention managed realignment provide opportunities to create intertidal habitat. To offset losses. Kenwith Valley LNR is at risk from flooding. Increased exposure to saline conditions may result in a change in freshwater habitats. But this would be due to natural processes.
2025 to 2055	Continuation of current management activities through maintenance and improvement of coastal defence and flood defence at Appledore, Northam, Bideford, and East-the-Water to Instow. In the Upper Torridge Estuary there is a planned continuation of current management activities through no active intervention and the implementation of managed realignment and hold the line locally where appropriate.	As above.	As above.	As above.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding in areas of no active intervention. Larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.	As above.	As above.	As above.
2055 to 2105	Continuation of current management activities through maintenance and improvement of coastal defence and flood defence at Appledore, Northam, Bideford, and East-the-Water to Instow.	As above.	As above.	As above.	As above.	As above.	As above.	As above.

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Location reference:	Torridge Estuary
Policy unit reference:	7c09 to 7c16

Implications of the preferred plan for this location								
Time period	**Management activities**	**Human Health, Property and Population**	**Land use, infrastructure and material assets**	**Historic Environment**	**Landscape character and Visual Amenity**	**Geology and Soils**	**Water**	**Biodiversity, flora and fauna**
	In the Upper Torridge Estuary there is a planned continuation of current management activities through no active intervention and the implementation of managed realignment and hold the line locally where appropriate.							

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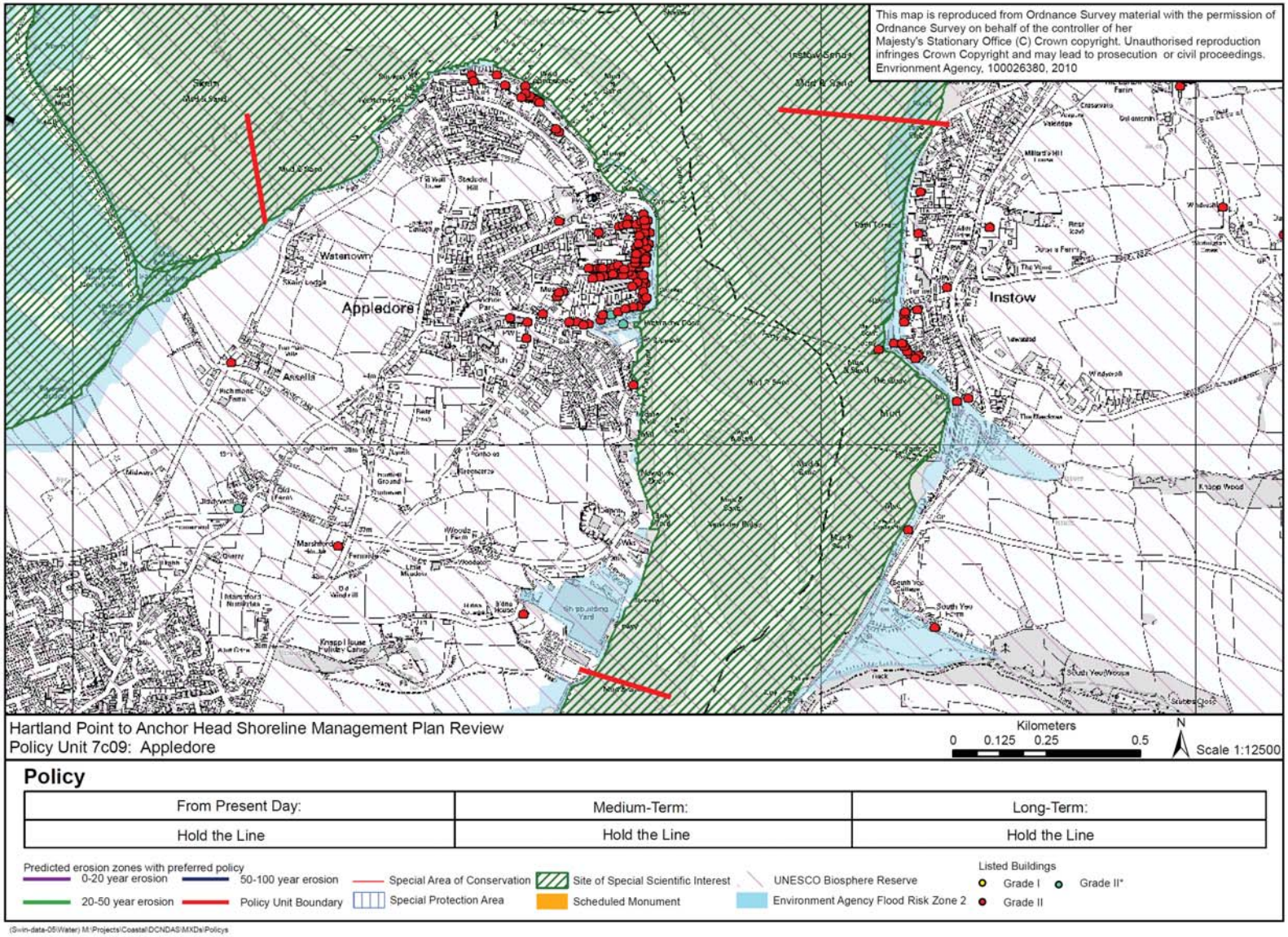

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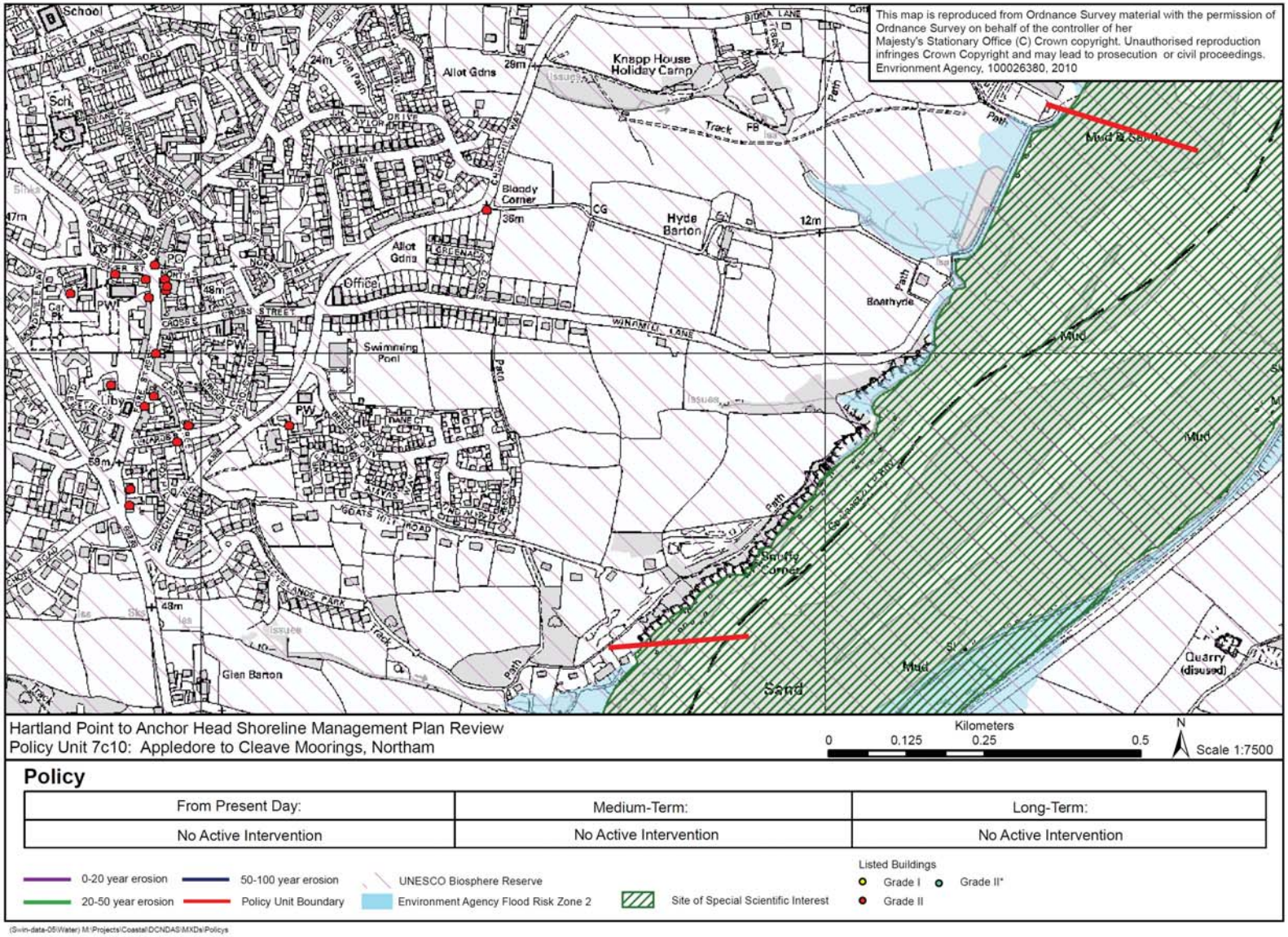

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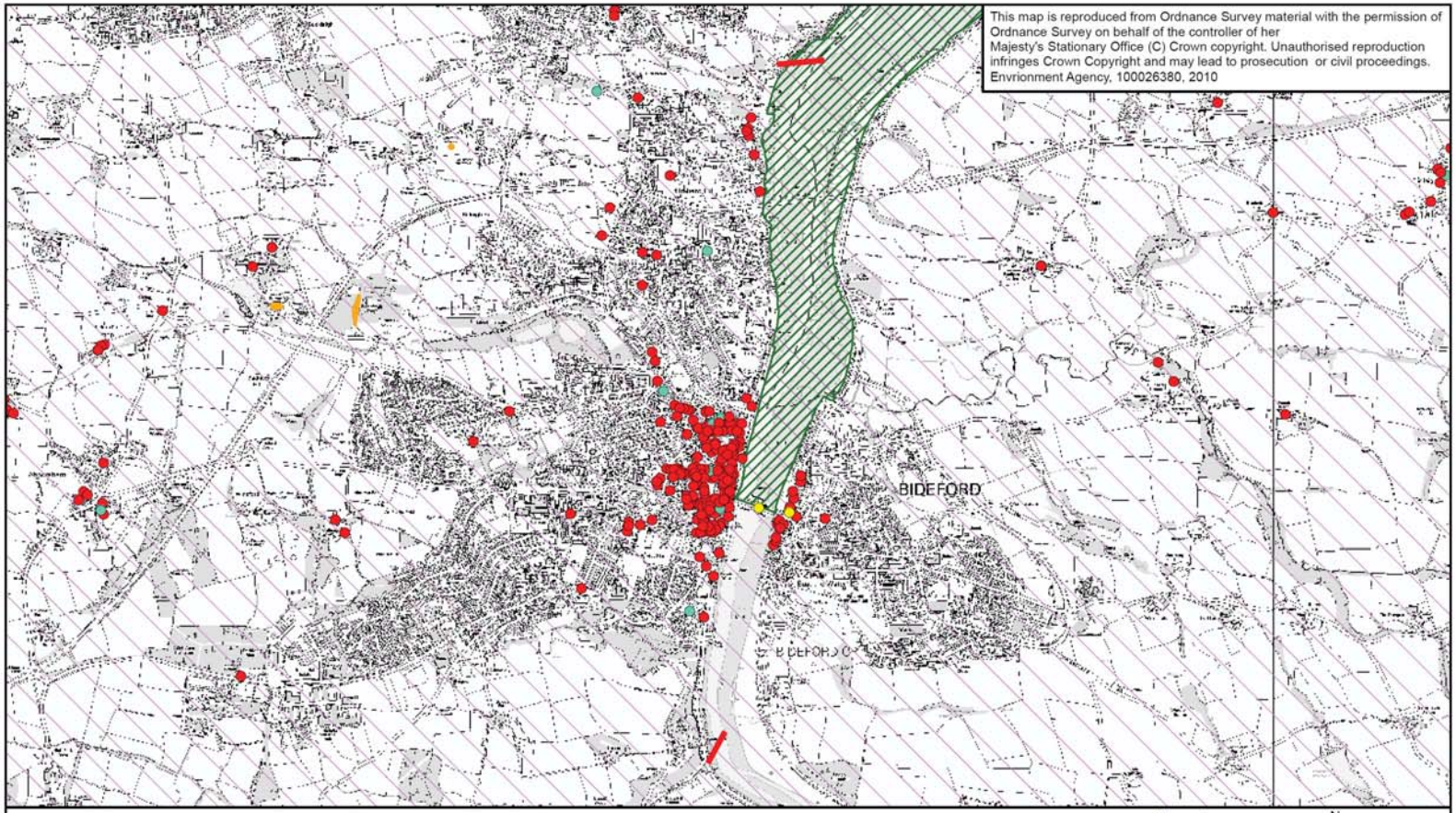

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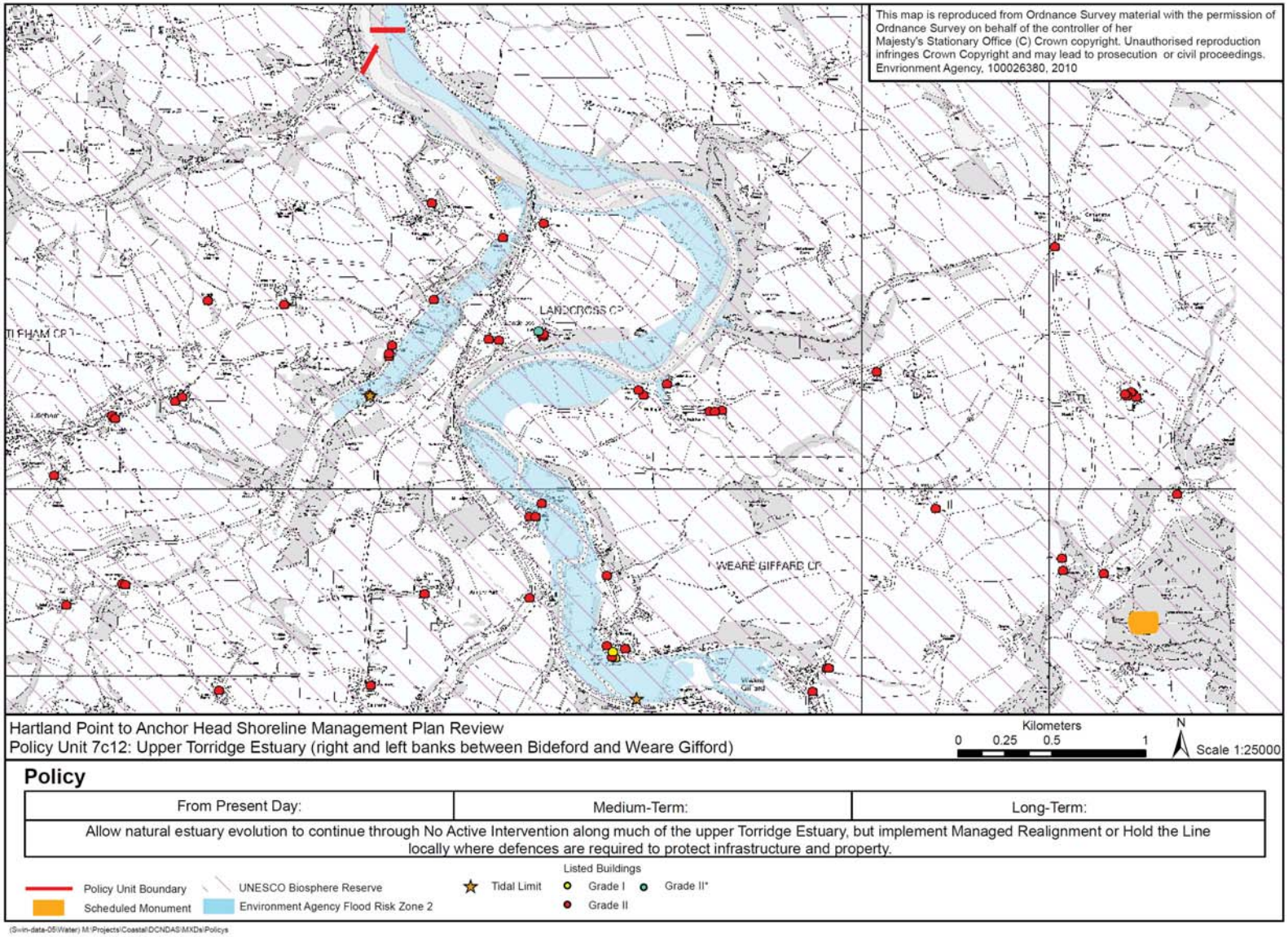

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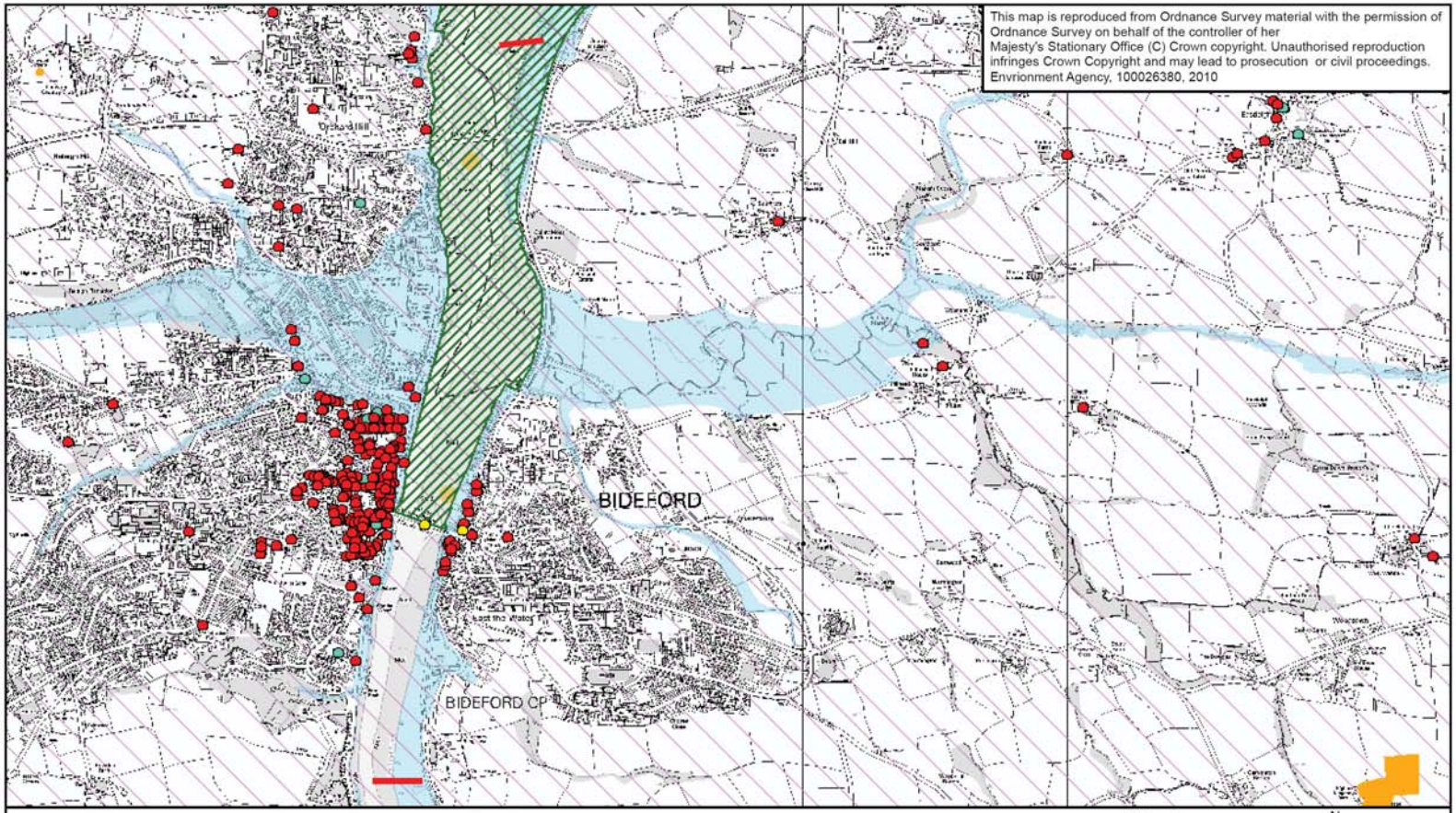

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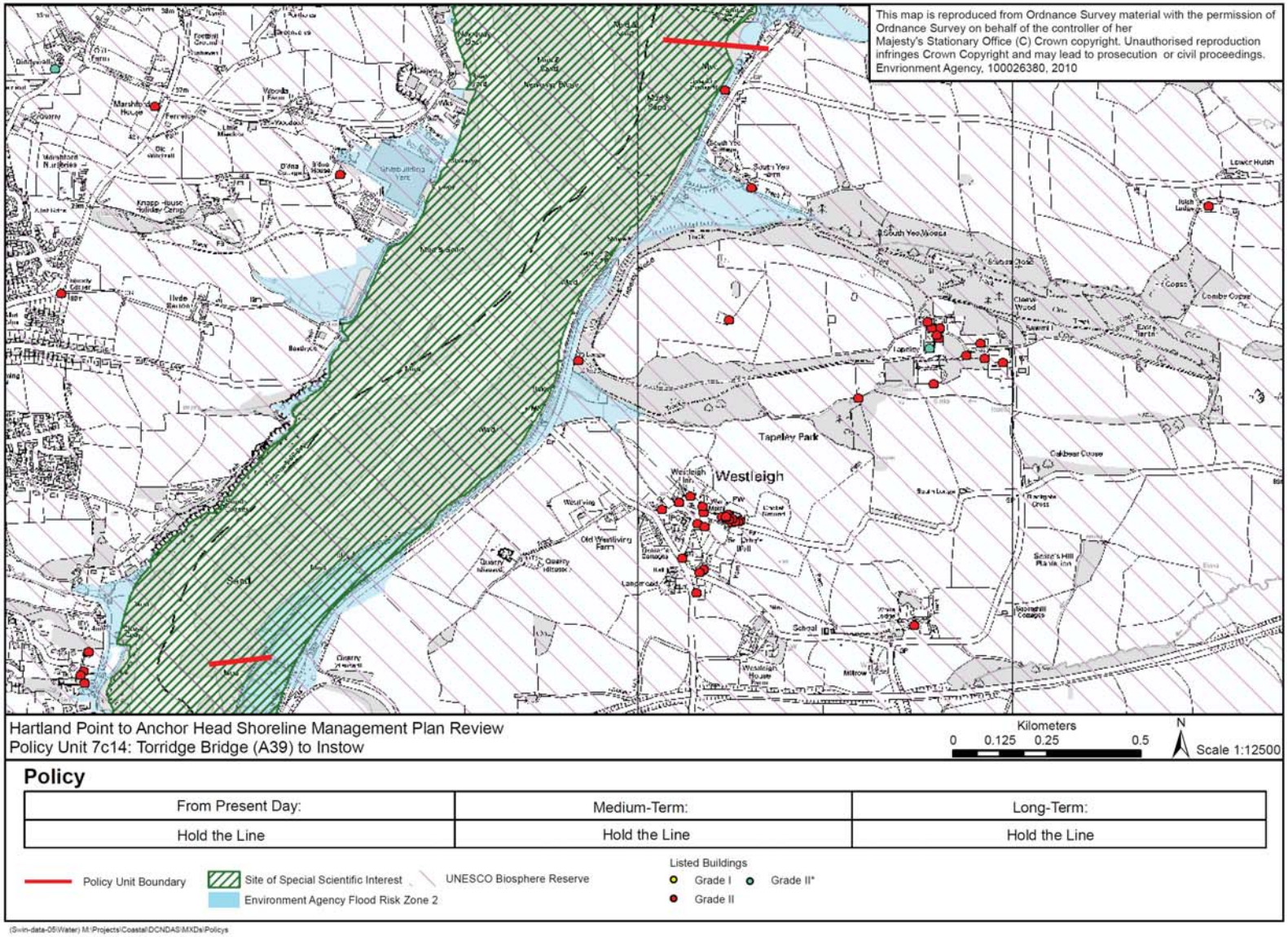

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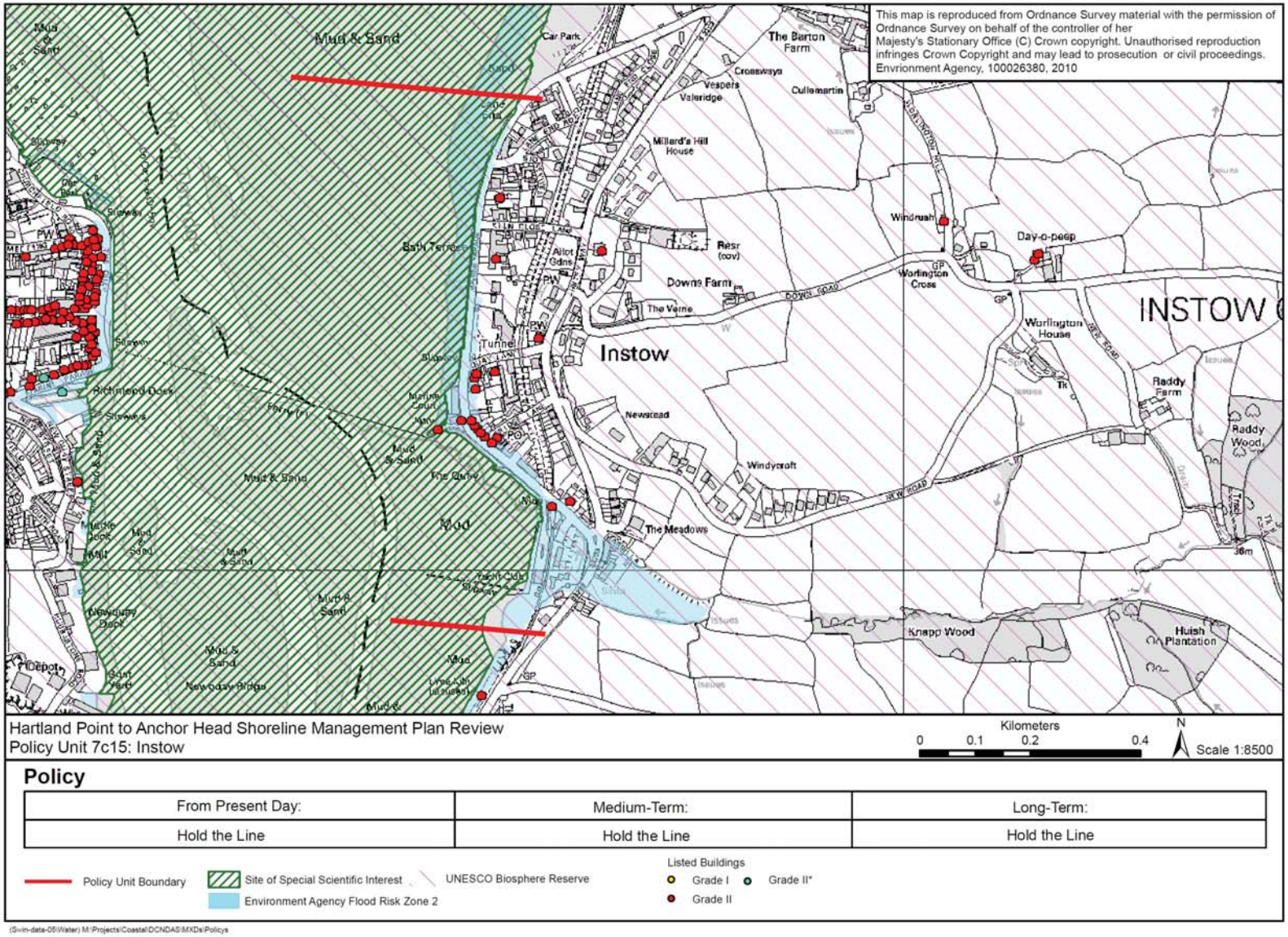

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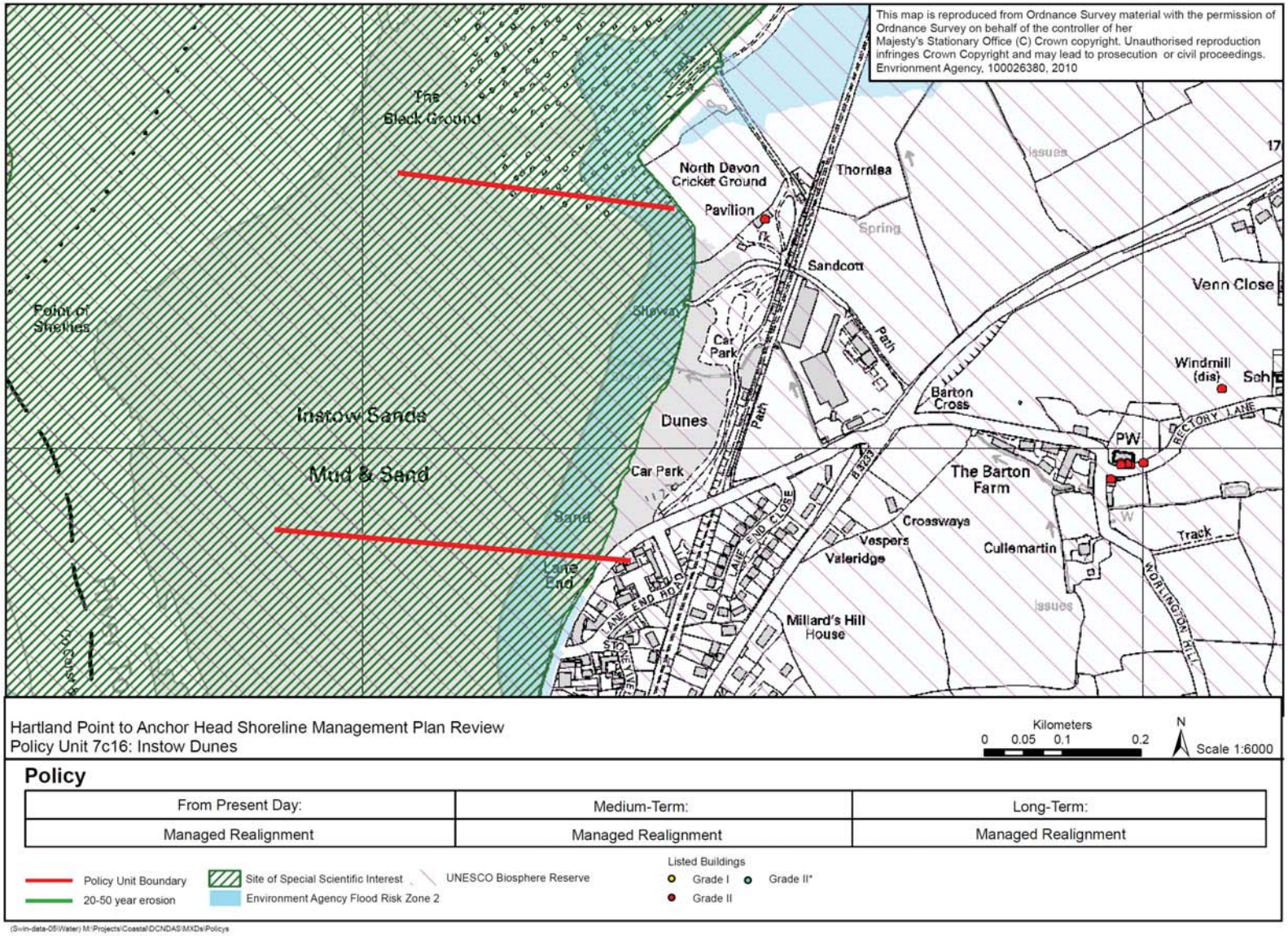

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Location reference:	**Taw Estuary**
Policy unit reference:	**7c17 to 7c29**

Summary of preferred plan recommendations and justification

Plan:

The long term plan for the Taw Estuary is to provide sustainable flood defence to people, property and infrastructure while allowing the estuary to evolve naturally to climate change and rising sea levels where possible.

There are several potential areas within the estuary where managed realignment to more long-term sustainable positions could be undertaken, which could benefit other parts of the estuary by providing flood storage, and allow considerable nature conservation and biodiversity opportunities to be realised. However, depending on where and to what extent realignment occurs there could be potential adverse impact on parts of the airfield at Chivenor and its infrastructure, areas of agricultural land, Yelland Stone Row Schedule Monument, a number of non-designated archaeological features and locally and nationally important sites at Braunton Great Field and Braunton Conservation Area. There could also be implications for the Tarka Trail, parts of which may need to be realigned.

Large scale or widespread realignment does, however, have the potential to significantly alter the large-scale functioning of an estuary system. This can have wider-scale impacts on the open coast and affect flood risk elsewhere within the estuary. Consequently detailed investigations are required before these are implemented and therefore the plan is to maintain existing defences in the short term while these are carried out.

Preferred policies to implement plan:

From present day (short term):	The short term policy is to continue to protect socio-economic assets along the majority of the Taw Estuary, through **hold the line**. Along the outer parts of the estuary this will involve maintaining existing embankment and flood wall defences, while at Barnstaple some defences are likely to need rebuilding or replacing with larger structures. Due to the significant uncertainty about the combined impacts of managed realignment in several parts of the estuary this policy will allow existing defences to be maintained while detailed studies are undertaken to fully appraise the appropriateness of implementing managed realignment in parts of the Taw Estuary. If detailed studies such as the ongoing Environment Agency led Taw-Torridge Estuary Strategy Study support managed realignment schemes, then these could begin to be implemented as appropriate. In some areas where the plan is to hold the line, controlled tidal exchange through the defended line onto small areas of low-lying land behind the defences could mitigate impacts of coastal squeeze where defences are held in the medium to long term whilst conserving features such as the Tarka Trail. Along undefended parts of the south side of the estuary between Fremington and Penhill Point, and in areas of the upper Taw Estuary, the recommended short term policy is for **no active intervention**, to allow the estuary to continue to evolve naturally as there are no assets at risk of flooding in these areas. Along the northern side of the estuary mouth, the recommended policy for Crow Point and Crow Neck is one of **managed realignment**. During this epoch detailed studies will investigate the importance of this feature in protecting the inner estuary. Should these establish that the feature is important then periodic beach recycling may be necessary to maintain it and/or repair any breaches. If this is found to not be important for defence of the inner estuary, then no intervention would occur along the spit.
Medium term:	The medium term policy for the Barnstaple area is to continue to minimise the risk of flooding to people, property and infrastructure, through a **hold the line**

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	policy. This would involve maintaining defences around Barnstaple, and possibly re-building or replacing them to a higher standard, to address the issue of rising sea levels. However, for much of the Taw Estuary, the policy will be **managed realignment**. There would be potential benefits to the Taw Torridge Site of Special Scientific Interest by creating intertidal habitat to mitigate potential losses of salt marsh and intertidal habitat resulting from coastal squeeze caused by defence elsewhere in the estuary. There could be some detrimental impacts on socio-economic, historic environment and environment assets, dependent upon the extent and location of any realignment. The precise locations of realigned defences, and the appropriateness of implementing realignment in different parts of the estuary, will be determined from the detailed studies undertaken in the short term (as part of the Environment Agency led Taw-Torridge Estuary Strategy Study). Where managed realignment is inappropriate, existing embankment defences would need to be maintained or upgraded to higher standard, under a policy of **hold the line**. Along undefended parts of the southern side of the estuary, between Fremington and Penhill Point, and in areas of the upper Taw Estuary, the recommended medium term policy is **no active intervention**, which will allow the estuary to continue to evolve naturally as there are no assets at risk. In the outer estuary, the recommended policy for Crow Point and Crow Neck is one of continued **managed realignment**, implementation of which will depend upon the outcome of studies undertaken in the short term.
Longer term:	The policy for much of the Taw Estuary in the longer term is to continue to minimise the risk of flooding to assets, through a **hold the line** policy. This would involve maintenance of defences either in existing or realigned positions (dependent upon where realignment occurs in the medium term) to ensure adequate levels of protection continue to be provided. Within the upper estuary, where there are assets at risk from flooding, there could be further opportunities for **managed realignment**. Along undefended parts of the south side of the estuary between Fremington and Penhill Point, and in areas of the upper Taw Estuary, the long term policy is to allow the estuary to evolve with minimal interference, through a policy of **no active intervention**. In the outer estuary, the recommended policy for Crow Point and Crow Neck is one of continued managed realignment depending upon the outcome of studies, undertaken in the short term.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7c17	**Instow to Yelland**	Continue to maintain existing embankment defences under a **hold the line** policy. Investigate opportunities for managed	Implement **managed realignment** along parts of this stretch (dependent upon outcome of studies). Where realignment does not occur, continue to	**Hold the line** of the defence to continue to reduce the risk of flooding.

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Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
		realignment.	**hold the line** to protect infrastructure and property.	
7c18	**Home Farm Marsh (Yelland to Fremington)**	Continue to maintain existing embankment defences under a **hold the line** policy. Investigate managed realignment opportunities.	Implement **managed realignment** along this stretch (dependent upon outcome of studies).	**Hold the line** of the defence.
7c19	**Fremington**	Maintain and improve the defences to continue protection against flood risk to property and infrastructure, through **hold the line**.	Maintain the improved defences to continue protection against flood risk to property and infrastructure, through **hold the line**.	Maintain the improved defences to continue protection against flood risk to property and infrastructure, through **hold the line**.
7c20	**Fremington to Penhill Point**	Allow natural estuary evolution to continue through **no active intervention**.	Allow natural estuary evolution to continue through **no active intervention**.	Allow natural estuary evolution to continue through **no active intervention**.
7c21	**Penhill Point to Bickington**	Continue to maintain existing embankment defences under a **hold the line** policy. Investigate managed realignment opportunities.	Implement **managed realignment** along this stretch (dependent upon outcome of studies).	**Hold the line** of the defence.
7c22	**Bickington to A39**	Maintain and improve the defences to continue protection against flood risk to property and infrastructure, through **hold the line**.	Maintain the improved defences to continue protection against flood risk to property and infrastructure, through **hold the line**.	Maintain the improved defences to continue protection against flood risk to property and infrastructure, through **hold the line**.
7c23	**Upper Taw Estuary (right (east) and left (west) banks between A39 to tidal limit near Bishops Tawton)**	Allow natural estuary evolution to continue through **no active intervention** along much of the upper Taw Estuary, but implement **managed realignment** or **hold the line** locally where defences are required to protect the railway line. Exact locations suitable for managed realignment will be informed by the ongoing Taw-Torridge Estuary strategy study.	Allow natural estuary evolution to continue through **no active intervention** along much of the upper Taw Estuary, but implement **managed realignment** or **hold the line** locally where defences are required to protect the railway line. Exact locations suitable for managed realignment will be informed by the ongoing Taw-Torridge Estuary strategy study.	Allow natural estuary evolution to continue through **no active intervention** along much of the upper Taw Estuary, but implement **managed realignment** or **hold the line** locally where defences are required to protect the railway line. Exact locations suitable for managed realignment will be informed by the ongoing Taw-Torridge Estuary strategy study.
7c24	**A39 to West**	Maintain the embankment	Maintain and further	Maintain the embankment

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Policy unit		Preferred policies		
		Short term	Medium term	Long term
	Ashford (Barnstaple)	defences, and eventually replace some with larger embankments, to continue protection for Barnstaple, through **hold the line**.	replace the embankment defences to continue protection for Barnstaple, through **hold the line**.	defences to continue protection for Barnstaple, through **hold the line**.
7c25	**West Ashford to Braunton (east bank of River Caen)**	Continue to maintain existing defences under a **hold the line** policy. Investigate managed realignment opportunities.	Implement **managed realignment** along parts of this stretch (dependent upon outcome of studies). Continue to **hold the line** of the recently realigned defence at RAF Chivenor.	**Hold the line** of the realigned defences.
7c26	**Braunton to Horsey Island (west bank of River Caen)**	Continue to maintain existing embankment defences under a **hold the line** policy. Investigate opportunities for managed realignment.	Implement **managed realignment** along this stretch (dependent upon outcome of studies).	**Hold the line** of the realigned defence.
7c27	**Horsey Island**	Continue to maintain existing embankment defences under a **hold the line** policy. Investigate opportunities for managed realignment.	Implement **managed realignment** along this stretch (dependent upon outcome of studies).	**Hold the line** of the realigned defence.
7c28	**Horsey Island to Crow Point**	Continue to maintain existing embankment defences under a **hold the line** policy. Investigate opportunities for managed realignment.	Implement **managed realignment** along this stretch (dependent upon outcome of studies).	**Hold the line** of the realigned defence.
7c29	**Crow Point and Crow Neck**	Continue to monitor the spit, under a policy of **managed realignment**, while investigating the importance of the spit in terms of providing protection to the inner estuary. If necessary, undertake beach replenishment to maintain this feature and/or repair any breaches, otherwise limited or no intervention is to occur.	Continue to monitor the spit, under a policy of **managed realignment**, and undertake works as required following the investigations in the short term. If studies show this area is not required for defence benefit of the inner estuary, then limited or no intervention is to occur.	Continue to monitor the spit, under a policy of **managed realignment**, and undertake works as required following the investigations in the short term. If studies show this area is not required for defence benefit of the inner estuary, then limited or no intervention is to occur.

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Location reference:	Taw Estuary
Policy unit reference:	7c17 to 7c29

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	There is a continuation of current management activities. Hold the line in areas that have been historic defended and no activate intervention in areas that have not.	Protection of residential and commercial at Barnstaple, Pottington, Pilton, Sticklepath, Bishops Tawton, Braunton, Chivenor, Wrafton and a number of smaller settlements from flooding. The development opportunity planned for Barnstaple is potentially at risk from flooding depending on its location.	Protection of community, recreational and tourist amenity facilities at Barnstaple, Pottington, Pilton, Sticklepath, Bishop's Tawton, Braunton, Chivenor, Wrafton and a number of smaller settlements from flooding. The site of the proposed incinerator may be at risk from flooding depending on its location. Protection of the Tarka Trail (South West Coastal Path) from flooding. Protection of the substations at Bideford, the south side of the Estuary at Estuary Business Park, and at Barnstaple. Protection of sections of the A361, A386 and B3233 in addition to a number of access roads and the Barnstaple to Exeter railway line from flooding. The airfield at Chivenor and its associated infrastructure, which includes the Royal Marine Base, are at risk from flooding. Ministry of Defence land on Braunton Burrows is at risk from flooding. Minimal loss of higher grade agricultural land adjacent to the Estuary due to erosion. However, areas of agricultural land are at risk from flooding. However, high grade agricultural land (Grade 2) at Braunton is at risk from flooding.	Protection of Conservation Areas at Fremington, Bickington and, Barnstaple, Tawstock and Braunton (including the Braunton Great Field) from flooding. Protection of Barnstaple Castle, Schedule Monument, from potential damage due to flooding. Grade II Listed Building at Braunton Marsh at risk from flooding.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding. Continued maintenance of existing defences in the short term with little change to landscape within the AONB Heritage Coast and Coastal Preservation Area.	Managed realignment and no active intervention will allow the continuation of natural processes which will maintain these geological features.	Depending on the position of the set-back defences, Managed realignment has the potential to impact water quantity at Braunton Burrows. Works in areas selected for managed realignment should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets.	Areas of Greenaways and Freshways Marshes SSSI, Fremington Local Nature Reserve, County Wildlife Sites located at Leat (Fremington), Saltpill duckpond and Horsey Island are at risk from flooding. Where there are freshwater habitats the increased exposure to saline conditions may result in a change in habitat composition. But this would be due to natural processes. . There is likely to be a change in the composition and distribution of habitats within the Taw Torridge Estuary SSSI due to natural processes and coastal squeeze. Low lying areas of the Taw-Torridge under non active intervention managed realignment provide opportunities to create intertidal habitat. To offset losses. Kenwith Valley LNR is at risk from flooding. Increased exposure to saline conditions may result in a change in freshwater habitats. But this would be due to natural processes. Braunton Burrows SAC, SSSI and UNESCO International Biosphere Reserve Area. Site may be impacted by defence decisions at Northam Burrows. Any future management decision is dependent of more detailed study in the short term to reduce the uncertainty. The policy is considered further within the Habitats Regulations Assessment (Appendix J)

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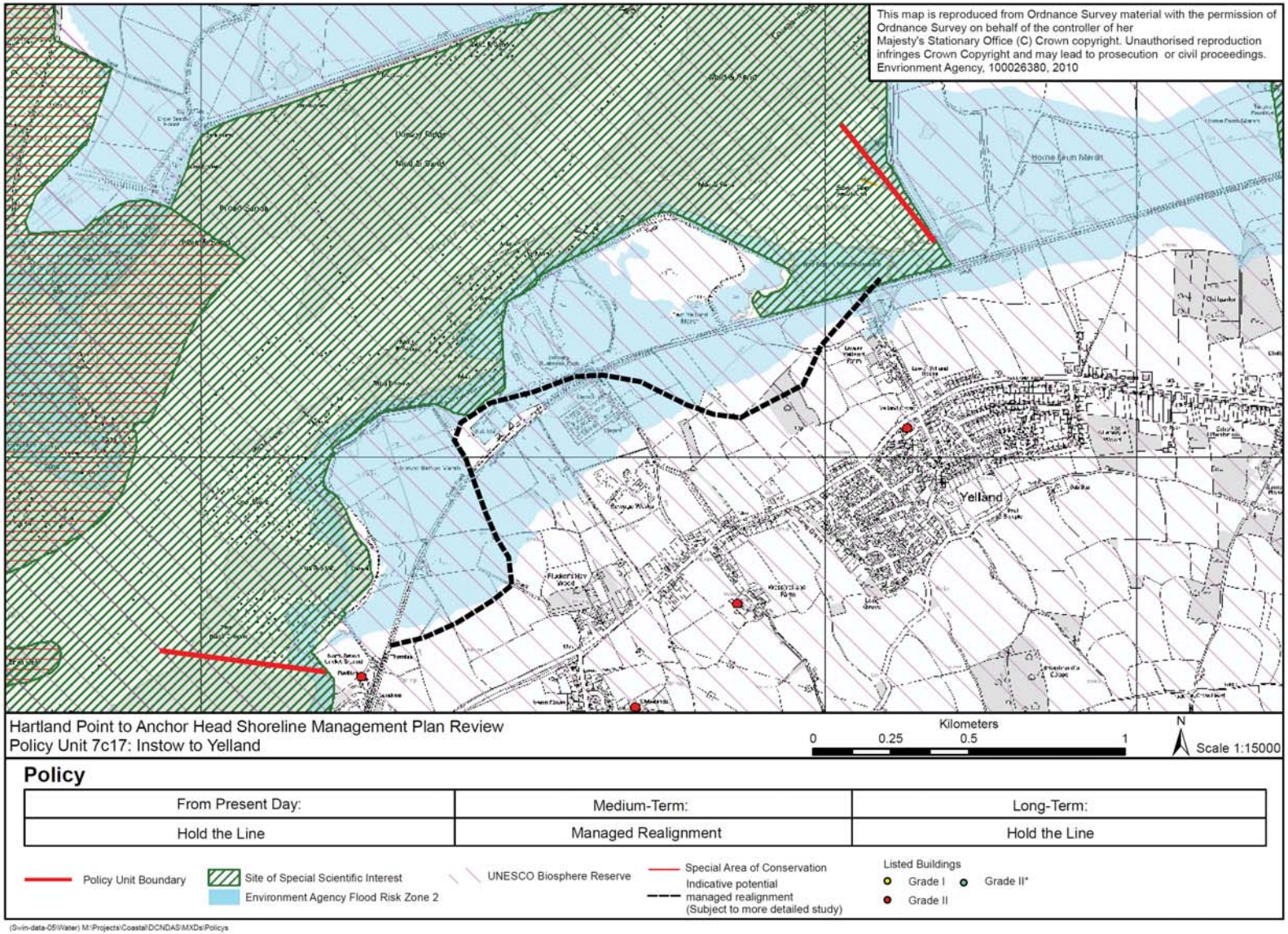
Location reference:	Taw Estuary
Policy unit reference:	7c17 to 7c29

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
			Management realignment of 7c29, Crow Point will need to consider to navigational safety issues and re-positioning of the navigational lights.					
2025 to 2055	An increase in the number of areas where defence will be allowed to fail and set back defences constructed.	As above.	As above.	As above.	Minor changes in landscape within AONB Heritage Coast, Coastal Preservation Area and the North Devon Heritage Coast due to increased erosion and flooding. If defences are not privately funded there is potential for deteriorating coastal defence structures to become unsightly within AONB Heritage Coast and Coastal Preservation Area. If defences are privately funded larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.	As above.	As above.	As above.
2055 to 2105	An increase in the number of areas where defence will be allowed to fail and set back defences constructed.	As above.	As above.	As above.	As above.	As above.	As above.	As above.



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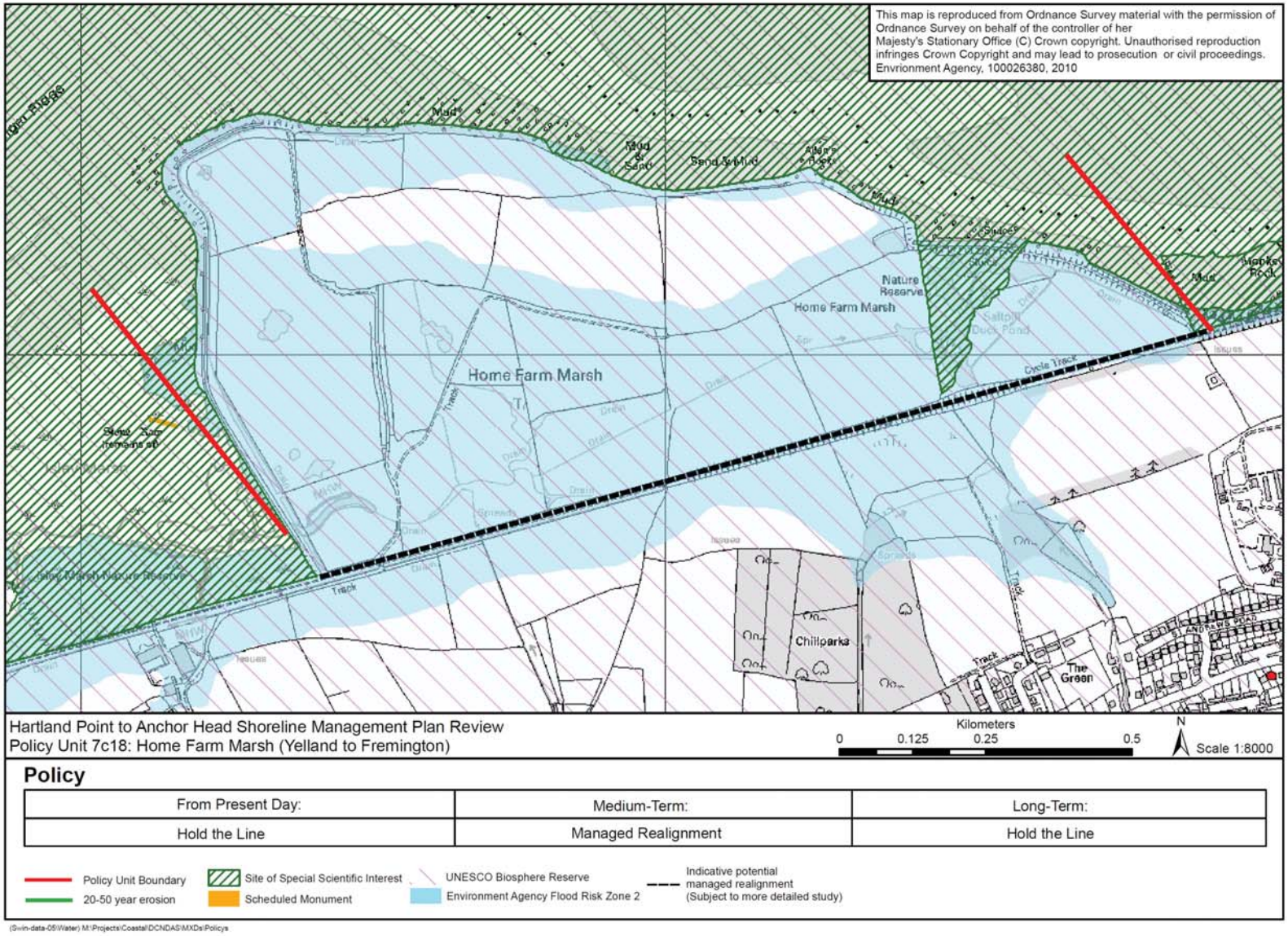

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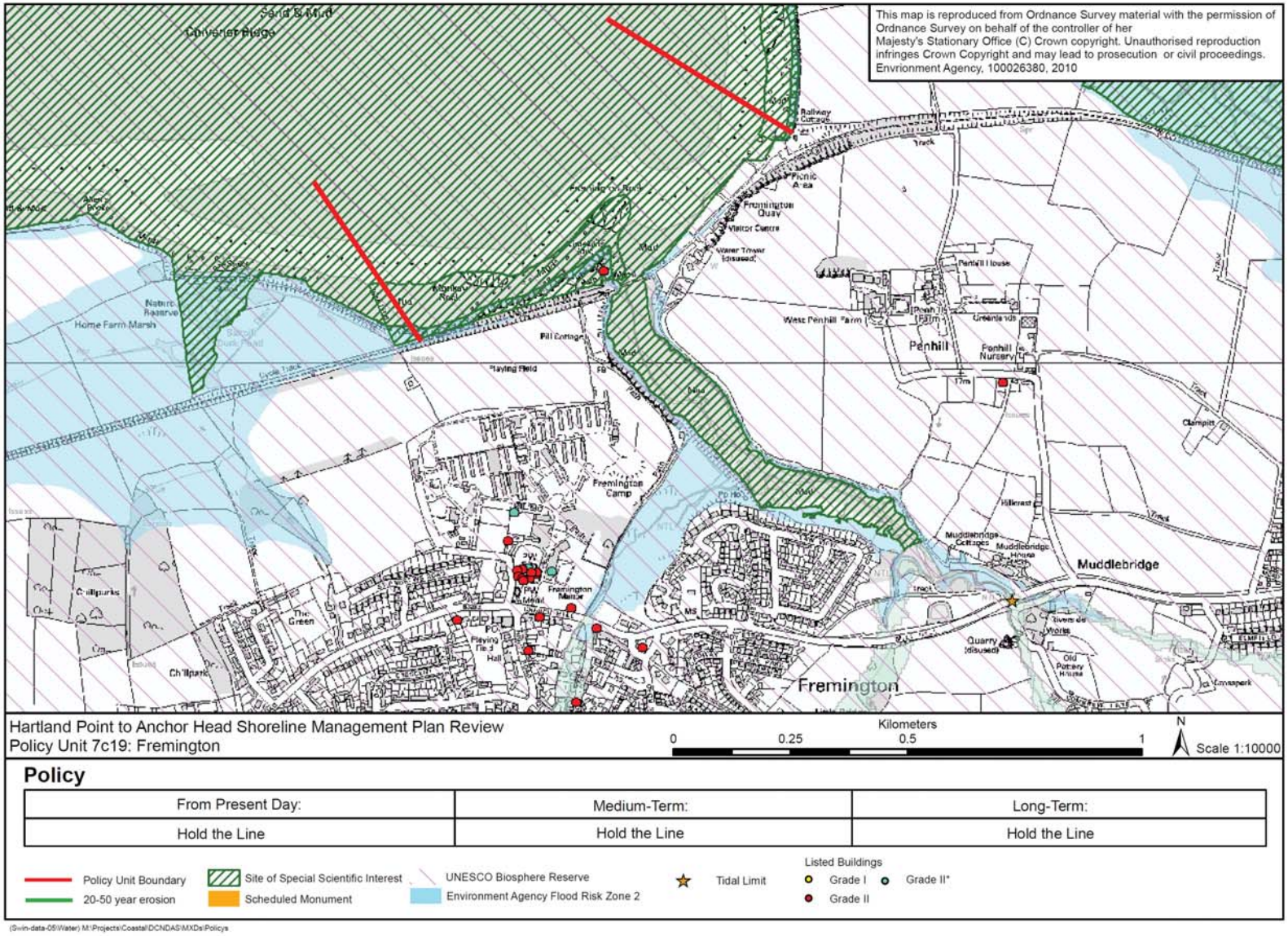

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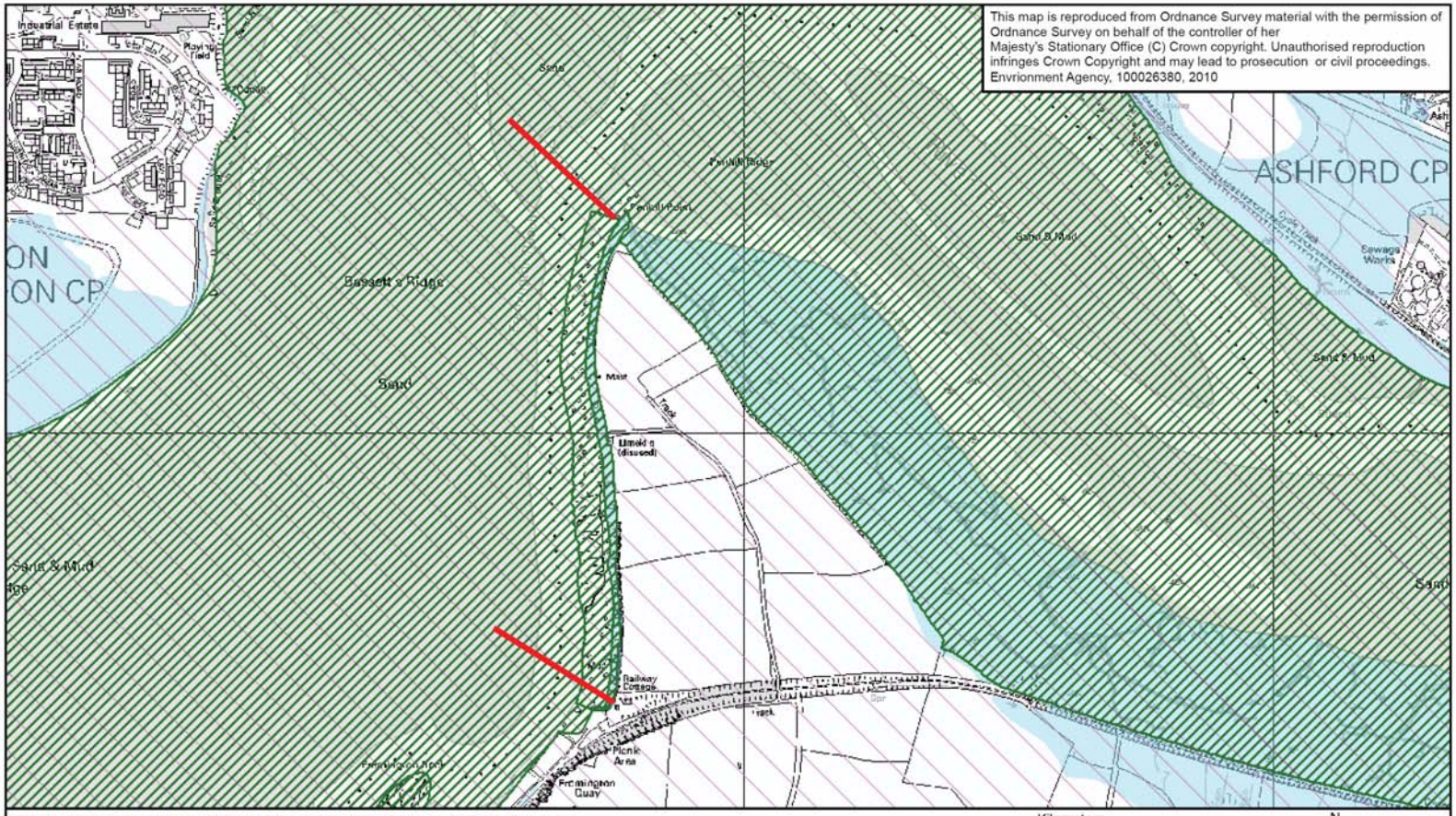

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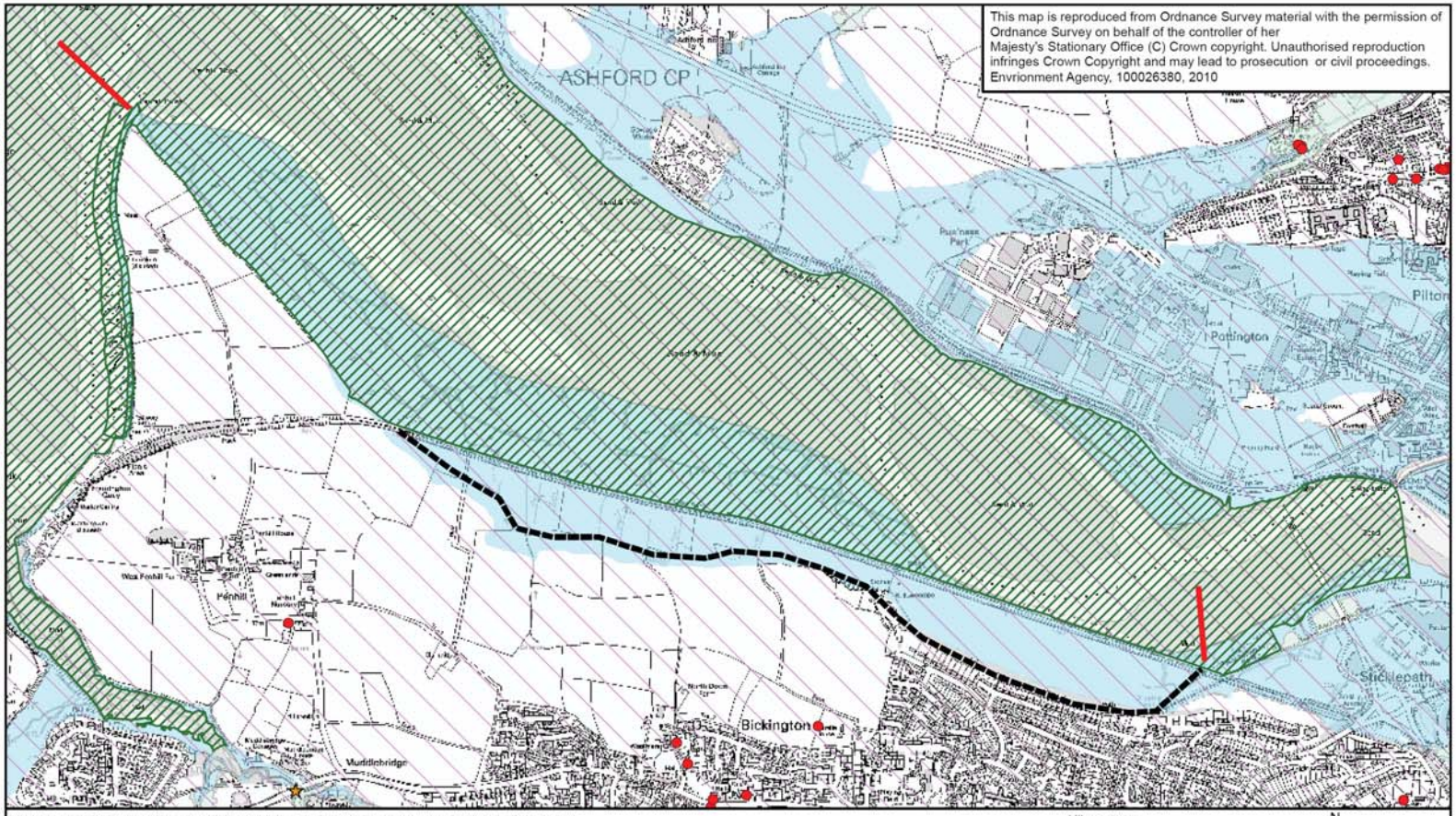

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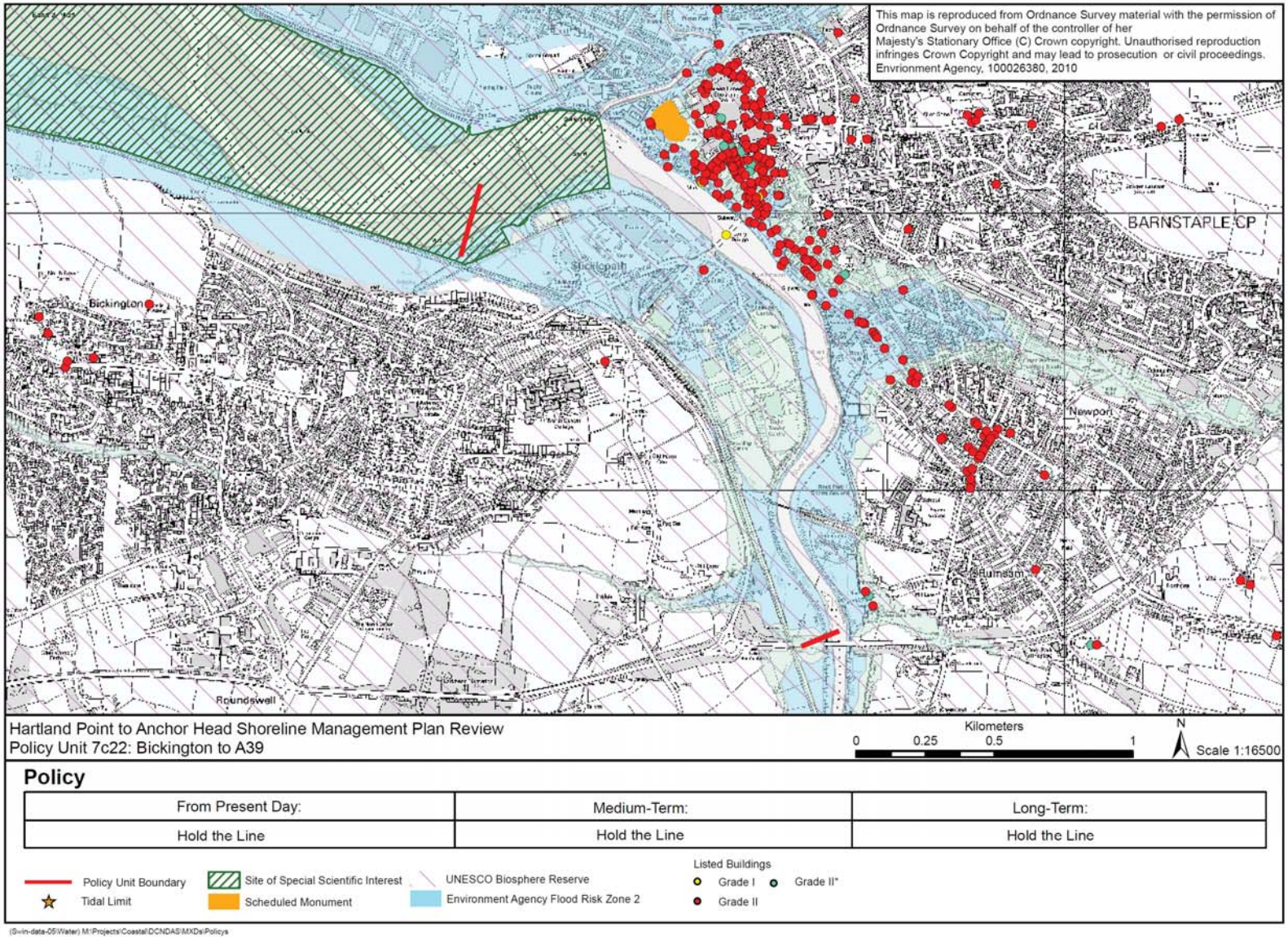

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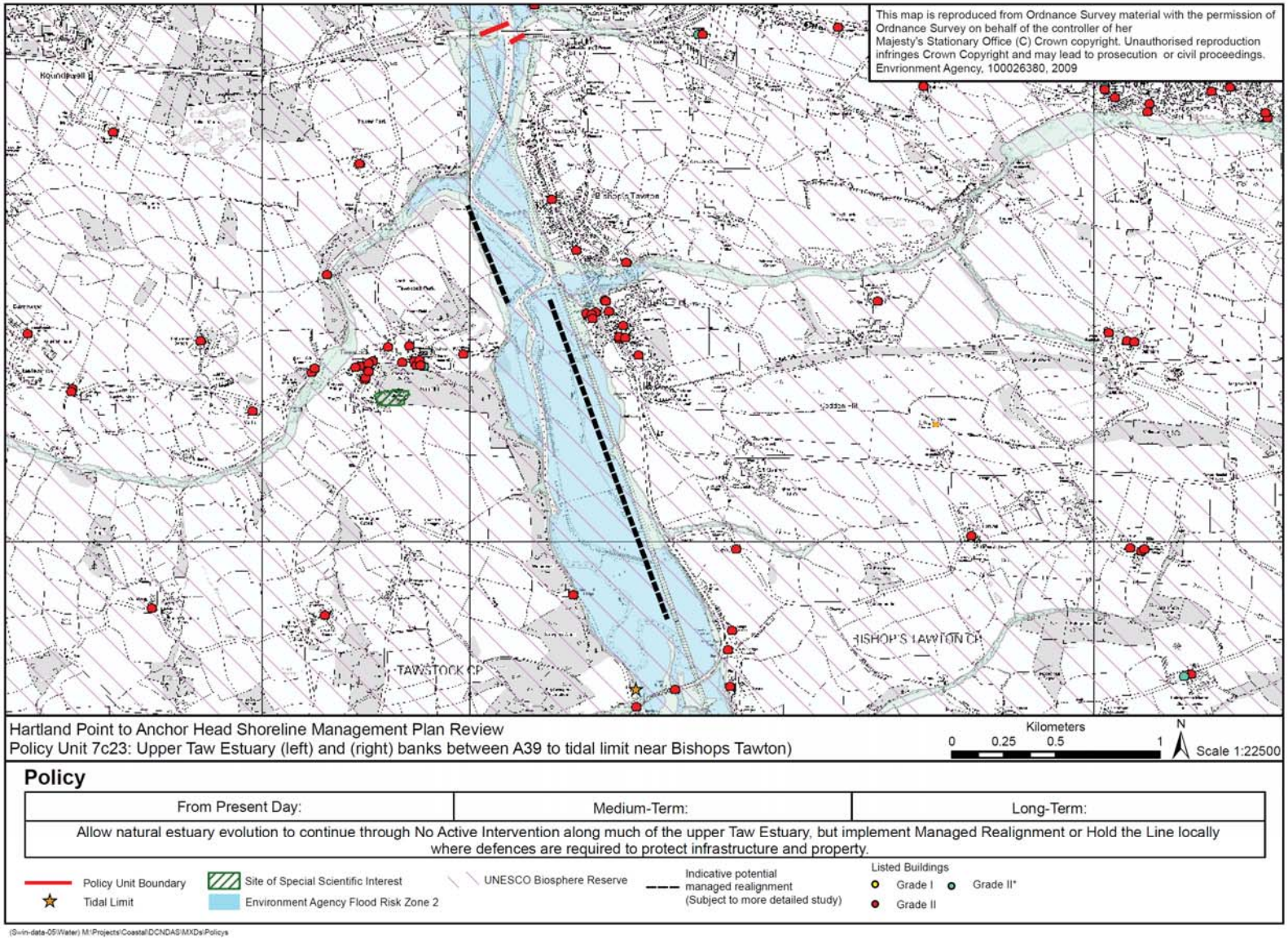

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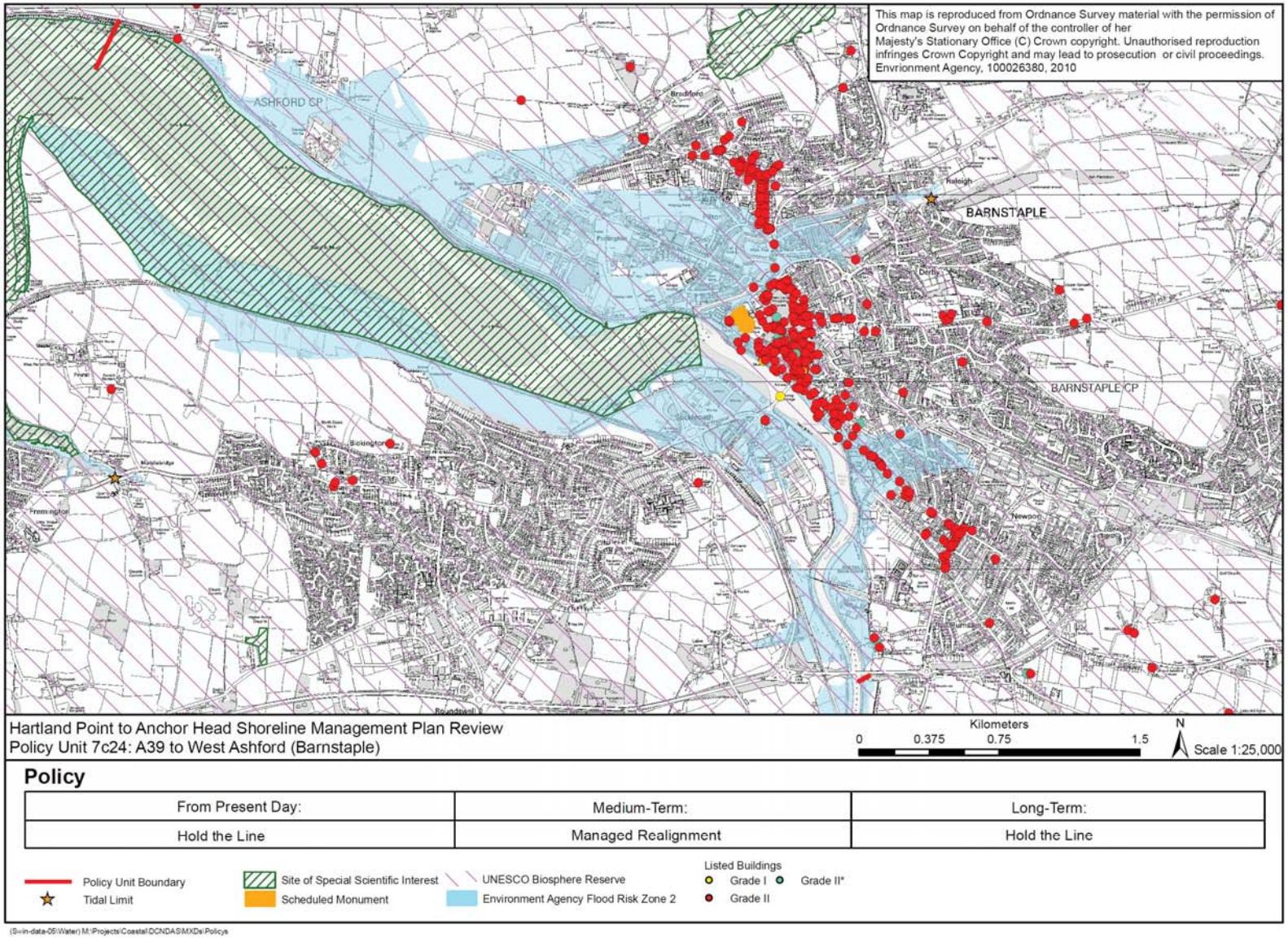

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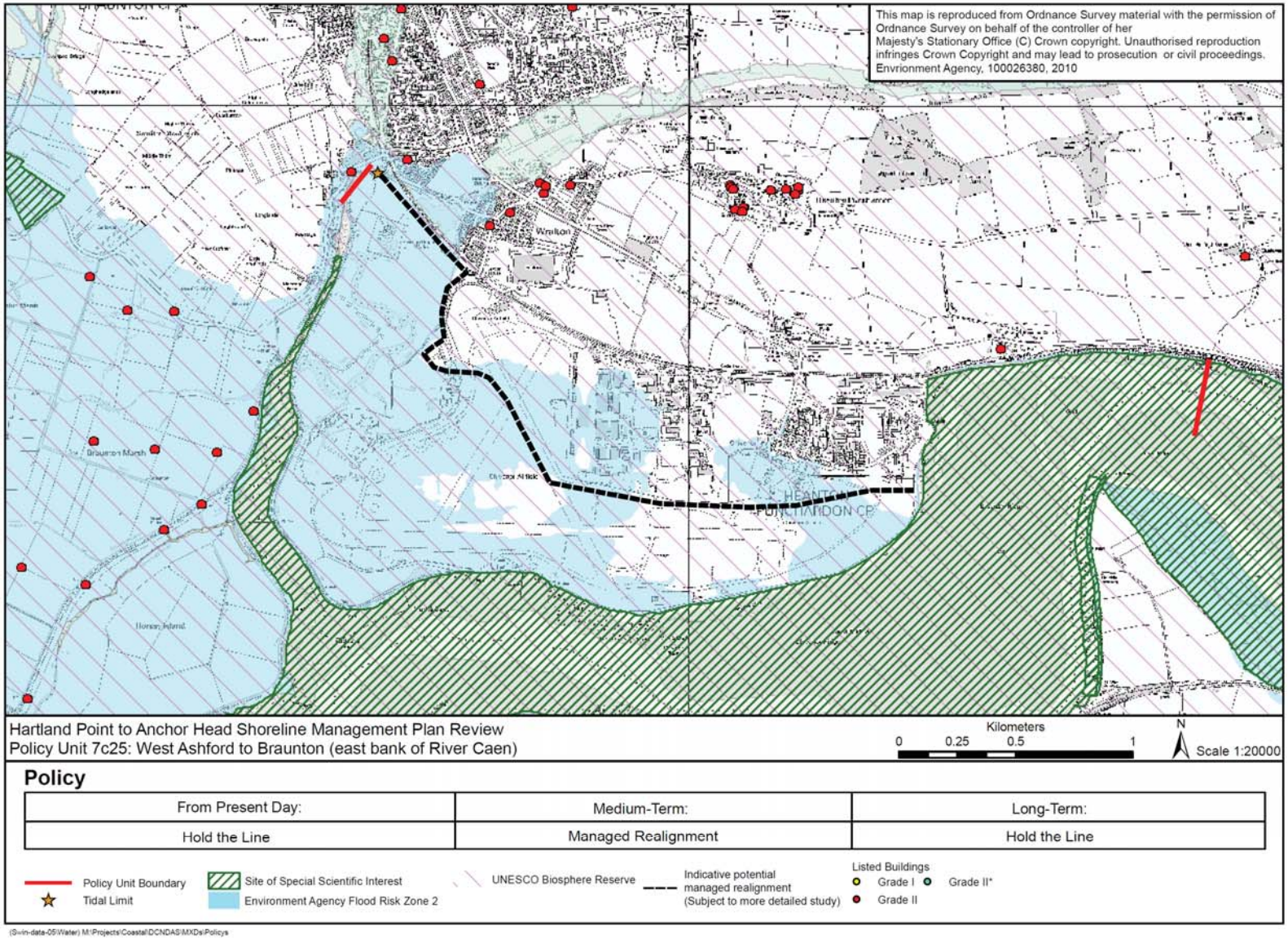

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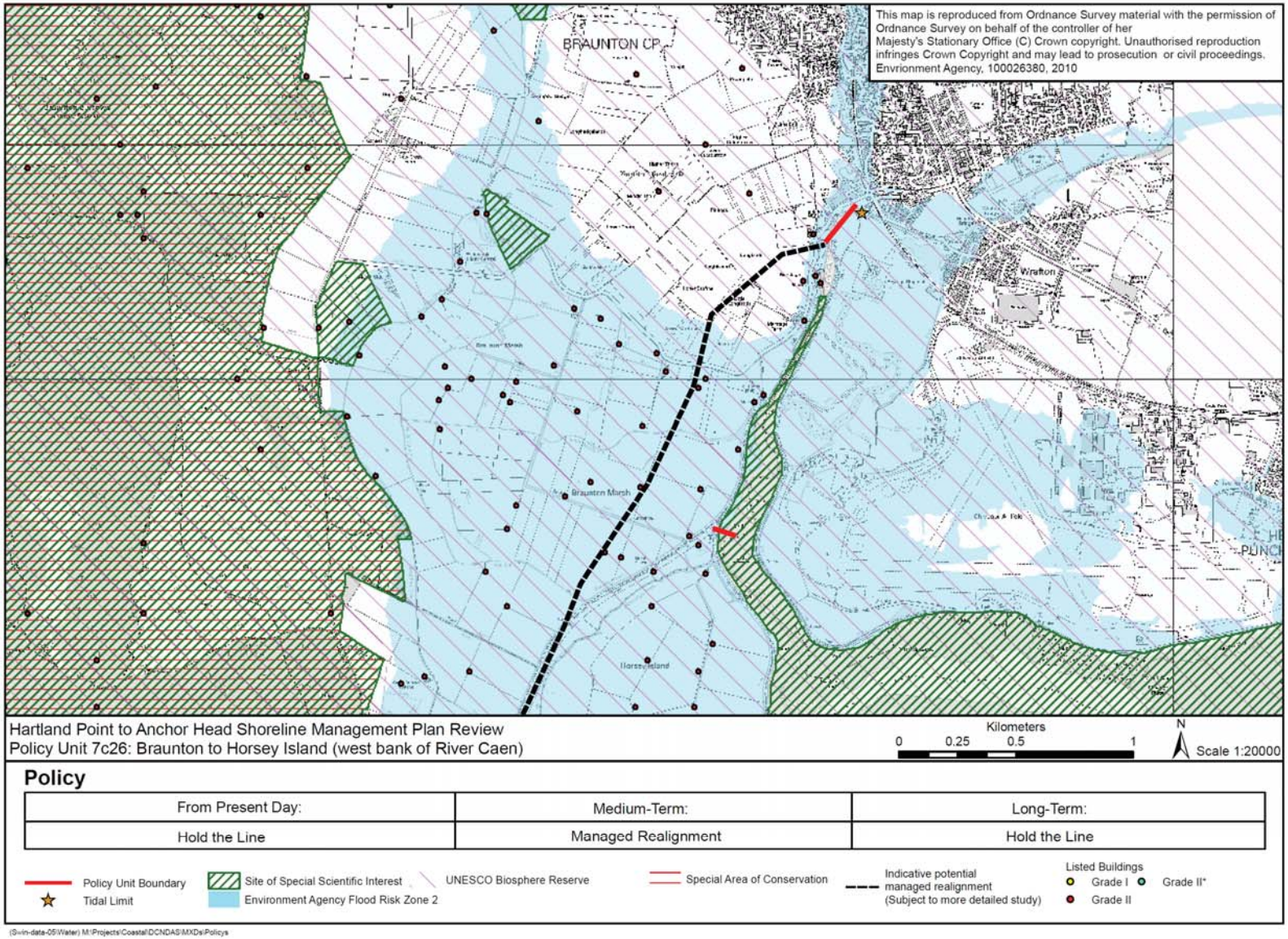

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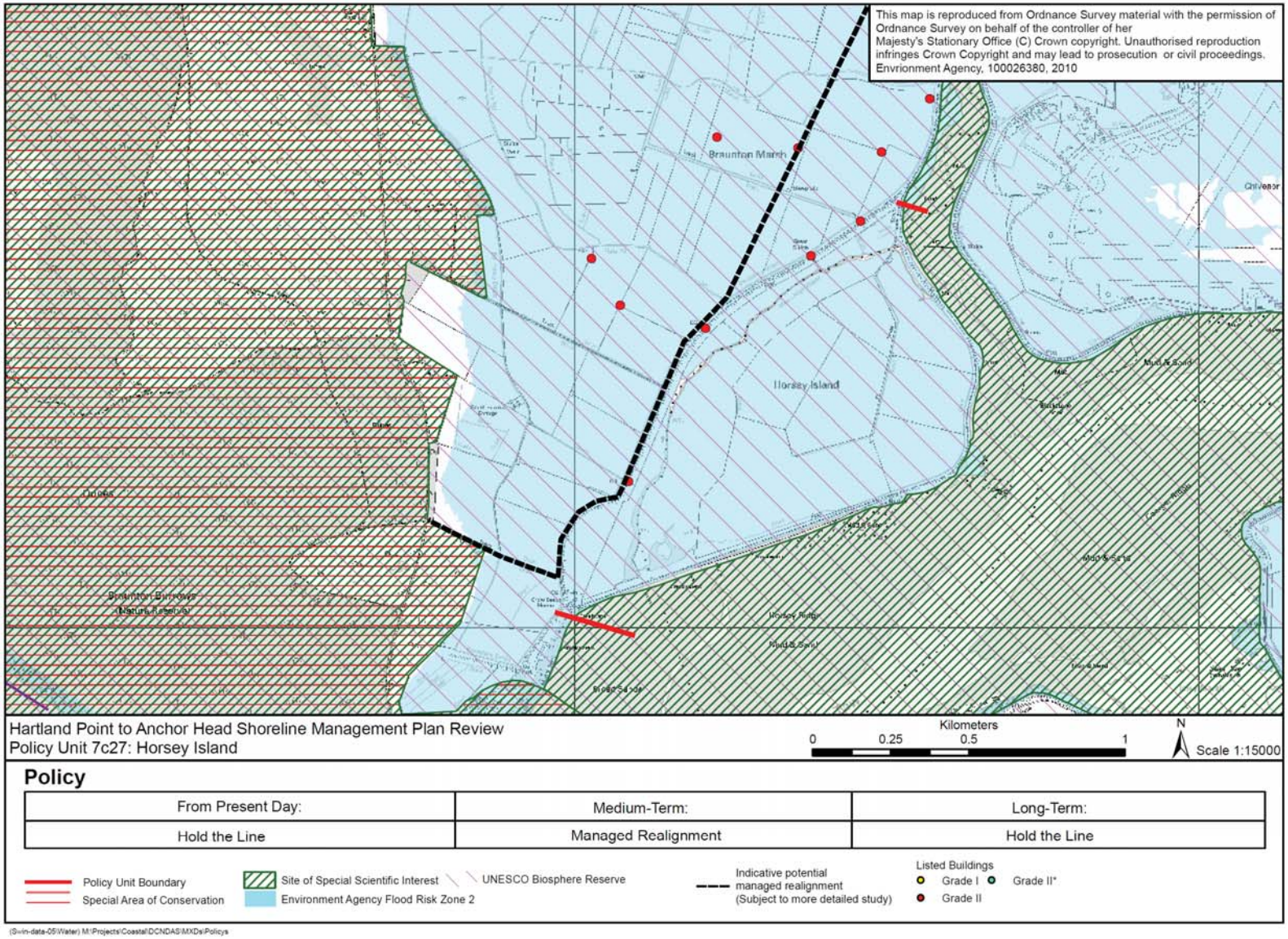

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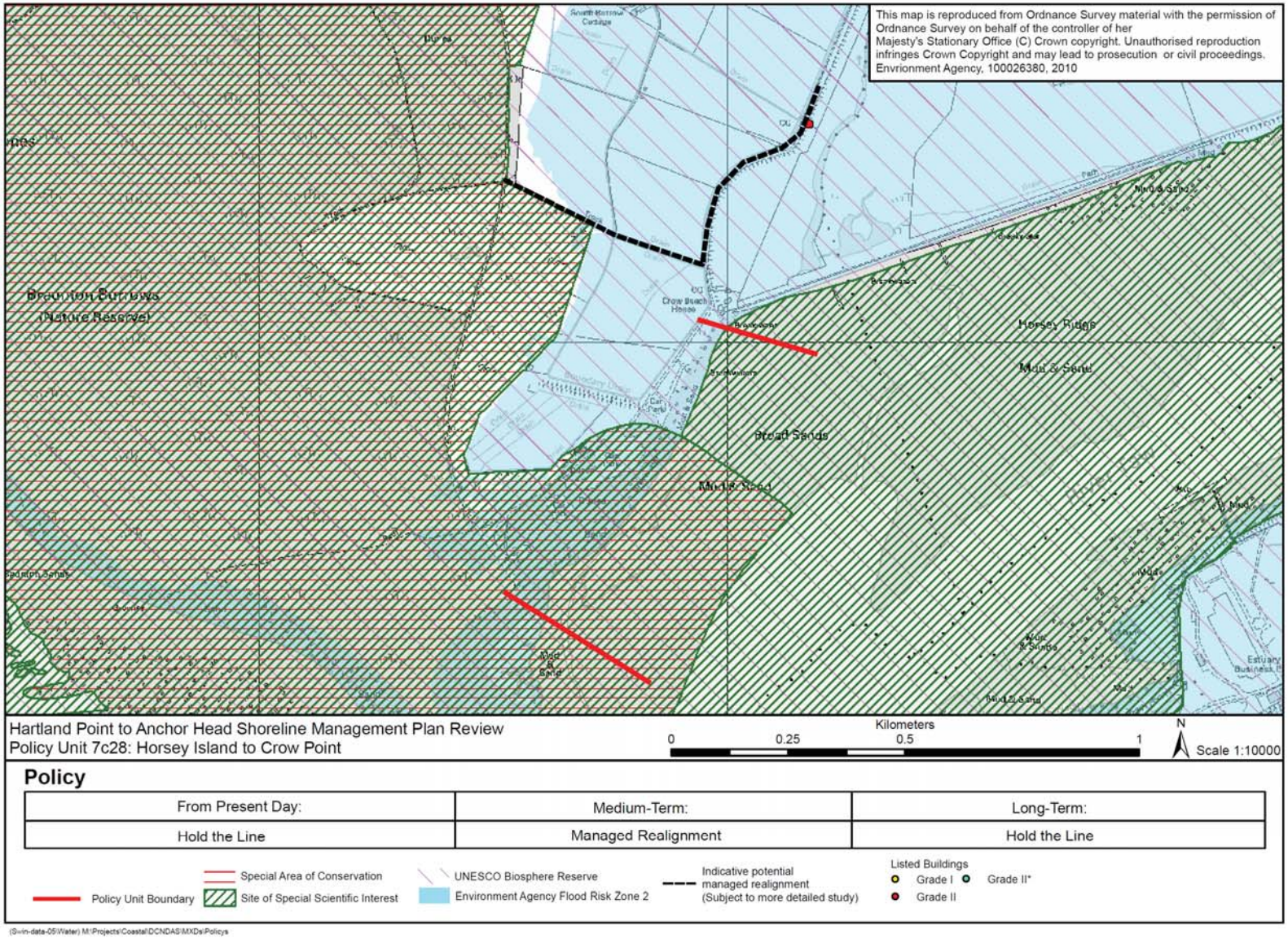

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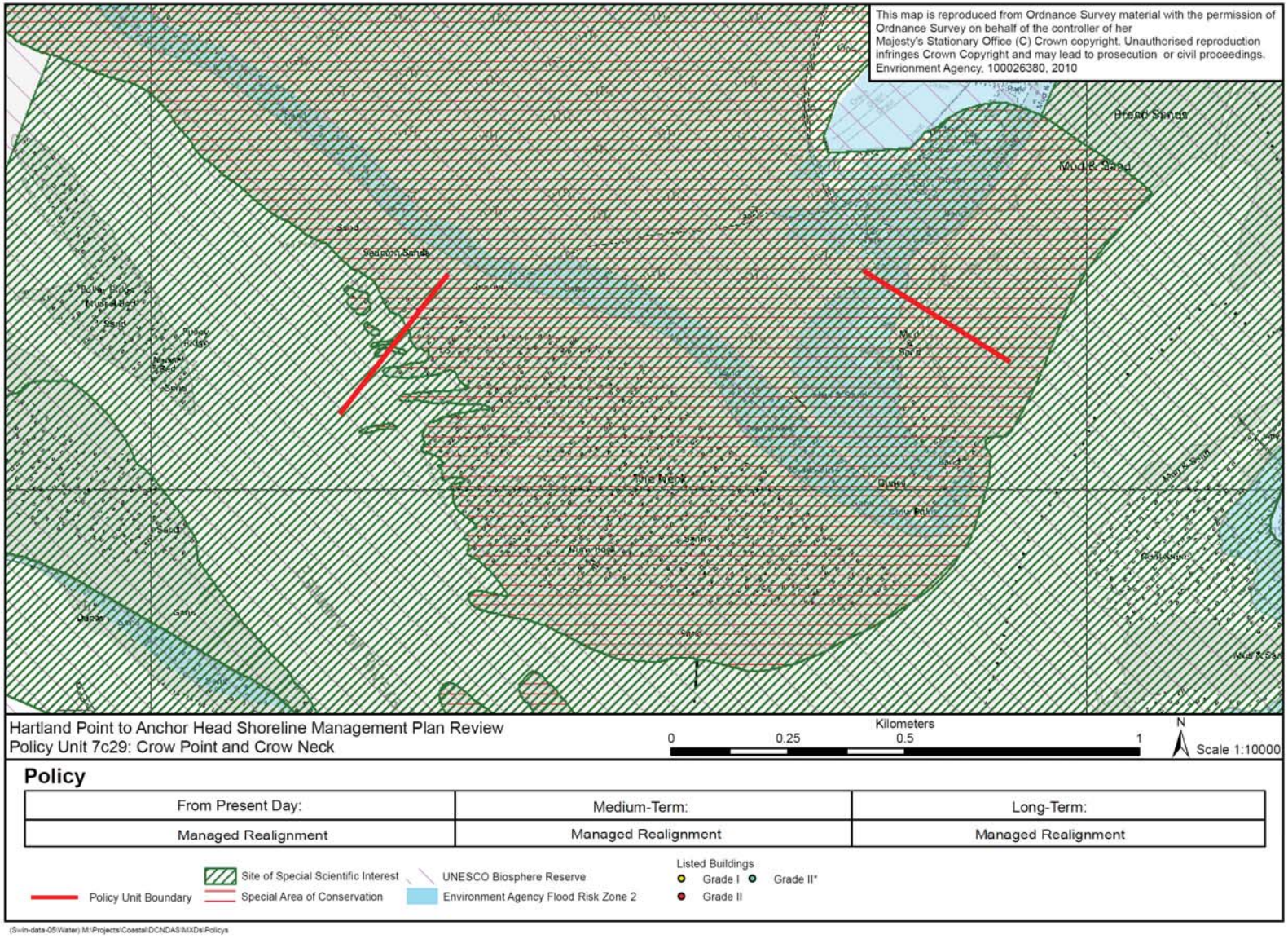

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Location reference:	**Braunton Burrows and Saunton Down**
Policy unit reference:	**7c30 and 7c31**

Summary of preferred plan recommendations and justification

Plan:

The long term plan is to promote a naturally-functioning coastline with the associated environmental and landscape benefits. Braunton Burrows dunes are expected to continue to provide a robust natural defence for the low-lying areas located behind the Burrows and as such no intervention is expected to be required. There could though be some risk to a number of non-designated archaeological features, depending upon extent of any future erosion along this stretch.

While the retention of defences at Saunton would not have any wider coastal processes implications, future provision of defence here is unlikely to attract public funds from the flood and coastal defence budget so any future defence provision would also depend on availability of alternative funds. If the coastal defence structures are not maintained, there would be an increased risk of flood and erosion to properties and tourism infrastructure at Saunton.

Preferred policies to implement plan:

From present day (short term):	The policy is to allow this predominantly undefended coast to continue to evolve naturally in order to conserve its internationally-designated features, through **no active intervention**. The existing short lengths of defences at the northern end of this section that protect a small number properties and other assets at Saunton against flood and erosion risk are likely to remain for much of this period. These are not thought to be having a detrimental impact on coastal dynamics.
Medium term:	The continued policy of **no active intervention** will allow this predominantly undefended coast to continue to evolve naturally. If not maintained, defences at Saunton are likely to fail during this period, with a resultant increase in erosion risk to local properties. The existing defences are not thought to have a detrimental impact on local processes, nor significantly affect the long term vision for this section of coast, therefore if alternative funds were available, maintenance of these short lengths of defences would be considered technically sustainable.
Longer term:	The long term policy for the continuation of **no active intervention**, which will allow this predominantly undefended coast to continue to evolve naturally. This plan will maintain the designated environmental features and the current value of the North Devon Area of Outstanding Natural Beauty and heritage coast. At Saunton, public funds are unlikely to be available for retaining defences; therefore the continued provision of protection along this frontage will depend upon decisions made in the short or medium term and the availability of alternative funding.

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Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7c30	**Braunton Burrows**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7c31	**Saunton Down**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion and maintain visitor access. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion and maintain visitor access. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion and maintain visitor access. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.

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Location reference:	Braunton Burrows and Saunton Down
Policy unit reference:	7c30 and 7c31

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	There are no management activities planned for this section of coast.	No known impact to property or Populations.	No known impact to Land Use, Infrastructure and Material Assets.	No known impact to Historic Environment	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding.	The beach at Saunton Sands will see a reduction in extent due to erosion.	No known impact on Water.	Natural processes will continue to develop the Braunton Burrows SAC, SSSI and UNESCO Biosphere Reserve Status' dune formations. However, the site may be impacted by defence decisions at Northam Burrows. Any future management decision is dependent of more detailed study in the short term to reduce the uncertainty Therefore this policy is considered further within the Habitats Regulations Assessment (Appendix J) If a policy is taken forward that may impact on the SAC, then a Habitats Regulations assessment would be required.
2025 to 2055	There are no management activities planned for this section of coast.	No known impact to property or Populations.	No known impact to Land Use, Infrastructure and Material Assets.	No known impact to Historic Environment	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding due to natural processes. If no private funding for defences there is potential for deteriorating coastal defence structures to become unsightly within AONB Heritage Coast and Coastal Preservation Area. If defences are privately funded larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.	As above.	No known impact on Water.	As above.
2055 to 2105	There are no management activities planned for this section of coast.	No known impact to property or Populations.	No known impact to Land Use, Infrastructure and Material Assets. However, there are potential losses to tourism infrastructure and	No known impact to Historic Environment	Minor changes in landscape within AONB, Heritage Coast and Coastal Preservation Area due to increased erosion and flooding.	As above.	No known impact on Water.	As above.

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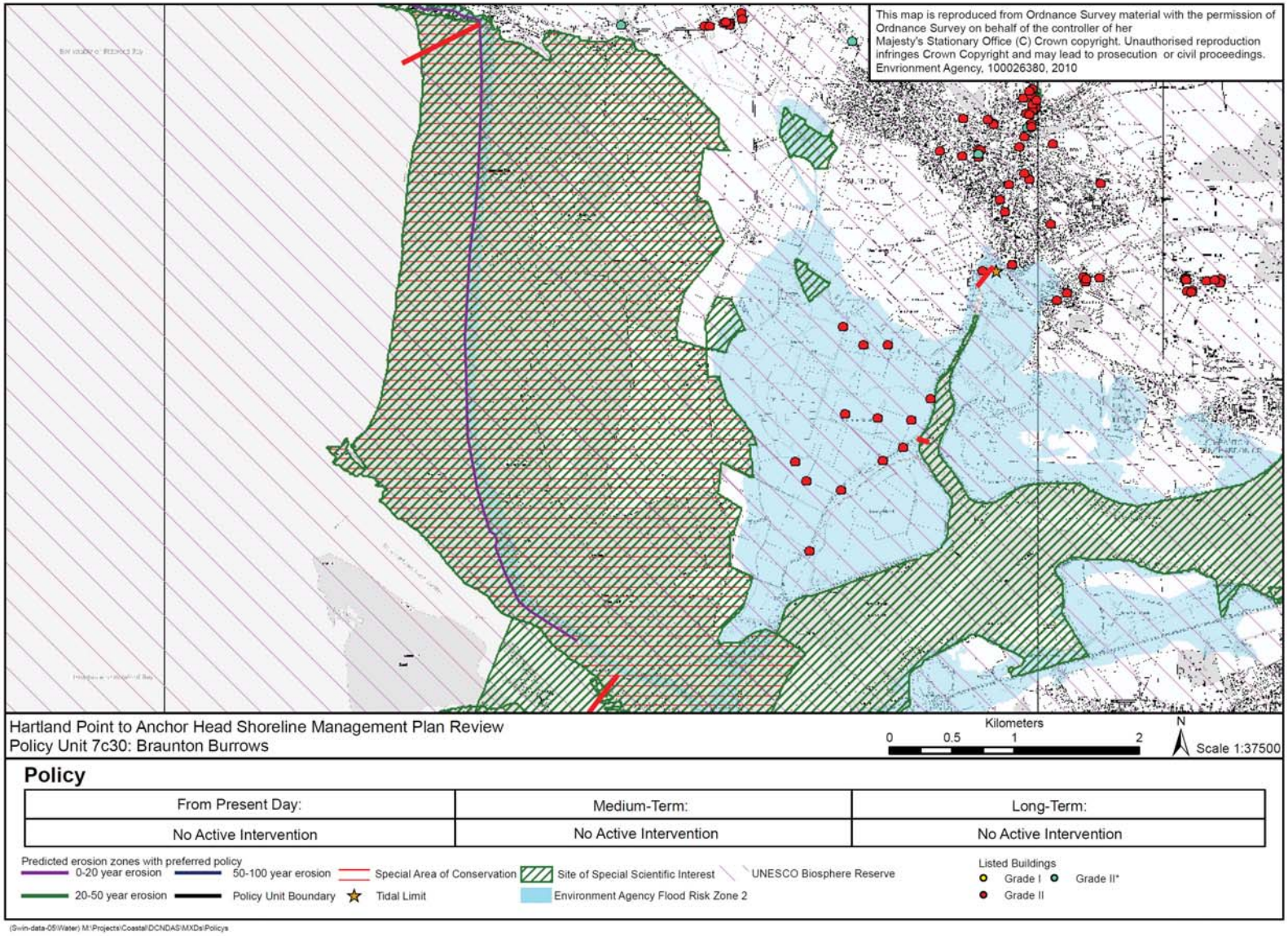
Location reference:	Braunton Burrows and Saunton Down							
Policy unit reference:	7c30 and 7c31							
Implications of the preferred plan for this location								
Time period	**Management activities**	**Human Health, Property and Population**	**Land use, infrastructure and material assets**	**Historic Environment**	**Landscape character and Visual Amenity**	**Geology and Soils**	**Water**	**Biodiversity, flora and fauna**
			access.		Potential for deteriorating coastal defence structures to become unsightly within AONB, Heritage Coast and Coastal Preservation Area. Larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.			



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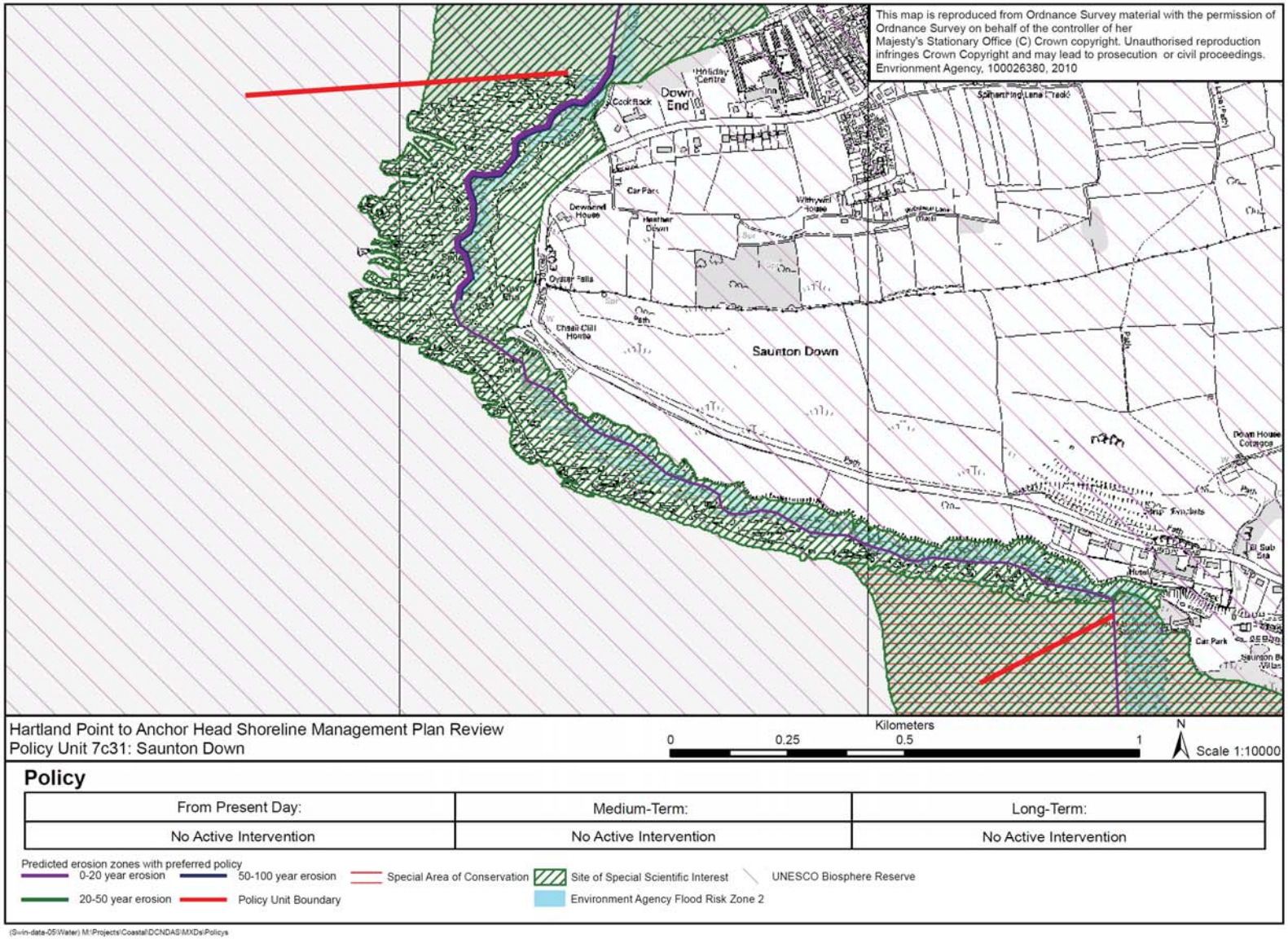

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Location reference:	**Croyde Bay**
Policy Unit reference:	**7c32 to 7c34**

Summary of preferred plan recommendations and justification

Plan:

The long term plan for this area of largely undefended coast, which encompasses the largely self-contained embayment of Croyde Bay, is to continue to allow the coast to evolve naturally. This will have environmental benefits through allowing continued erosion to maintain important geological exposures, and will conserve the important landscape character of the area. There could be a risk of erosion to a number of non-designated archaeological features, depending upon extent of any future erosion that may occur.

There are currently short stretches of private defences which protect a few properties, and while retention of these is unlikely to attract public funding, continued protection at these locations is unlikely to be detrimental to the long term evolution of this coastline.

Preferred policies to implement plan:

From present day (short term):	The policy from the present day is to allow natural processes to take place, i.e. allow coastal retreat, through a policy of **no active intervention**. Localised management activities are currently undertaken within Croyde Bay dunes to address erosion caused by recreation, and this could continue under this policy. At the northern end of Croyde Bay there are short lengths of defence which provide protection to a few properties. These are likely to remain during much of this period if maintained, but it is unlikely that maintenance would attract public funding so alternative funds would be required.
Medium term:	**No active intervention** is planned, which assumes that local-scale, low-key dune management activities would continue to address issues associated with recreation. The defences at the northern end of Croyde Bay would be at risk from failure during this period. Improvement would rely on alternative funding but would not be detrimental to the long term plan, as replacement with defences similar to those currently present will not have a significant impact on the coastal dynamics. Should the defences not be retained there would be increased risk of flooding and erosion to a few properties.
Longer term:	In the long term the recommended policy is for continuation of no active intervention, although low-key dune management within Croyde Bay dunes would be allowed. There are no assets at risk along much of the frontage and this policy will maintain the value of the North Devon Area of Outstanding Natural Beauty and heritage coast and support the North Devon UNESCO Biosphere Reserve natural processes, while allowing coastal erosion to continue, thereby maintaining nationally important geological exposures. At the northern end of Croyde Bay retention of defences will rely on decisions made during the short and medium terms and the availability of funding.

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Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7c32	**Croyde Sands**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7c33	**Middleborough Hill (Croyde Bay north)**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.
7c34	**Middleborough Hill (Croyde Bay north) to Baggy Point**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.

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Location reference:	Croyde Bay
Policy unit reference:	7c32 to 7c34

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	There are no management activities planned for this section of coast.	Loss of some properties north of Croyde.	Roads, amenities and infrastructure are at risk from fluvial flooding at Croyde Village. The B3231, minor roads and footpaths on Middleborough Hill are at risk from erosion. No reduction in beach width or loss of cafes, camping parks. Tourist infrastructure and amenities at risk from flooding at Croyde. Damage to these assets will impact on the tourism industry	No known impact on Historic Environment.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding.	Continuation of natural processes is key to the integrity of Saunton to Baggy Point Coast SSSI., This scenario (NAI) will continue to maintain these geological features	No known impact on Water.	Continuation of natural processes is key to the integrity of Saunton to Baggy Point Coast SSSI., This scenario (NAI) will continue to maintain these geological features No known impact on Biodiversity, Flora and Fauna.
2025 to 2055	There are no management activities planned for this section of coast.	Loss of some properties north of Croyde.	Roads, amenities and infrastructure are at risk from fluvial flooding at Croyde Village. The B3231, minor roads and footpaths on Middleborough Hill are at risk from erosion. No reduction in beach width or loss of cafes, camping parks. Tourist infrastructure and amenities at risk from flooding at Croyde. Damage to these assets will impact on the tourism industry	No known impact on Historic Environment.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding. If defences are not privately funded there is potential for deteriorating coastal defence structures to become unsightly within AONB Heritage Coast and Coastal Preservation Area. If defences are privately funded, larger or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.	As above.	No known impact on Water.	No known impact on Biodiversity, Flora and Fauna.
2055 to 2105	There are no management activities planned for this section of coast.	Loss of some properties north of Croyde.	Roads, amenities and infrastructure are at risk from fluvial flooding at Croyde Village. The B3231, minor roads and footpaths on Middleborough Hill are at risk from erosion. Reduction in beach width and potential or loss of cafes, camping parks.	No known impact on Historic Environment.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding. If defences are not privately funded there is potential for deteriorating coastal defence structures to become unsightly within AONB Heritage Coast and Coastal Preservation Area.	As above.	No known impact on Water.	No known impact on Biodiversity, Flora and Fauna.

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Location reference:	Croyde Bay
Policy unit reference:	7c32 to 7c34

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
			Tourist infrastructure and amenities at risk from flooding at Croyde. Damage to these assets will impact on the tourism industry		If defences are privately funded, larger or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.			

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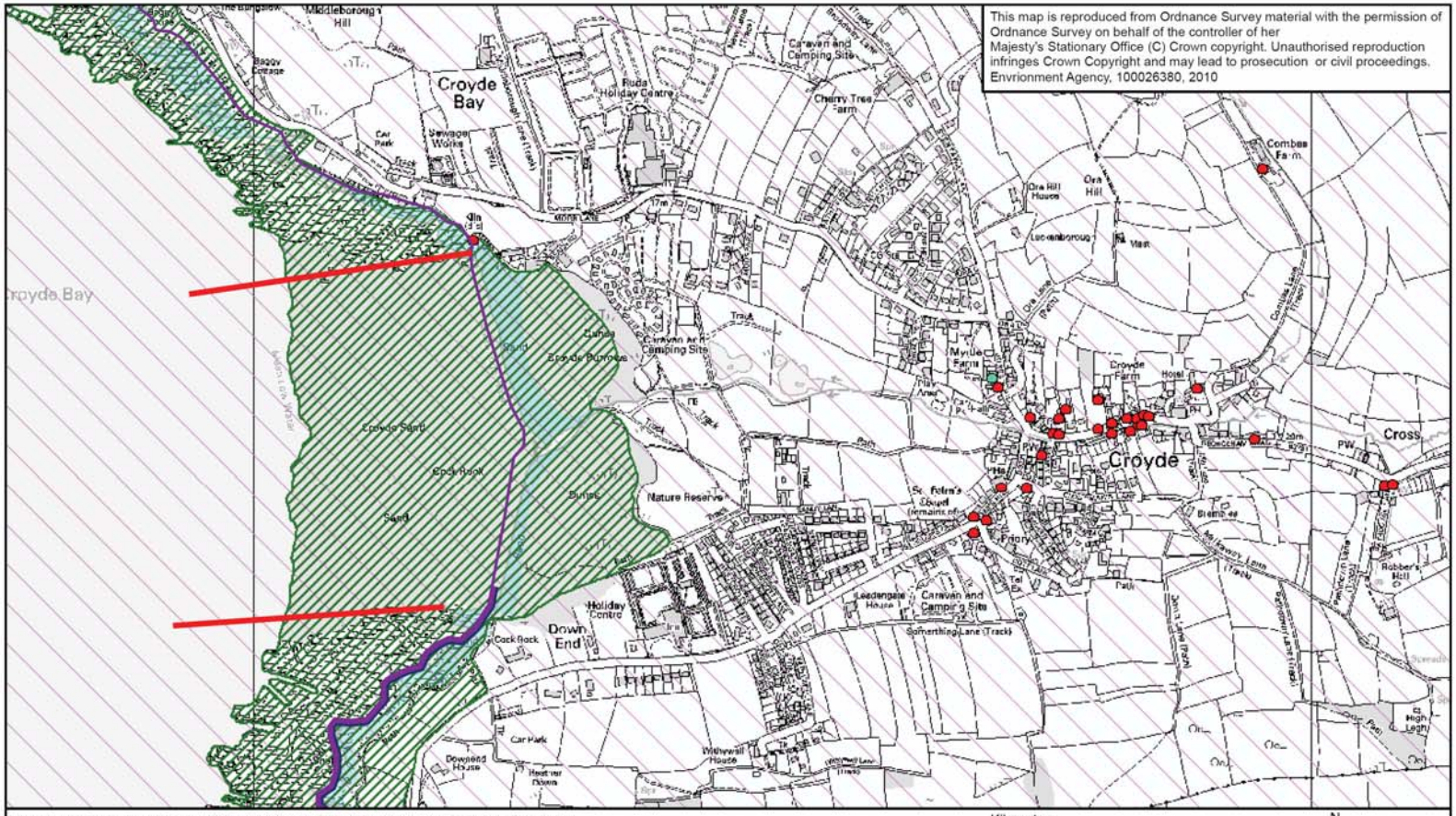

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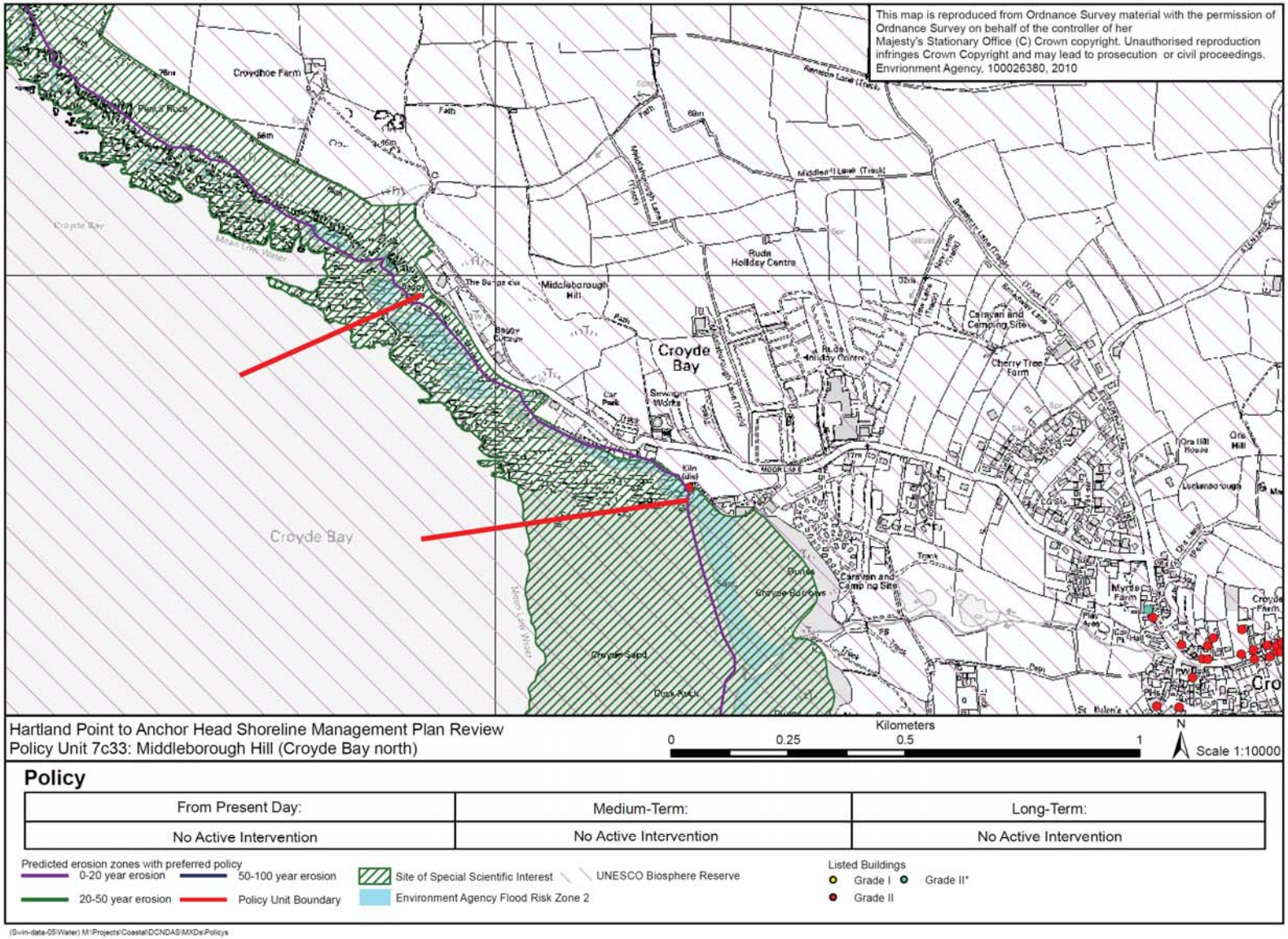

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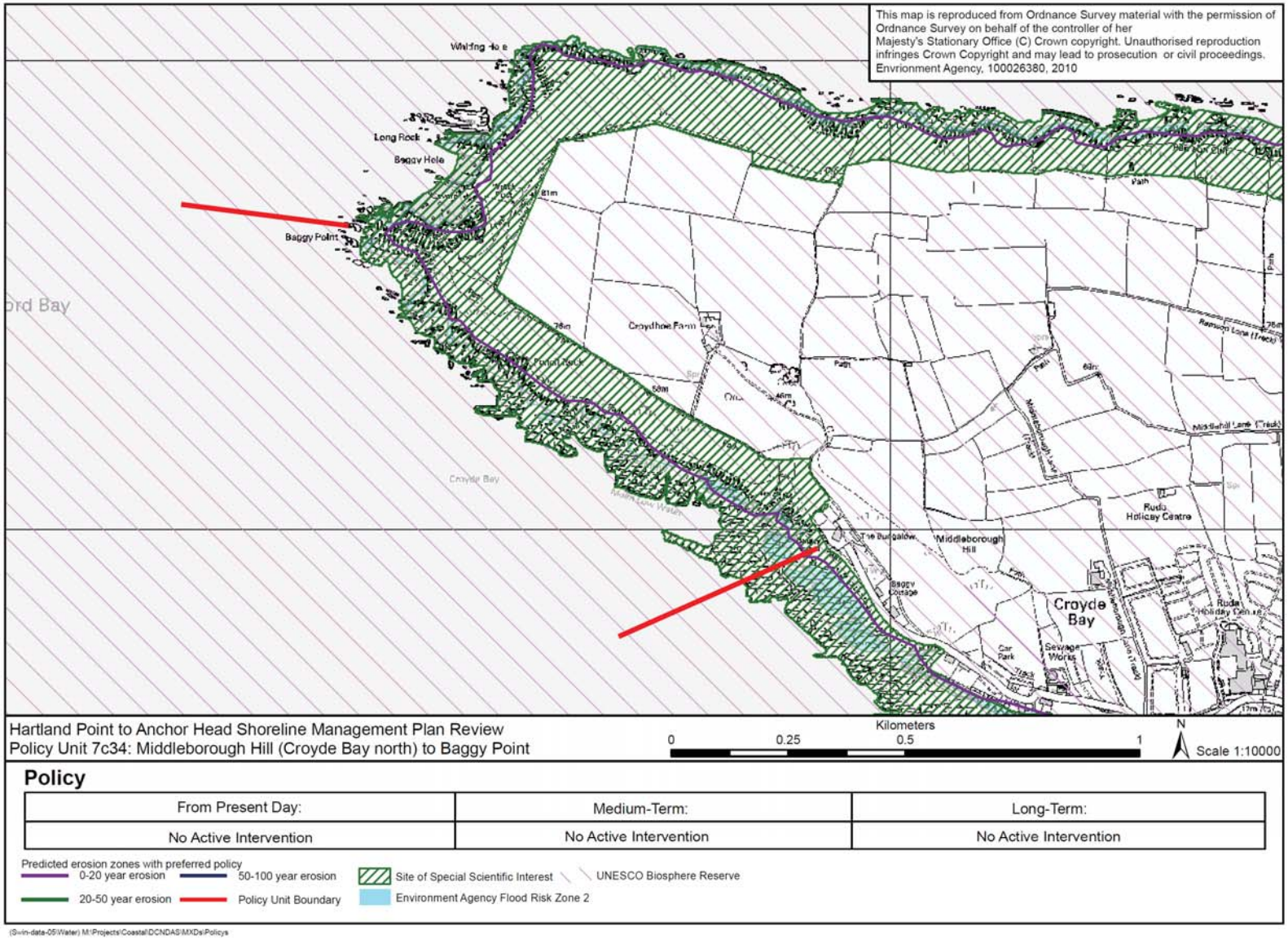

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Location reference:	**Woolacombe Bay**
Policy unit reference:	**7c35 to 7c39**

Summary of preferred plan recommendations and justification

Plan:

The long term plan for this area of largely undefended coast, which encompasses the largely self-contained embayment of Woolacombe Bay, is to continue to allow the coast to evolve naturally, with minimal human interference. This will have environmental benefits through allowing continued erosion of important geological exposures and will also conserve the important landscape character of the area. This plan may result in the loss of a number of cliff-top assets, such as the caravan park at Vention, sections of the South West Coast Path and a number of non-designated archaeological features. The car park at Woolacombe Beach could also be impacted in the long term and adaptation of the coast to accommodate future coastal change whilst retaining tourist assets in this area is likely to be required.

There are currently short stretches of private defences at Vention which protect a few properties, and while retention of these is unlikely to attract public funding, continued protection of these locations is unlikely to be detrimental to the long term plan for this coastline.

Preferred policies to implement plan:

From present day (short term):	In the short term the policy is to allow the natural evolution of this undefended section of coast through **no active intervention**. Under this policy it is assumed that localised dune management would still be undertaken, as necessary, to address issues relating to damage resulting from recreational pressures. The short lengths of defence at the southern end of Woolacombe Bay provide local protection against flood and erosion risk to people, property and infrastructure at Vention. Maintenance of these defences would not attract public funds from the flood and coastal defence budget but if alternative funds were available, this maintenance would not be considered detrimental to the overall plan. Some of these defences may start to fail which would increase the risk of erosion to local properties. Construction of new defences such as groynes or other shoreline control structures would interrupt sediment transport and affect other parts of Woolacombe Bay, so would not be supported by the plan. At the northern end of this frontage it may be necessary to introduce localised defences to protect highway and car park infrastructure if they become threatened by erosion and cannot be relocated inland. It is unlikely that this would attract public (flood and coastal defence budget) funds so alternative funds would be required. It will also be necessary before undertaking any defence works to demonstrate that they do not have an adverse impact upon other parts of Woolacombe Bay.
Medium term:	A **no active intervention** policy will be implemented to allow the natural evolution of this coastline. It is assumed, however, that local-scale, low key dune management activities would continue as necessary to address issues associated with recreation. Many of the defences at the southern end of the Bay would be at risk from failure during this period and require replacement. This would rely on alternative funding. Any plans for new structures would therefore also require and environmental impact assessment. If defences are not retained there would be localised increased risk to a few properties and beach access. To the north of this frontage, localised defences to protect highway and car

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	park infrastructure may be required if this issue has not been addressed in the shorter term. The same conditions on funding and further assessment of impacts would remain.
Longer term:	No change in policy from **no active intervention** is proposed, accepting this allows for localised dune management within the dunes. There are no assets at risk along much of the frontage and this policy will maintain the value of the North Devon Area of Outstanding Natural Beauty and heritage coast, while allowing coastal erosion to continue, maintaining nationally important geological exposures. There may be potential impacts on a number of non-designated archaeological features. At the southern and northern ends of the bay, retention of defences will rely on decisions made during the short and medium terms and the availability of funding.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7c35	**Baggy Point to Napps Cliff (Putsborough)**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7c36	**Putsborough Sands and Vention**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.
7c37	**Vention to Woolacombe Beach (Woolacombe Sands)**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7c38	**Woolacombe Beach**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7c39	**Woolacombe to Morte Point**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.

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Location reference:	Woolacombe Bay
Policy unit reference:	7c34 to 7c38

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	There are no management activities planned for this section of coast.	Residential properties are at risk from fluvial flooding at Woolacombe.	Roads, amenities and infrastructure are at risk from fluvial flooding at Woolacombe. No reduction in beach width or loss of cafes, camping parks. Tourist infrastructure and amenities are at risk from flooding at Woolacombe. Damage to these assets will impact on the tourism industry. Small areas of Grade 3 agricultural land and above are at risk from flooding.	Sections of the Conservation Area at Woolacombe are at risk from flooding. No other known impact on Historic Environment i.e. Listed Buildings or Scheduled Monuments.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding.	Continuation of natural processes is key to the integrity of Barricane beach SSSI and Mill Rock SSSI, This scenario (NAI) will continue to maintain these geological features. There will be a partial dune loss at Woolacombe Bay due to erosion.	No known impact on Water.	No changes in Heath and coastal cliffs of the Morte Point SSSI and No changes in designated habitats of Middleborough Hill and Woolacombe Down CWS due to erosion.
2025 to 2055	There are no management activities planned for this section of coast.	Residential properties are at risk from fluvial flooding at Woolacombe.	Roads, amenities and infrastructure are at risk from fluvial flooding at Woolacombe. No reduction in beach width or loss of cafes, camping parks. Tourist infrastructure and amenities are at risk from flooding at Woolacombe. Damage to these assets will impact on the tourism industry. Small areas of Grade 3 agricultural land and above are at risk from flooding.	As above.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding. Potential for deteriorating coastal defence structures to become unsightly within AONB Heritage Coast and Coastal Preservation Area. Larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.	As above.	No known impact on Water.	As above.
2055 to 2105	There are no management activities planned for this section of coast.	Residential properties are at risk from fluvial flooding at Woolacombe.	Roads, amenities and infrastructure are at risk from fluvial flooding at Woolacombe. Tourist infrastructure and amenities at risk from flooding at Woolacombe. Loss of the caravan park at Putsborough Sands, Slipway, and sections of the South West Coastal Path due to	As above.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding. Potential for deteriorating coastal defence structures to become unsightly within AONB Heritage Coast and Coastal Preservation Area. Larger defences or more structures may be required to	As above.	No known impact on Water.	As above.

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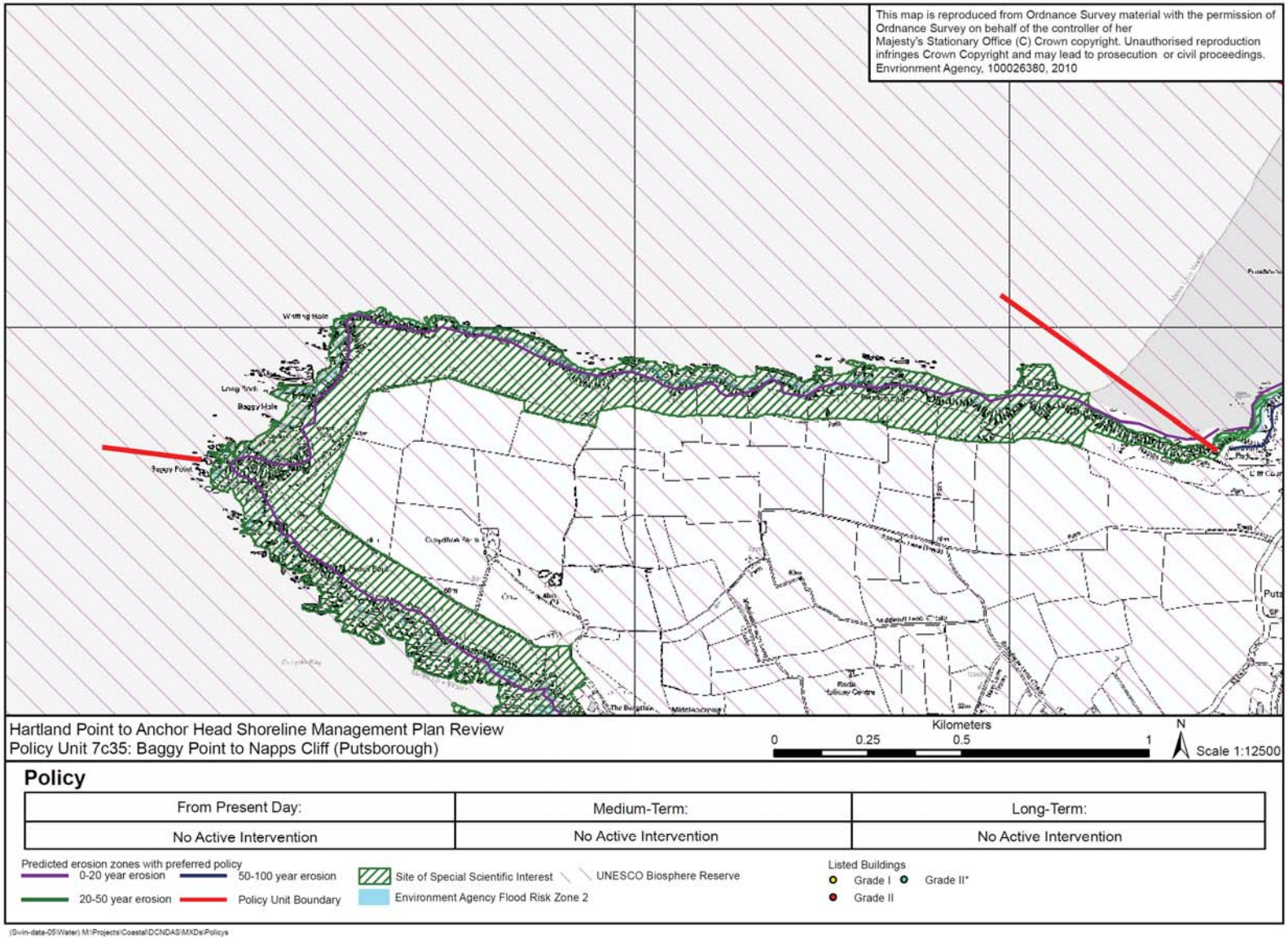
Location reference:	Woolacombe Bay							
Policy unit reference:	7c34 to 7c38							
Implications of the preferred plan for this location								
Time period	**Management activities**	**Human Health, Property and Population**	**Land use, infrastructure and material assets**	**Historic Environment**	**Landscape character and Visual Amenity**	**Geology and Soils**	**Water**	**Biodiversity, flora and fauna**
			erosion. There is also a reduction in beach width at Rockham Bay, Putsborough Woolacombe and Barricane Bay due to erosion. The loss of these assets will impact on the tourist industry. Small areas of Grade 3 agricultural land and above are at risk from flooding.		maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.			



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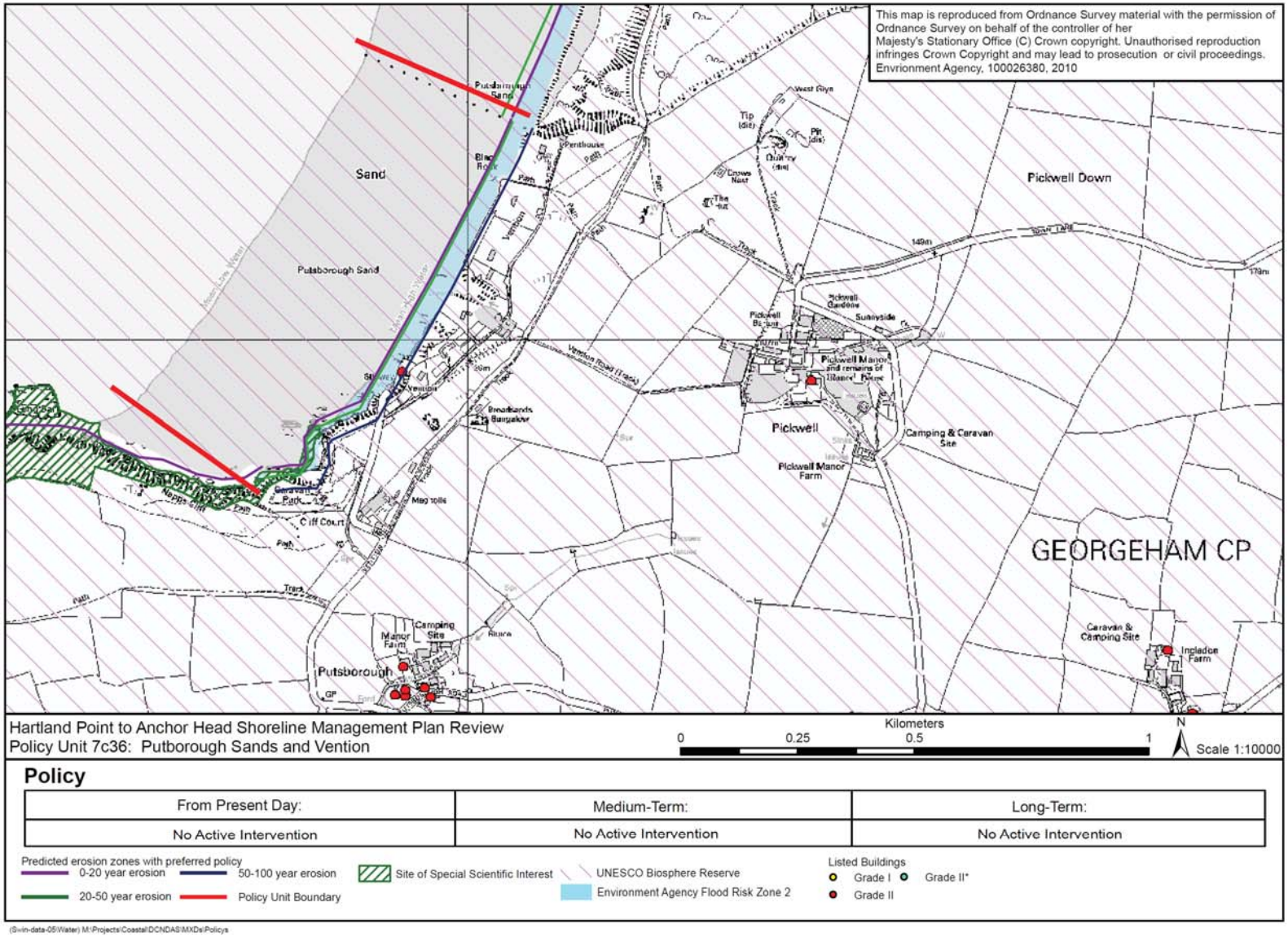

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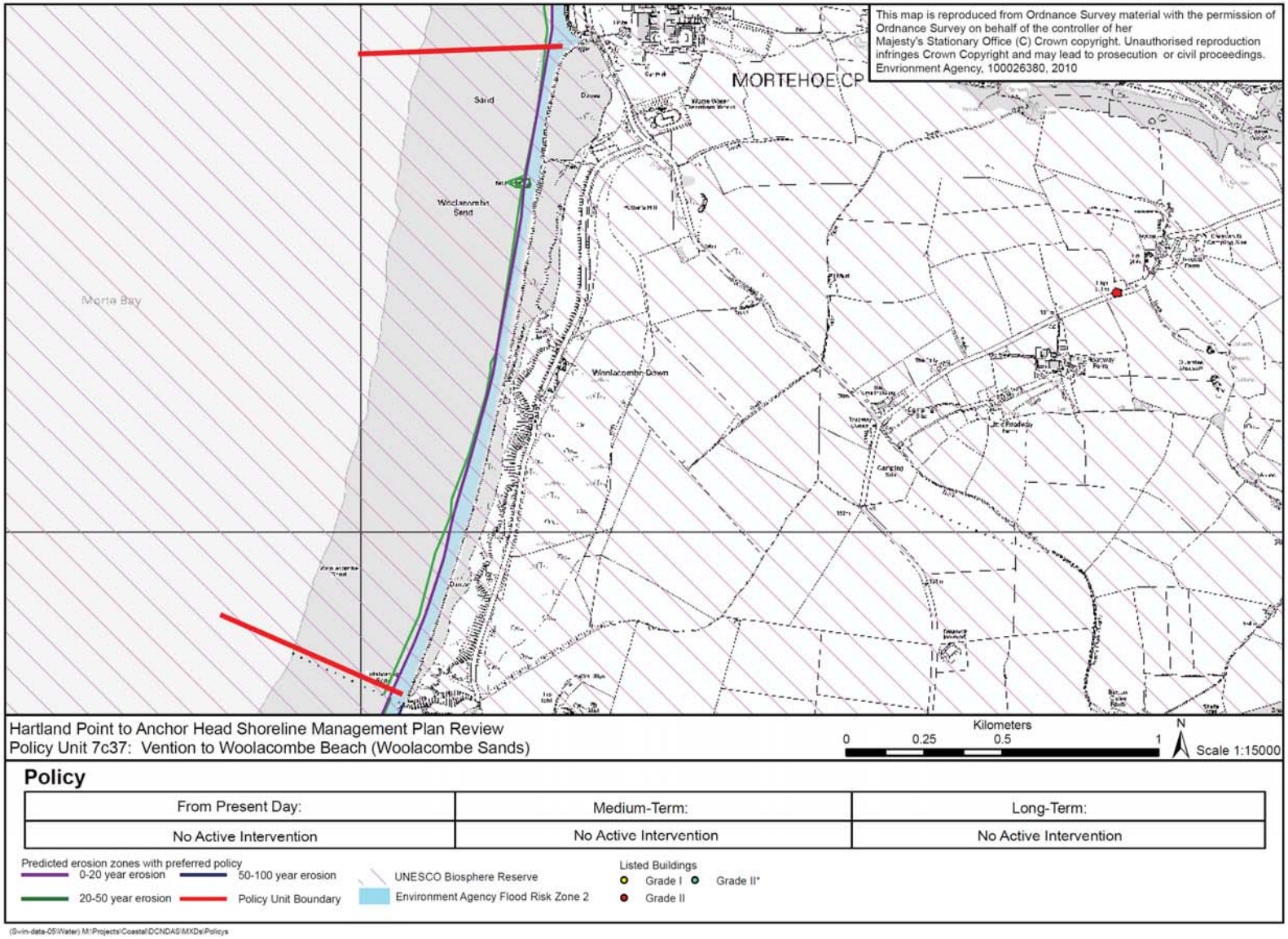

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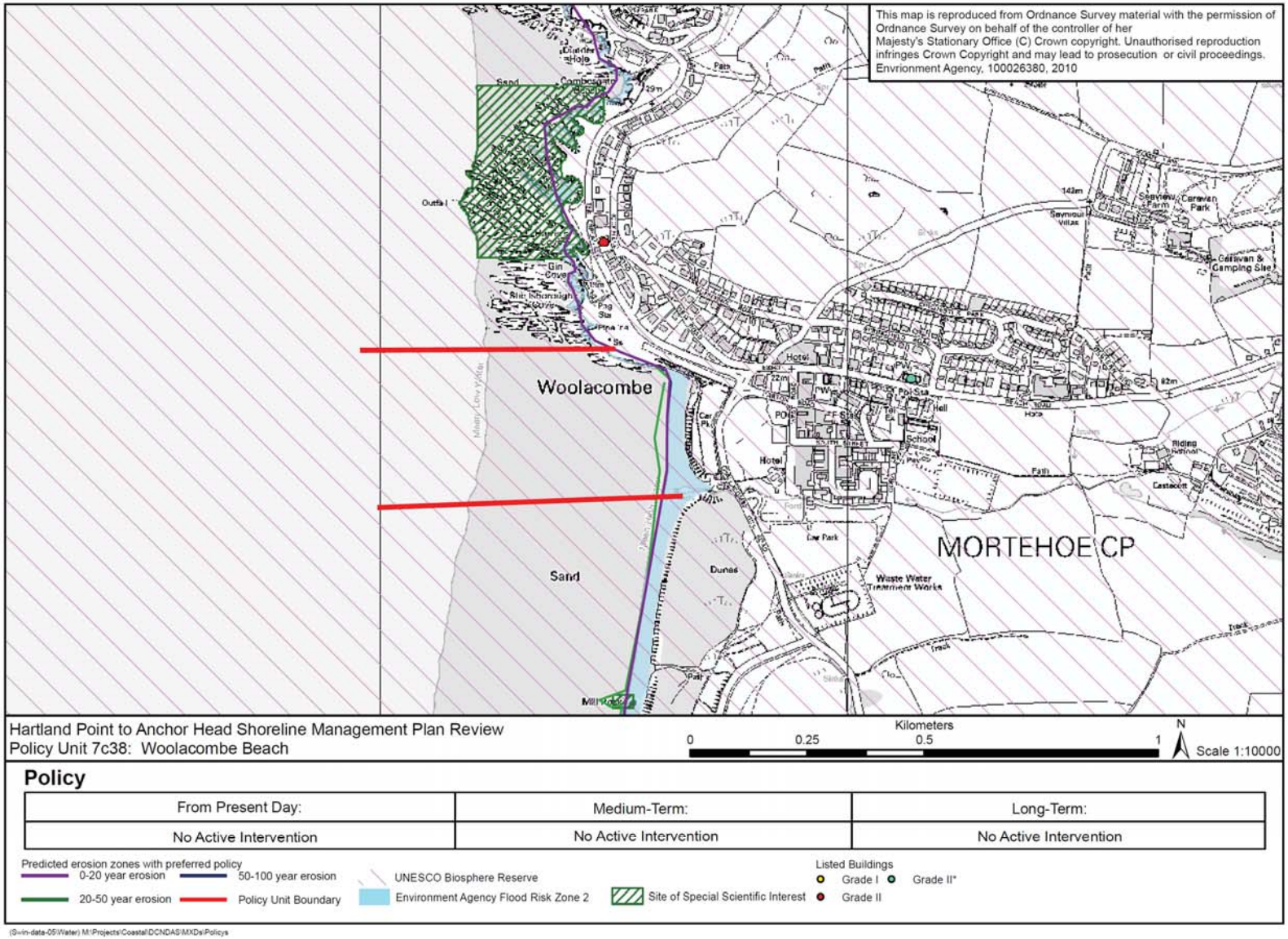

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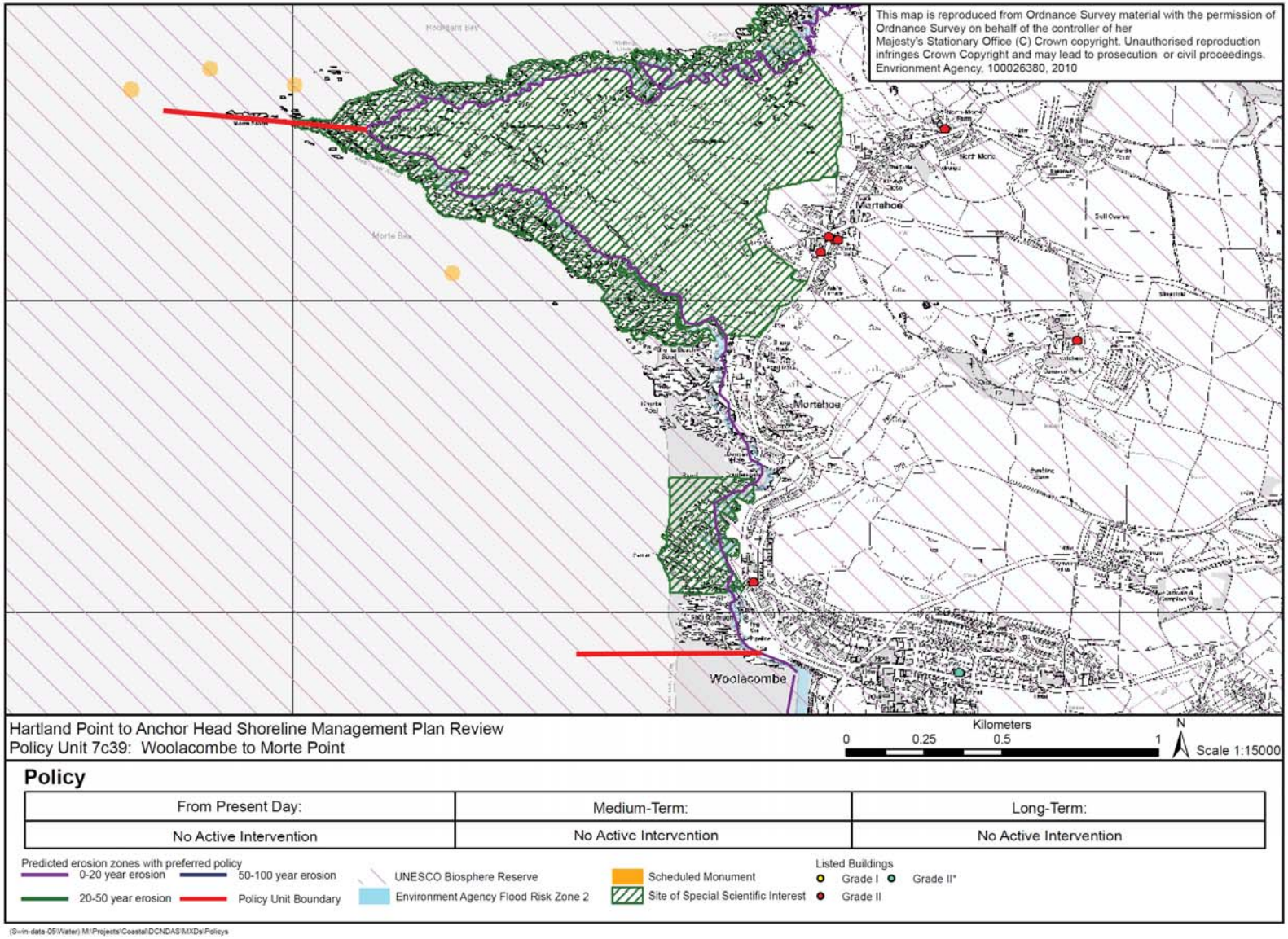

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Location reference:	**Morte Point to Foreland Point**
Policy unit reference:	**7d01 to 7d13**

Summary of preferred plan recommendations and justification

Plan:

The long term plan for this section of largely undefended coast, which in part extends across the Exmoor National Park frontage, is to continue to allow it to evolve naturally, as much as possible, thus conserving the important landscape character of the area.

It recognised that there is a need to continue to provide protection to some discrete locations where defences already exist and it is likely to be economically viable to retain them. This is not considered detrimental to the large-scale plan for this coastline, as sediment linkages along this frontage are limited and evolution of the shoreline is predominately geologically controlled. At Ilfracombe, where there are plans to re-develop the harbour area, future defence provision could be incorporated into proposals to alter the harbour configuration.

Through this plan, there will be continued protection of homes, local amenities and tourism infrastructure from the risk flooding and erosion while the currently undefended coast will retain its landscape character as recognised by its various designations as an Area of Outstanding Natural Beauty, heritage coast and National Park. There may be loss of beaches where they are prevented from moving landwards as sea levels rise due to hard defences structures or naturally rising ground. There may also be the loss of a number of Scheduled Monuments, Listed Buildings, non-designated archaeological features, and parts of the South West Coast Path.

Along some stretches of coast, such as Lee Bay (located between Combe Martin and Lynmouth) and Watermouth Slipway, defences only protect a few assets and future provision of these is unlikely to attract public funds from the flood and coastal defence budget. However, should alternative funding be available, retention of these would not adversely affect coastal processes in a wider area and therefore not be in conflict with the long term plan for this coast.

Preferred policies to implement plan:

From present day (short term):	The plan is to continue to protect key socio-economic assets along this coastline, through a policy of **hold the line** at Lee, Ilfracombe, Hele Beach, Combe Martin and Lynmouth. This will involve maintenance of existing defences. At Ilfracombe, proposals currently include reconfiguration of the harbour breakwaters as well as a small amount of reclamation. As long as this does not affect shoreline dynamics, it is not likely to be in conflict with the proposed policy. Along the rest of the coast, the policy is to allow natural coastal to continue through a policy of **no active intervention**. Along the section between Combe Martin and Lynmouth there are currently localised defences which provide protection to a few properties and other assets. Towards the end of this period these seawalls could be at risk from failure if not maintained, but it is doubtful that such maintenance would attract public funding. Should alternative funding be available these may be maintained or reconstructed subject to the necessary consents.
Medium term:	A hold **the line** policy will continue to provide protection to properties and assets along the main developed areas. This is likely to require the construction of larger and more robust structures to address rising sea levels and beach loss. The approach to management of localised defences along the Combe Martin to Lynmouth coastline will continue into the medium term.

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	For the rest of this coastline, no change in policy from **no active intervention** is planned.
Longer term:	The long term plan is to continue to provide protection to key infrastructure and properties along this frontage, while allowing undefended stretches of shoreline to evolve naturally. Therefore at Lee, Ilfracombe, Hele Beach, Combe Martin and Lynmouth the policy will remain to **hold the line**, through maintaining the defences (assuming these were upgraded or replaced as necessary during the medium term). Along the section between Combe Martin and Lynmouth, such as within Lee Bay, and at Watermouth Slipway, retention of defences will rely on decisions made during the short and medium terms, and the availability of funding. For the rest of this coast, natural coastal evolution will be allowed to continue through the recommended policy of **no active intervention**. The retention of defences could result in beach narrowing as sea levels rise, although this is also expected to occur along undefended stretches of coast, where the resistance of the cliffs means that the rate of sea level rise will outpace the rate of cliff retreat. Where the coast remains unprotected the landscape status will remain, but there could be potential loss or damage to cliff-top assets such as a number of non-designated archaeological features, including Bull Point Lighthouse, and possibly a number of Scheduled Monuments, Listed Buildings and parts of the South West Coast Path, depending upon the location and extent of any future erosion.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d01	**Morte Point to Lee (west)**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d02	**Lee**	Maintain the existing defences to continue protecting Lee, through **hold the line**.	Maintain and improve the defences to continue protecting Lee, through **hold the line**.	Maintain the improved defences to continue protecting Lee, through **hold the line**.
7d03	**Lee (east) to Ilfracombe (west)**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d04	**Ilfracombe**	Maintain the existing seawall and breakwater defences to continue protecting Ilfracombe, through **hold the line**. Localised **Advance the Line** will be used in Ilfracombe Harbour as part of plans to re-develop this area would also	Maintain the defences, eventually replacing them with larger structures, to continue protecting Ilfracombe, through **hold the line**.	Maintain the defences, improved in the medium term, to continue protecting Ilfracombe, through **hold the line**.

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Policy unit		Preferred policies		
		Short term	Medium term	Long term
		achieve the aim of the plan.		
7d05	**Ilfracombe (east – Larkstone Beach) to Hele Beach (west)**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d06	**Hele Beach**	Maintain the existing seawall defences to continue protecting the A399, through **hold the line**.	Maintain the seawall defences, eventually replacing them with larger structures, to continue protecting the A399, through **hold the line**.	Maintain the defences which were improved in the medium term, to continue protecting the A399, through **hold the line**.
7d07	**Hele Beach (east) to Watermouth Slipway**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d08	**Watermouth Slipway**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.
7d09	**Watermouth Slipway to Combe Martin**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d10	**Combe Martin**	Maintain the existing seawall defences to continue protecting Combe Martin, through **hold the line**.	Maintain the defences, eventually replacing them with larger structures, to continue protecting Combe Martin, through **hold the line**.	Maintain the defences, improved in the medium term, to continue protecting Combe Martin, through **hold the line**.
7d11	**Combe Martin to Lynmouth**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion. If alternative funds are not available, then allow natural coastal evolution

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Policy unit		Preferred policies		
		Short term	Medium term	Long term
		active intervention.	**active intervention**.	to continue through **no active intervention**.
7d12	**Lynmouth**	Maintain the existing seawall defences to continue protecting Lynmouth, through **hold the line**.	Maintain the seawall defences, eventually replacing them with larger structures, to continue protecting Lynmouth, through **hold the line**.	Maintain the defences, improved in the medium term, to continue protecting Lynmouth, through **hold the line**.
7d13	**Lynmouth to Foreland Point**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.

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Location reference:	Morte Point to Foreland Point							
Policy unit reference:	7d01 to 7d13							
Implications of the preferred plan for this location								
Time period	**Management activities**	**Human Health, Property and Population**	**Land use, infrastructure and material assets**	**Historic Environment**	**Landscape character and Visual Amenity**	**Geology and Soils**	**Water**	**Biodiversity, flora and fauna**
2005 to 2025	Where current defences are in place the SMP policies recommends the continuation of these defences through maintenance and improvement. The exception is at Ilfracombe where a policy of Advance the Line will see construction through the re-development of the harbour. In other locations, where there have been no historic defences there is proposed to be no active intervention.	Protection of residential properties from flooding at Ilfracombe, Hele and Watermouth Cove, Combe Martin and Lynmouth. The development opportunity planned for Ilfracombe is potentially at risk from flooding depending on its location.	Protection of roads amenities, and infrastructure from flooding at Ilfracombe, Hele and Watermouth Cove, Combe Martin and Lynmouth. Protection of these assets will ensure these towns remain tourist location. Protection of the holiday park, caravan site and camp site from flooding at Watermouth Cove. However, isolated holiday parks will continue to be at risk from erosion. Berrynabor is at risk from fluvial flooding. Protection of Ilfracombe and Lynmouth port/marina. This will allow for the continuing function of their fishing fleets. Loss or damage to sections of the South West Coastal Path due to Flooding. No loss of Grade 3 or above agricultural land.	Protection of the Conservation Areas at Ilfracombe, Lynton, due to flooding. Protection of Listed Buildings at Lee and Lynton.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to natural processes of increased erosion and flooding but this is due to natural processes.	Loss of beach width due to erosion (Sillary Sands). Continuation of natural processes is key to the integrity of the Morte Point SSSI, Hele Samsons and Combe Martin Bay SSSI and Napps Cave SSSI. NAI will continue to maintain these geological features.	No known impact on Water.	No predicted changes s through flooding or erosion to the cliffs in this epoch so no change in nature conservation value of the Exmoor Heath and Coast SAC, Exmoor Coastal Health SSSI, West Exmoor Coast and Woods SSSI or The Dunkery and Horner Wood NNR.
2025 to 2055	Where current defences are in place the SMP policies recommends the continuation of these defences through maintenance and improvement. In other locations, where there have been no historic defences there is proposed to be no active intervention.	Protection of residential properties from flooding at Ilfracombe, Hele and Watermouth Cove, Combe Martin and Lynmouth.	As above	As above.	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area due to increased erosion and flooding but this is due to natural processes. Larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.	As above.	No known impact on Water.	As above.
2055 to 2105	Where current defences are in place the SMP policies recommends the	Protection of residential properties from flooding at Ilfracombe, Hele and	As above.	Protection of the Conservation Areas at Ilfracombe, Lynton, due to	Minor changes in landscape within AONB Heritage Coast and Coastal Preservation Area	As above.	No known impact on Water.	Continuation of natural process where there is no active intervention allows the

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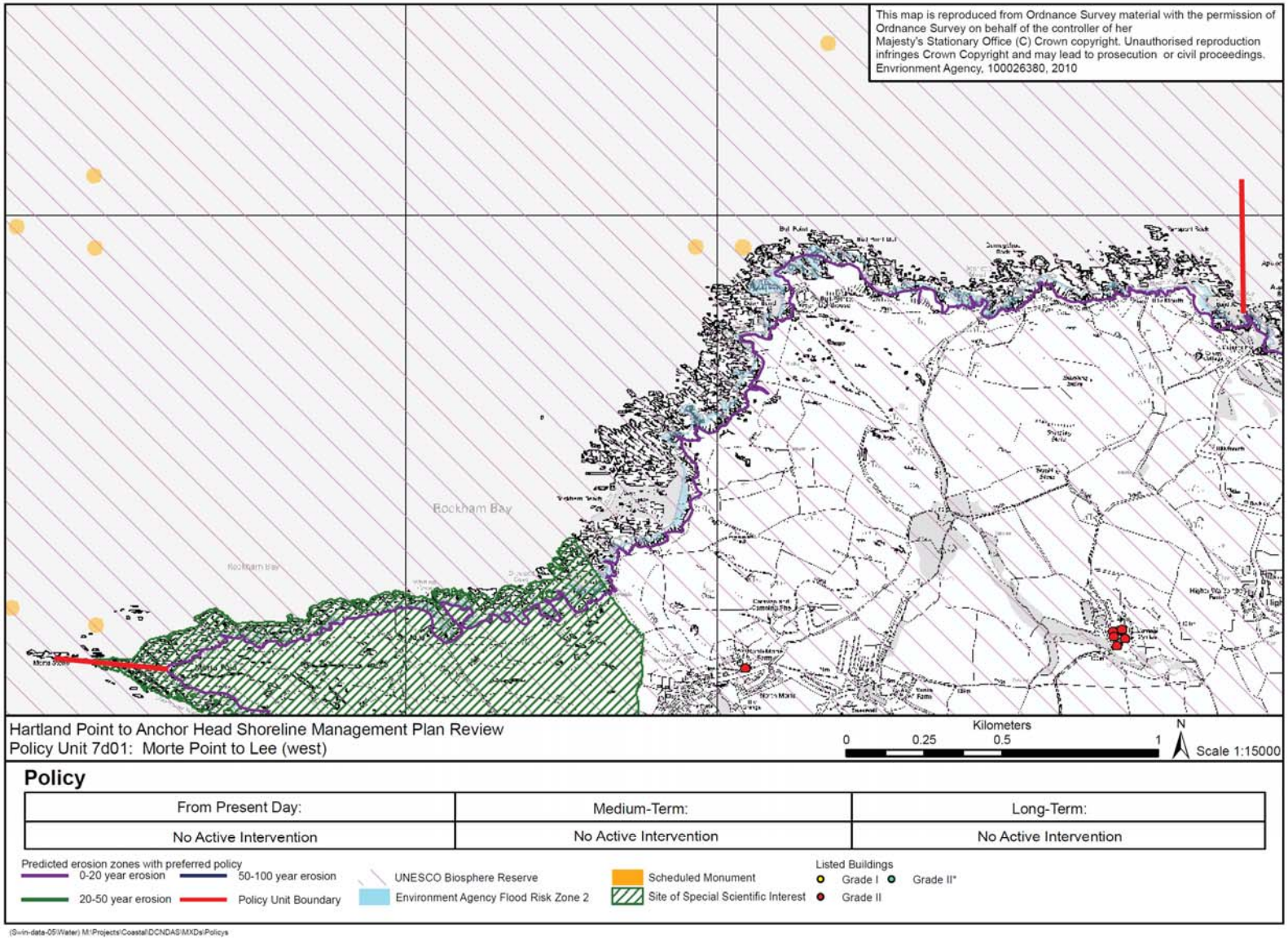
Location reference:	Morte Point to Foreland Point
Policy unit reference:	7d01 to 7d13

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
	continuation of these defences through maintenance and improvement. In other locations, where there have been no historic defences there is proposed to be no active intervention.	Watermouth Cove, Combe Martin and Lynmouth.		flooding. Potential partial loss of 2 Schedule Monuments comprising Hillborough Fort and Wind Hill. Protection of Listed Buildings at Lee, and Lynton.	due to increased erosion and flooding but this is due to natural processes. Larger defences or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.			natural evolution of the cliffs and there may be some loss of due to erosion of the Exmoor Heath SAC's vegetated sea cliffs and to Exmoor Coastal Health through loss due to erosion. Therefore this policy is considered further within the Habitats Regulations Assessment (Appendix J). No predicted changes in conservation value of the, West Exmoor Coast and Woods SSSI or The Dunkery and Horner Wood NNR due to flooding or erosion. A reduction in the total area of the Hillborough LNR due to erosion.



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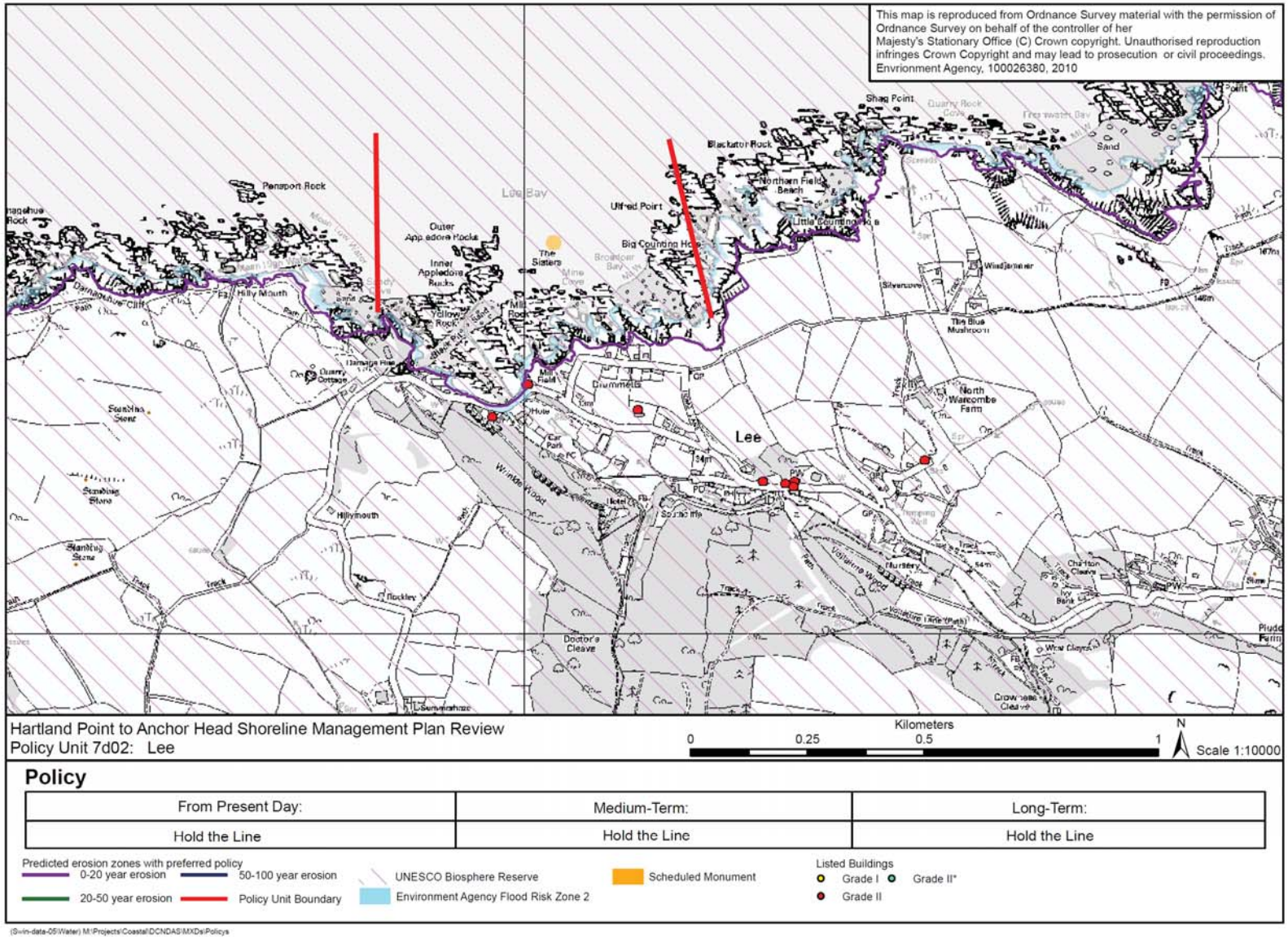

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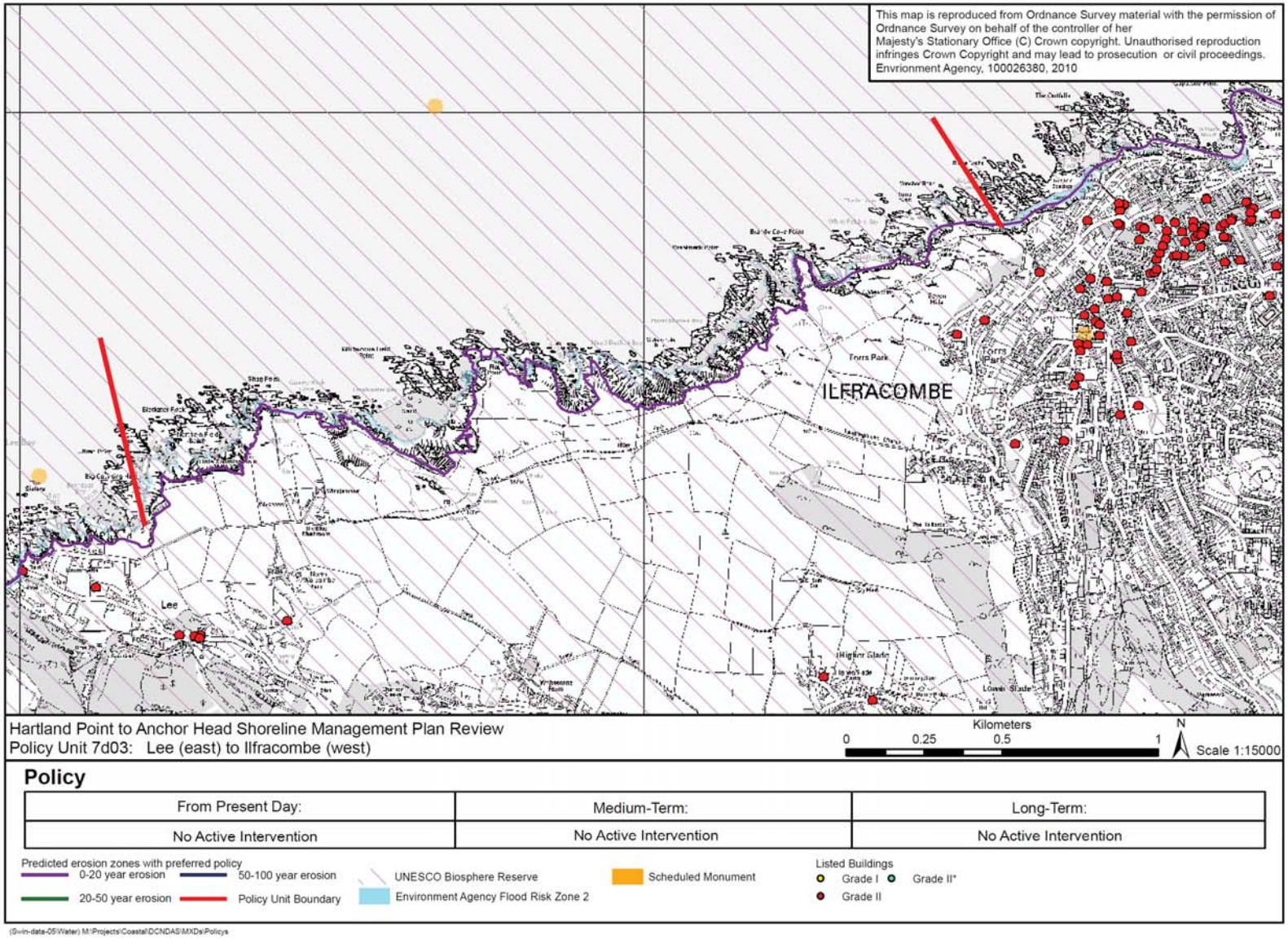

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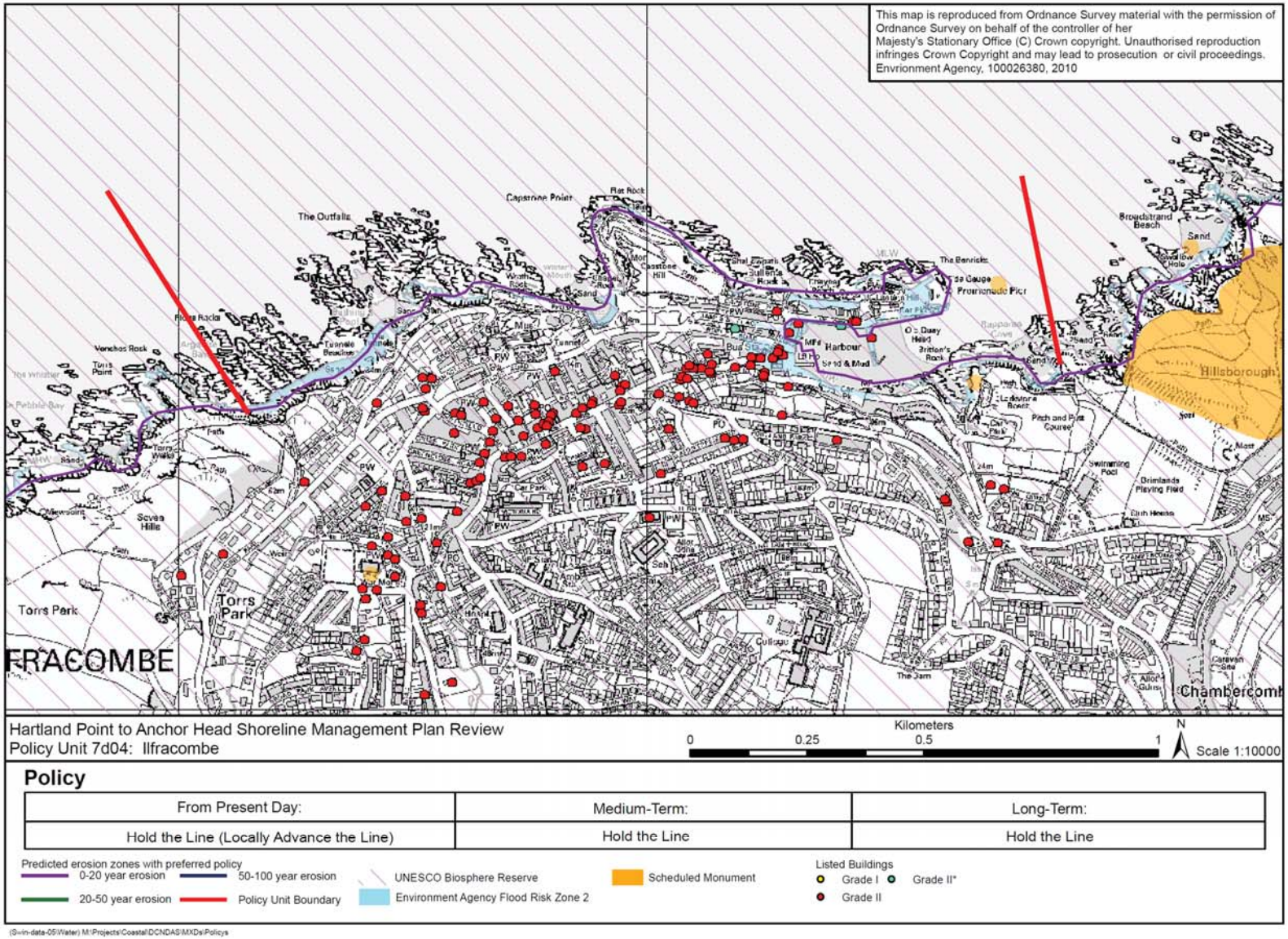

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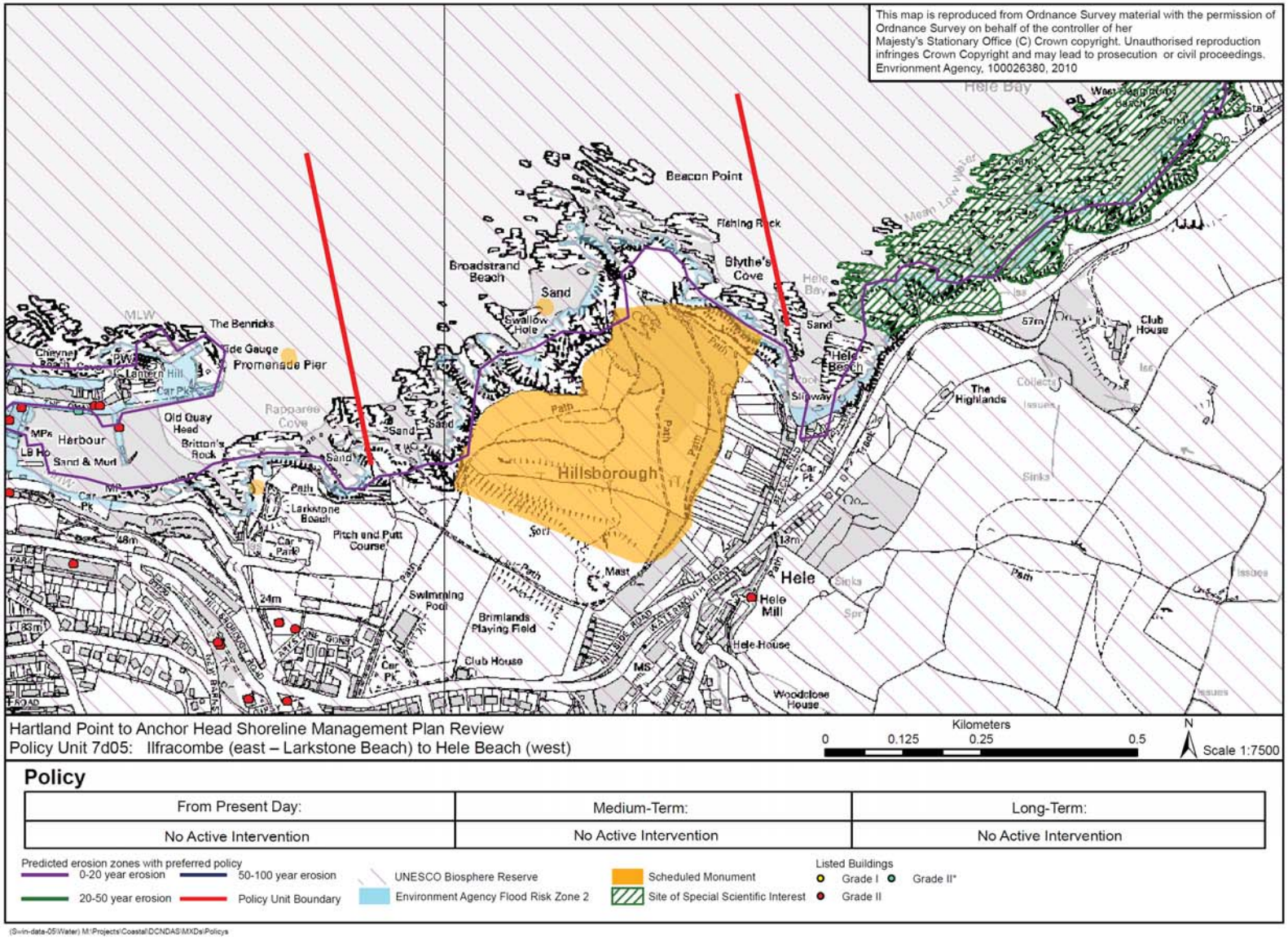

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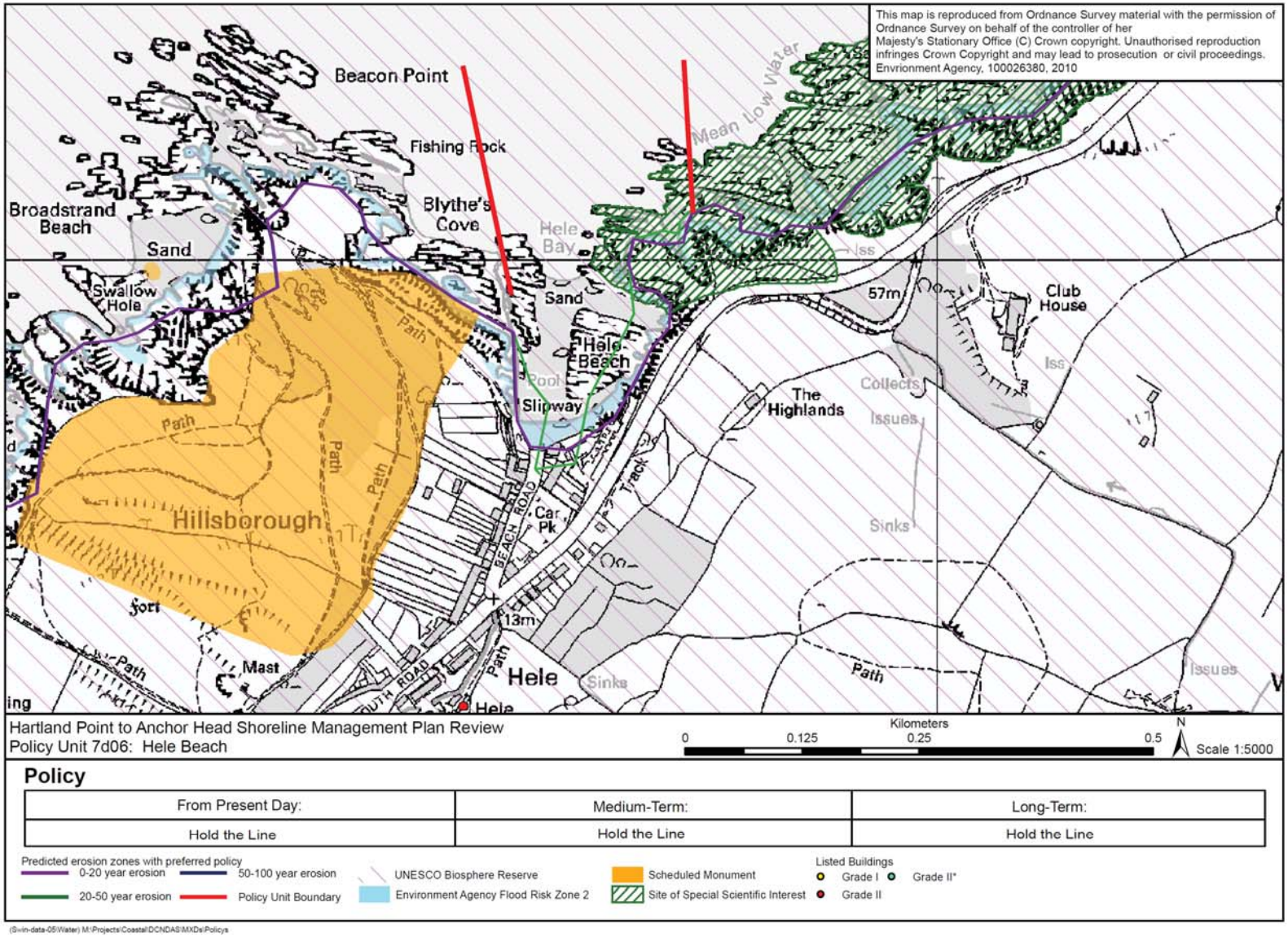

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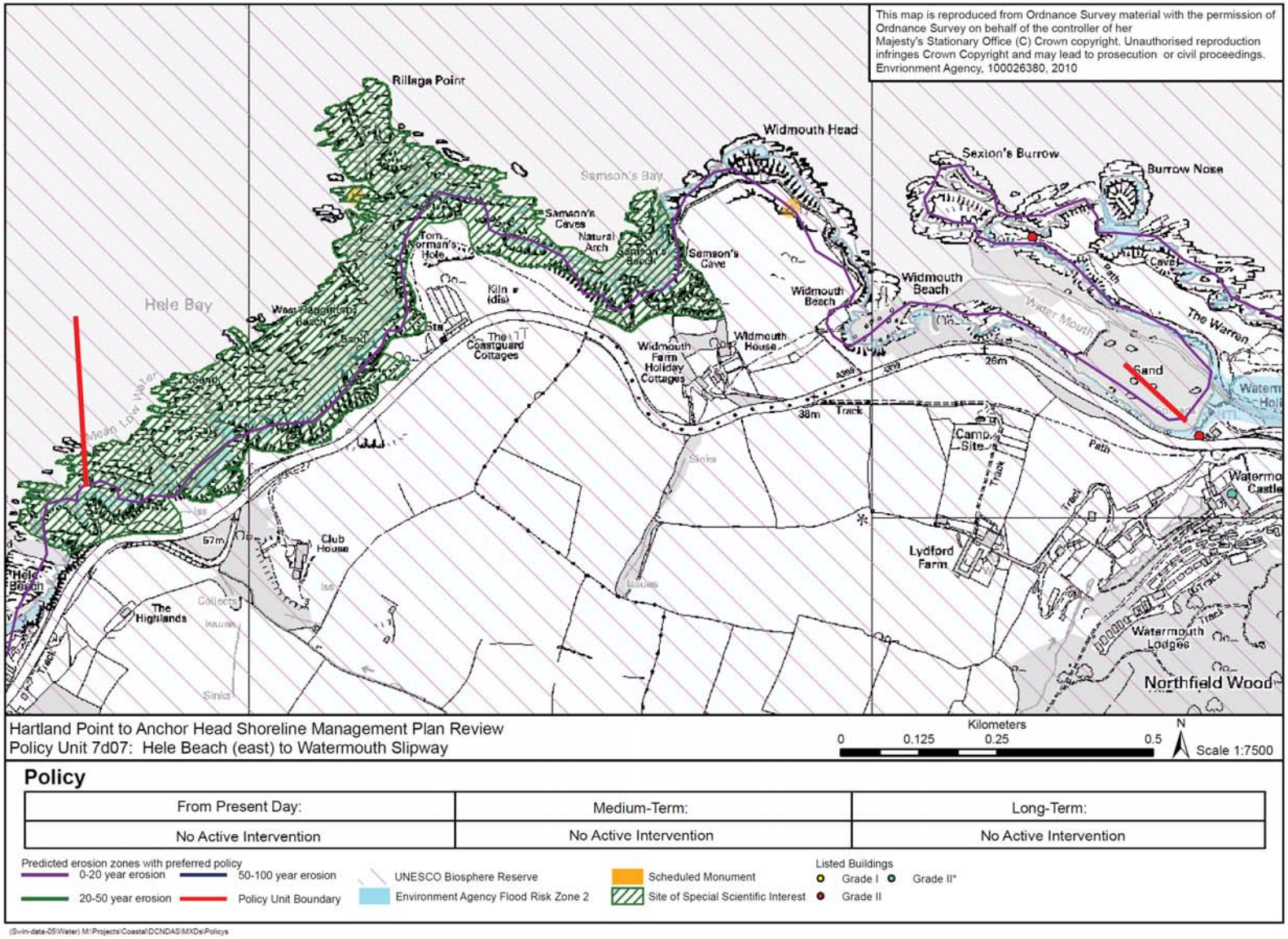

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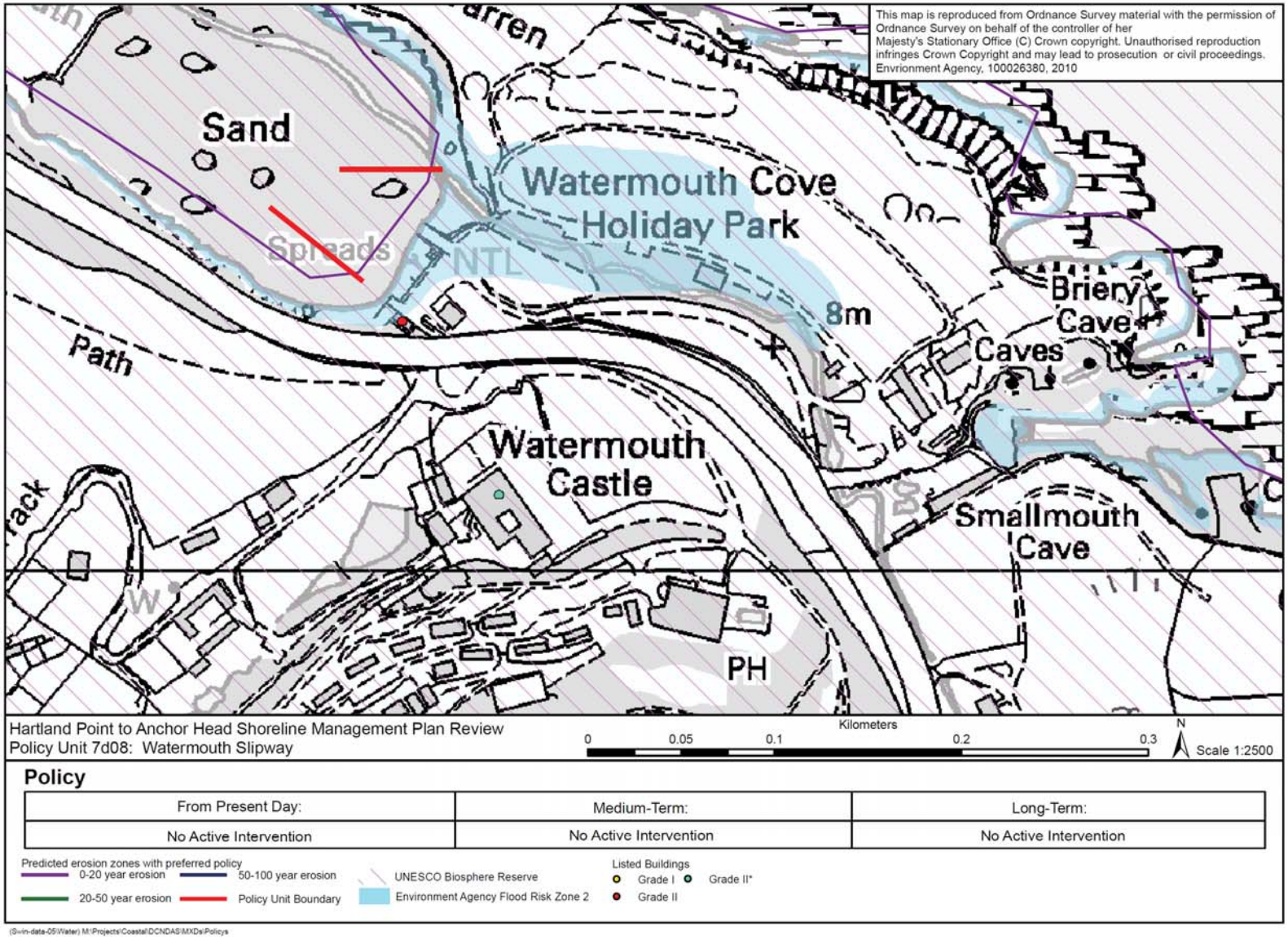

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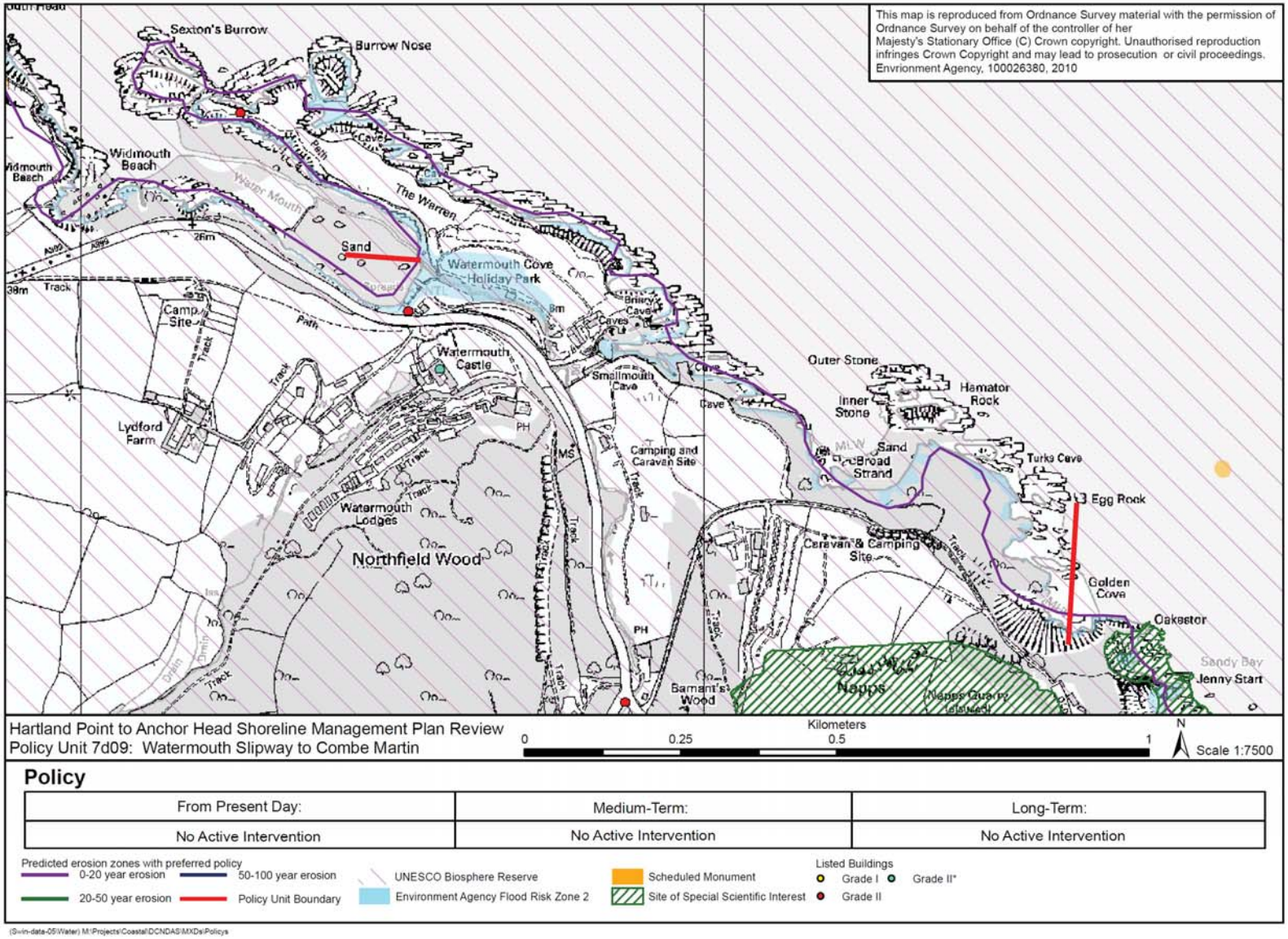

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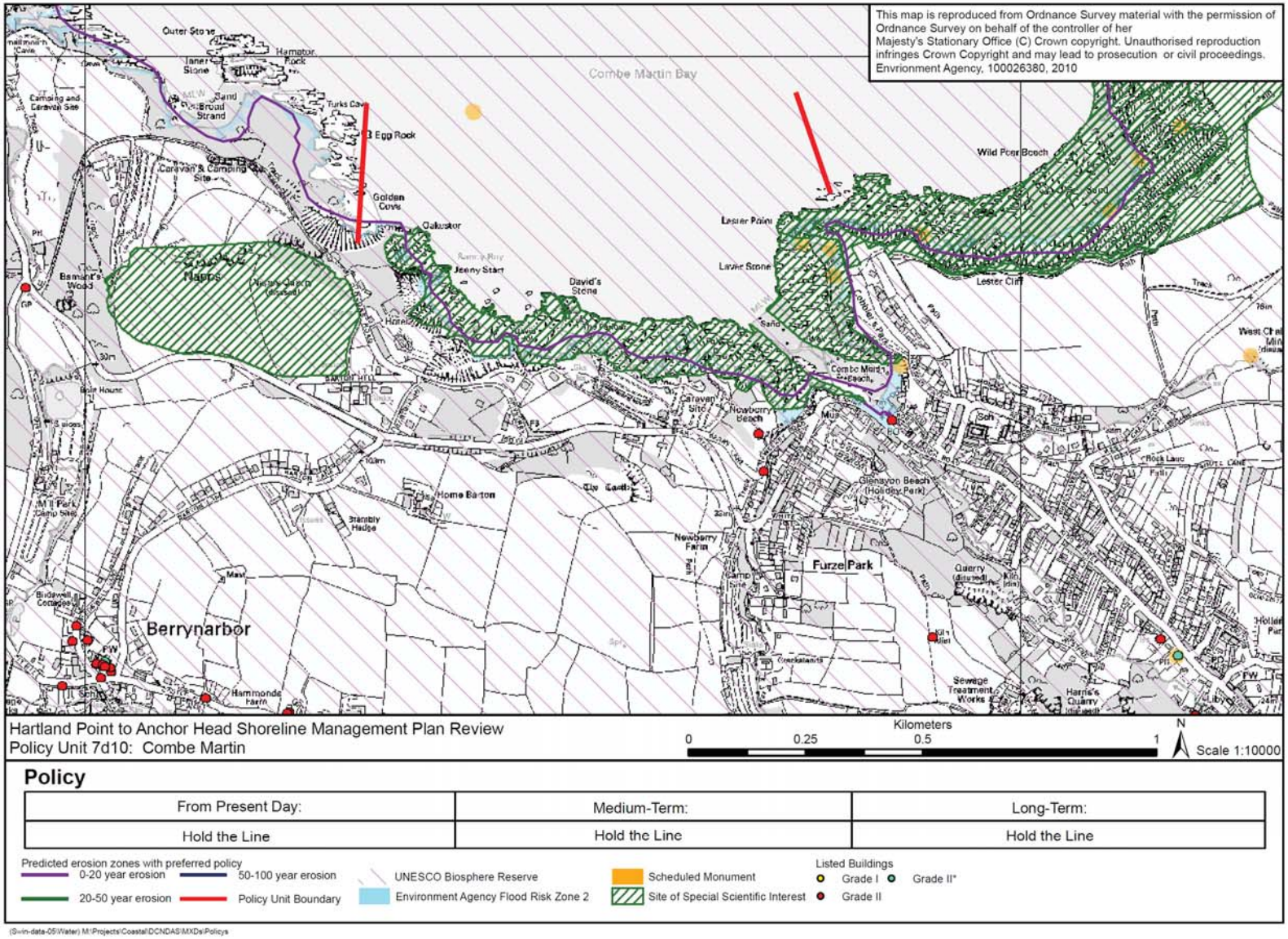

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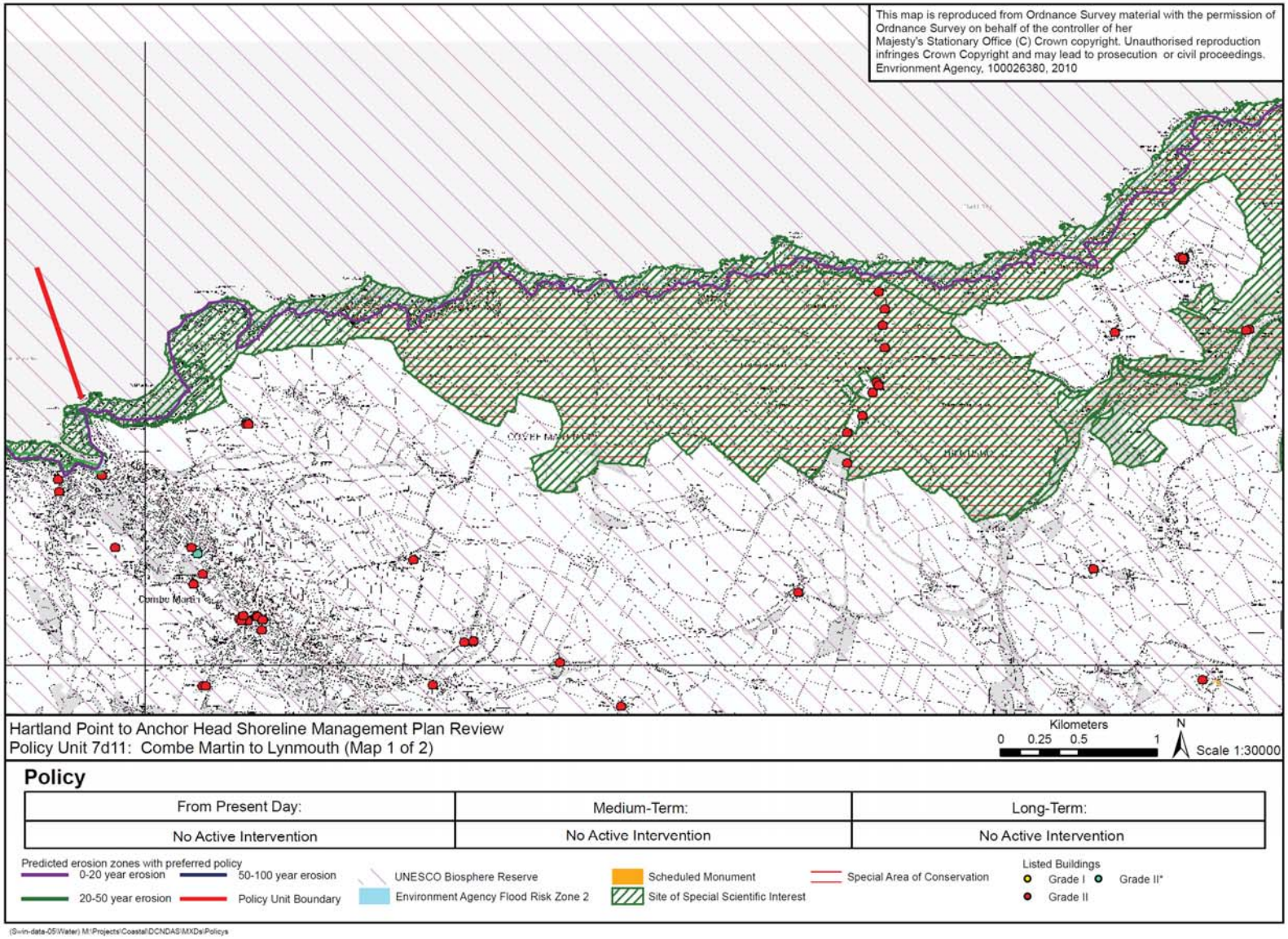

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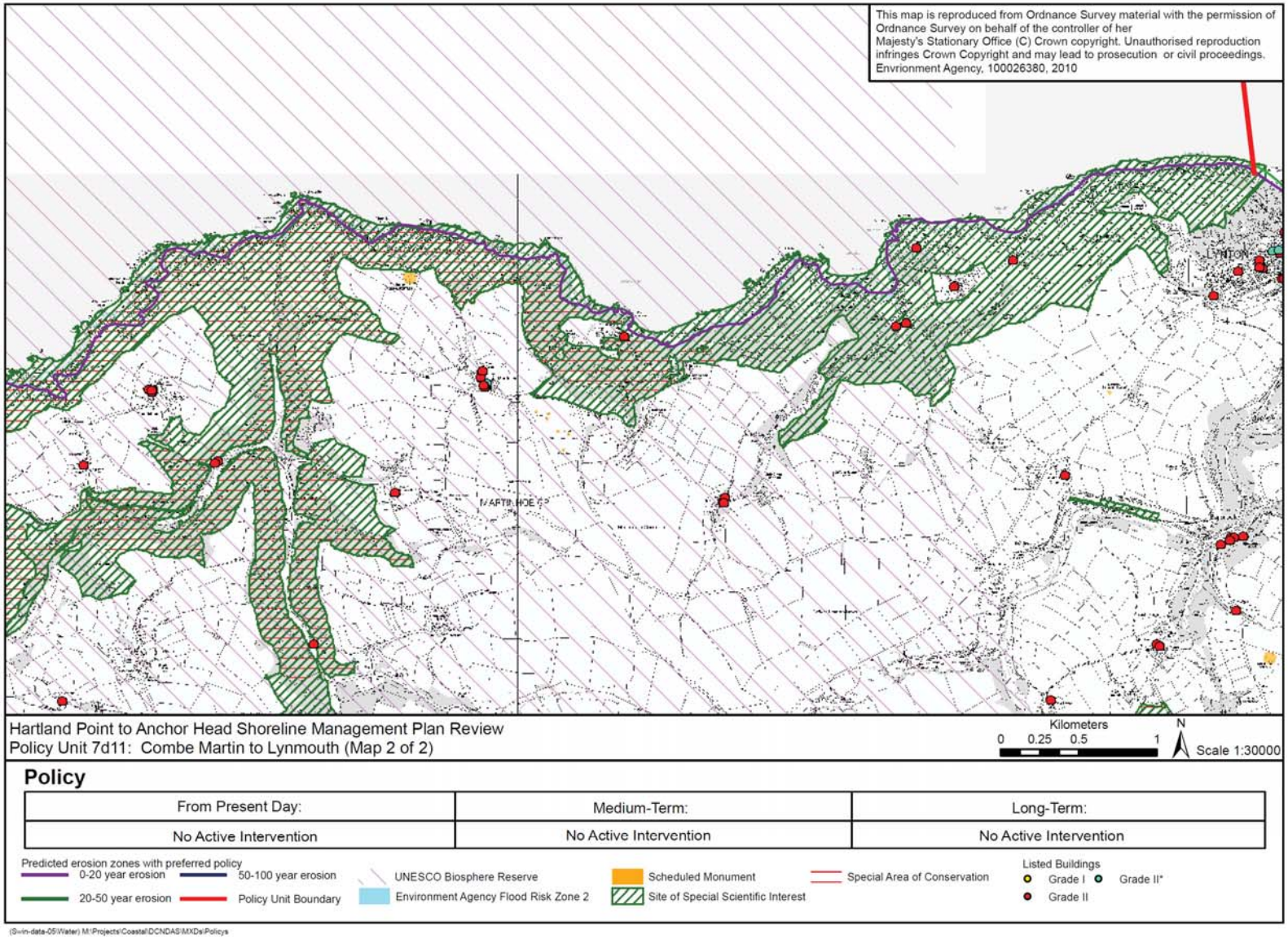

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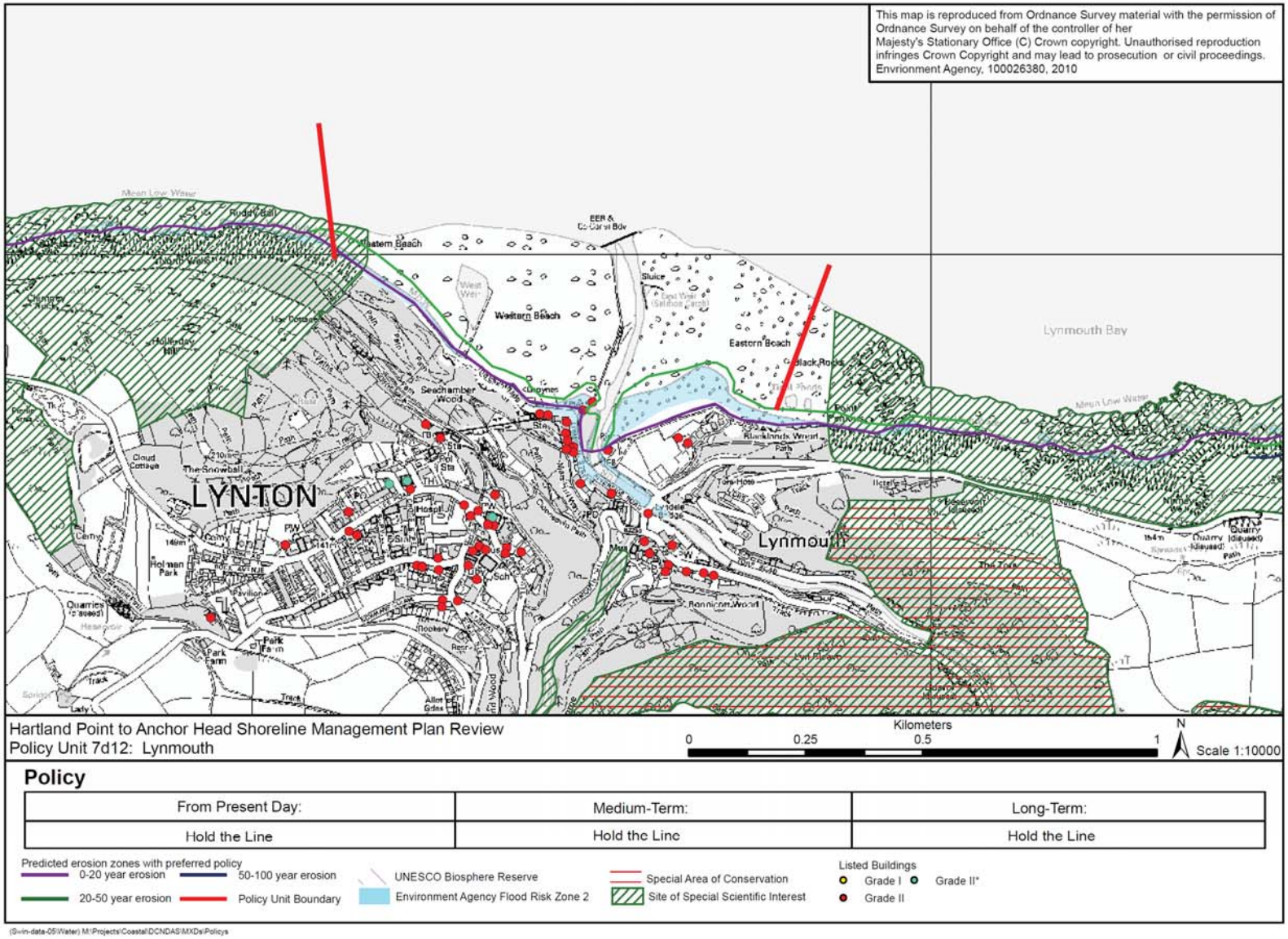

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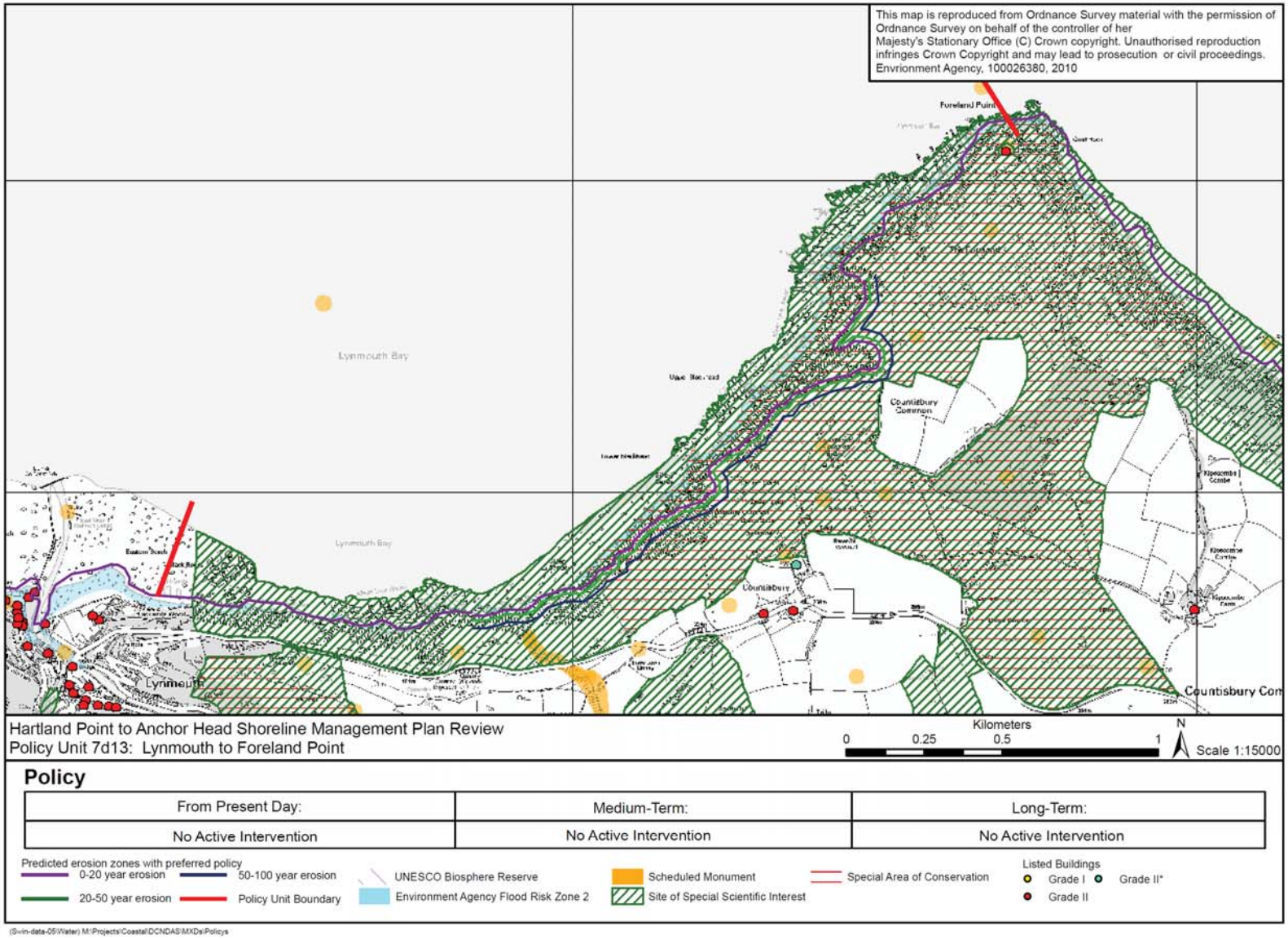

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Location reference:	**Foreland Point to Hurlstone Point**
Policy unit reference:	**7d14 to 7d17**

Summary of preferred plan recommendations and justification

Plan:

The long term plan for this section of largely undefended coast, which in part extends across the Exmoor National Park frontage, is to continue to allow it to evolve naturally, with minimal human interference, and thereby conserve the important landscape character of the area.

The coastline between Foreland Point and Gore Point is characterised by high rocky cliffs. There are no existing defences and few socio-economic assets along the frontage that would generate justification for defence construction. The coastline is recognised for its landscape and environmental value therefore the long term plan to allow natural retreat will continue to maintain these features.

Within Porlock Bay the key risk is from fluvial rather than tidal flooding, with property, historic environment features and local infrastructure at Bossington potentially at risk. Currently protection along Porlock Bay is afforded by a gravel barrier beach, which in the past has been actively managed. At the western end of the bay, Porlock Weir is currently defended by a range of structures that both reduce risk of flooding and erosion and maintain access to a small harbour in this location.

It is unlikely that future defence provision at Porlock Weir would attract public funds from the flood and coastal defence budget. Retention of defences could also potentially impact on the wider coastline of Porlock Bay in the long term; these would need to be much larger than at present which would have a much greater impact upon the movement of sediment and also on the landscape character of the area. Continued defence of Porlock Weir might be acceptable if alternative funds are available and only limited impact on sediment transport can be demonstrated. However with rising sea levels and increased exposure to wave activity with adjacent shoreline retreat, it is questionable whether this would be sustainable in the medium to long term.

A number of socio-economic and historic environment assets will be at risk if defences are not retained. Measures would need to be put in place to manage this risk and mitigate the displacement of people and loss of property and facilities if this situation arises. This is in line with established policy in this area implemented by the National Trust and the Environment Agency, who are currently investigating how to mitigate future flood risk through land-use change as part of a separate Defra-funded study.

Preferred policies to implement plan:

From present day (short term):	The policy is to allow the shoreline to retreat naturally while managing flood risk to people and property by developing ways of adapting to the risk, through **no active intervention**. Erosion along the cliffed section of shoreline is anticipated to be very slow meaning few, if any, assets will be at risk. Within Porlock Bay, the gravel ridge will continue to roll landwards, with potential to alter the designated features of the Porlock Ridge and Saltmarsh Site of Special Scientific Interest. Continued monitoring is recommended to record and observe this change. At Porlock Weir, the policy is also for **no active intervention** as it is unlikely to be economically justified to use flood and coastal defence budget to maintain or improve defences in this area. It may be acceptable to allow defences and other structures here to be maintained or improved if other funds are available, provided this can be demonstrated to have only limited impact on sediment transport in the rest of the bay and do not extend further along the shoreline and subject to the necessary consents. A detailed study should be undertaken during this period to investigate the future flood and erosion risk as well as impacts of continuing to allow defence of Porlock Weir in the long term. This will inform future management decisions for Porlock Bay as a whole as well as guide adaptation planning.

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Medium term:	The medium term policy is to continue to allow the shoreline to retreat naturally with **no active intervention**. This would involve monitoring of change along Porlock Ridge to assess changes to the Porlock Ridge and Saltmarsh Site of Special Scientific Interest. Policy at Porlock Weir and its implementation will be guided by the earlier investigations. If maintenance of defences is discontinued then it is expected these will fail during this period. Adaptation measures will need to be implemented if this situation arises.
Longer term:	The policy along the whole of this coastline is to allow the shoreline to naturally retreat, through **no active intervention**. Erosion of the gravel barrier is not expected to affect local infrastructure at Porlock and Bossington as the flood risk here is from fluvial, not tidal, sources. There would be continued monitoring of Porlock Ridge to assess changes to the Site of Special Scientific Interest. Along the cliffed coastline, cliff recession rates are expected to be low, but there could be a small risk to some cliff-top habitats. These are designated as Exmoor Coastal Heaths Site of Special Scientific Interest, Exmoor Heath and Coast Special Area for Conservation, Glenthorne Site of Special Scientific Interest, and Culbone Woods County Wildlife Site. There could also be potential risk of loss or damage to a number of Scheduled Monuments and Listed Buildings. Defences at Porlock Weir could be retained if earlier studies have confirmed this to be acceptable and other (non flood and coastal defence budget) funds are available. However, it will be increasingly likely that this could be achieved sustainably without having significant impacts on sediment transport within the rest of Porlock Bay. If defences are not retained the risk of flooding and erosion will increase to homes, tourism facilities, Listed Buildings and local infrastructure at Porlock Weir. Adaptation measures will need to be implemented to manage or adapt to this risk.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d14	**Foreland Point to Gore Point**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d15	**Gore Point to Porlock Weir**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d16	**Porlock Weir**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion. If alternative funds are not	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion. If alternative funds are not	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of flooding and erosion.

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Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
		available, then allow natural coastal evolution to continue through **no active intervention**.	available, then allow natural coastal evolution to continue through **no active intervention**.	If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.
7d17	**Porlock Weir to Hurlstone Point**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.

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Location reference:	Foreland Point to Hurlstone Point
Policy unit reference:	7d14 to 7d17

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	The majority of policy units along this stretch of coast require no management activities, with the exception of Porlock Weir in the short term. Here the defences could be maintained if funding is available.	Residential properties, at Porlock Weir, Porlock, Allerton and Bossington are at risk from flooding. The lack of secondary flood defence will see an increase the flood risk to Porlock Weir, Porlock, Allerton and Bossington.	Tourist and local infrastructure at Porlock Weir, Porlock, Allerton and Bossington are at risk from flooding. In addition, the landfill site is at risk from flooding. Erosion of the gravel barrier is not predicted to impact on local infrastructure. The lack of secondary flood defence will see an increase the flood risk to Porlock Weir, Porlock, Allerton and Bossington. The Quay at Porlock Weir is unlikely to experience substantial erosion in this epoch. This is also to the case of the beach. Loss or damage to sections of the South West Coastal Path due to Flooding. No loss of Grade 3 or above agricultural land	Protection of the Conservation Areas at Porlock and Bossington from flooding. Protection of Listed Buildings at Porlock.	Minor changes in landscape due to increased erosion and flooding but this is due to natural processes. Potential for deteriorating coastal defence structures to become unsightly at Porlock Weir.	The gravel ridge will roll back unabated. This will maintain natural processes and continued evolution of the Porlock Ridge and saltmarsh SSSI	Potential for landfill to be flooded which may cause pollution this should be assessed in terms of the Water Framework Directive.	The gravel ridge will roll back unabated. This will increase the spatial extent of Porlock Ridge and Saltmarsh SSSI's designated saltmarsh continuing the evolution of the SSSI.
2025 to 2055	No management activities will be undertaken once the defence at Porlock Weir have failed.	Residential properties, at Porlock Weir, Porlock, Allerton and Bossington are at risk from flooding. The lack of secondary flood defence will see an increase the flood risk to Porlock Weir, Porlock, Allerton and Bossington.	Protection of tourist and local infrastructure at Porlock Weir, Porlock, Allerton and Bossington are at risk from flooding. In addition, The landfill site is at risk from flooding. Erosion of the gravel barrier is not predicted to impact on local infrastructure. The lack of secondary flood defence will see an increase the flood risk to Porlock Weir, Porlock, Allerton and Bossington. The Quay at Porlock Weir is unlikely to experience substantial erosion in this epoch. This is also to the case of the beach.	Protection of the Conservation Areas at Porlock from flooding. The Conservation Zone at Bossington is at risk of flooding due to the lack of secondary defences. Limited protection of Listed Buildings at Porlock, as the defence fail these buildings are at risk.	As above.	As above.	Water quality status of the coastal waters and achievement of WFD water quality targets should be considered prior to the implementation of management policy.	As above.

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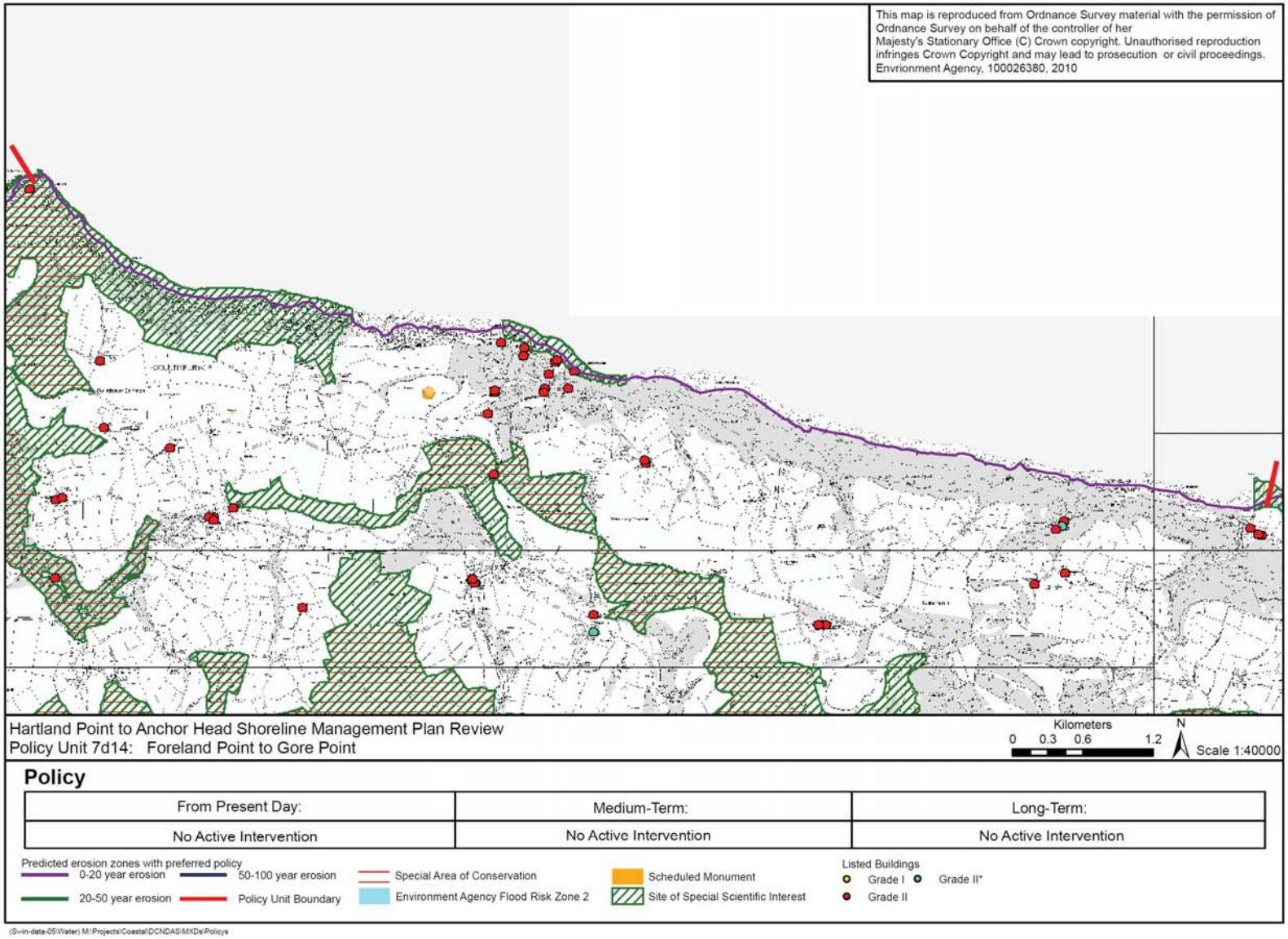
Location reference:	Foreland Point to Hurlstone Point
Policy unit reference:	7d14 to 7d17

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
			Loss or damage to sections of the South West Coastal Path due to Flooding. No loss of Grade 3 or above agricultural land					
2055 to 2105	No management activities will be undertaken along this stretch of coast.	Residential properties, at Porlock Weir, Porlock, Allerton and Bossington are at risk from flooding The lack of secondary flood defence will see an increase the flood risk to Porlock Weir, Porlock, Allerton and Bossington.	Protection of tourist and local infrastructure at Porlock Weir, Porlock, Allerton and Bossington are at risk from flooding. In addition, The landfill site is at risk from flooding. Erosion of the gravel barrier is not predicted to impact on local infrastructure. The lack of secondary flood defence will see an increase the flood risk to Porlock Weir, Porlock, Allerton and Bossington. The Quay at Porlock Weir will experience damage due to erosion. The beach will also see a reduction in width. Loss or damage to sections of the South West Coastal Path due to Flooding. No loss of Grade 3 or above agricultural land	Conservation Areas at Porlock and Bossington are at risk from flooding. The Conservation Zone is at Bossington is at risk of flooding due to the lack of secondary defences. Listed Buildings at Porlock are at risk from flooding.	As above.	As above.	As above.	As above.



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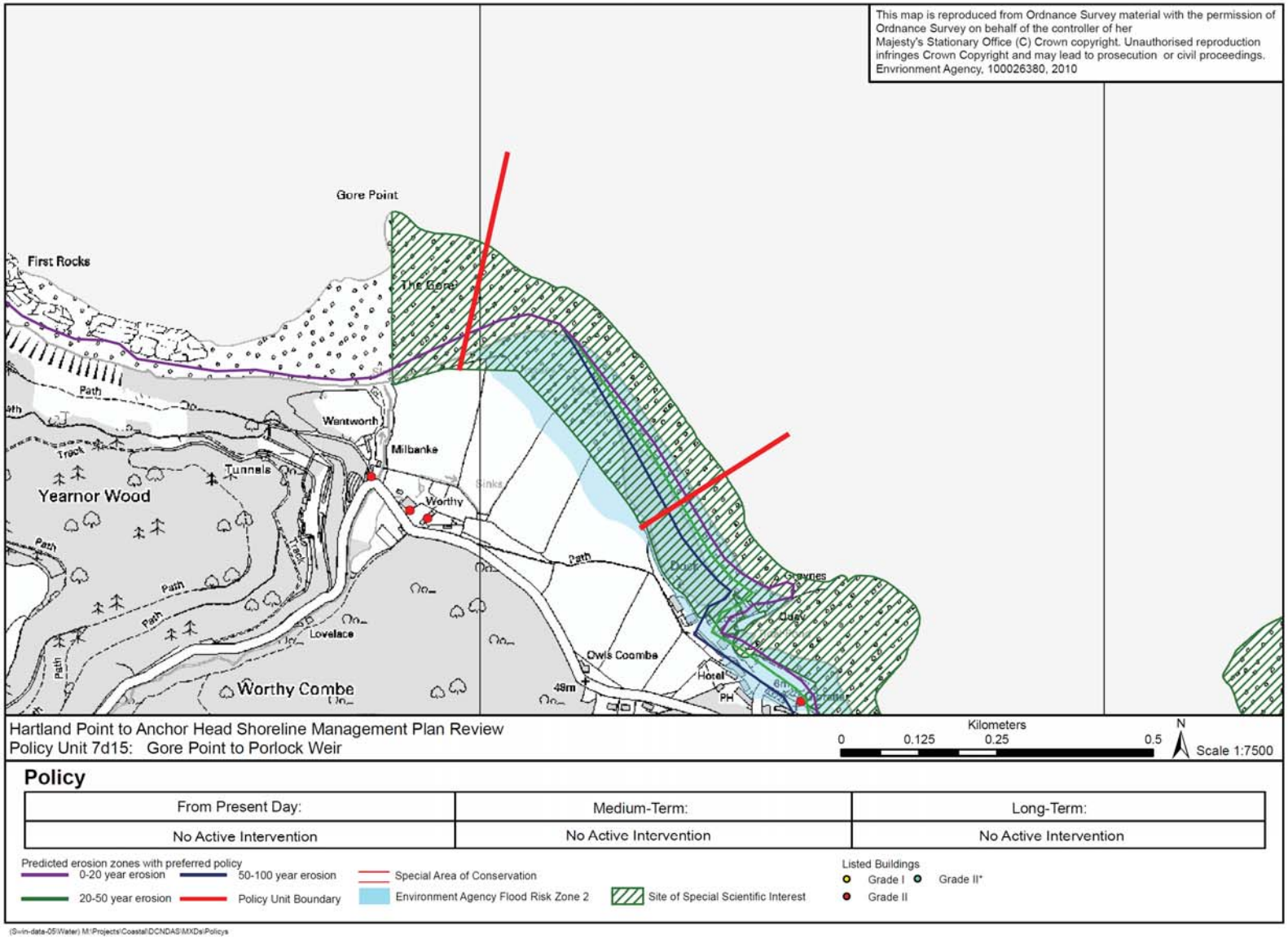

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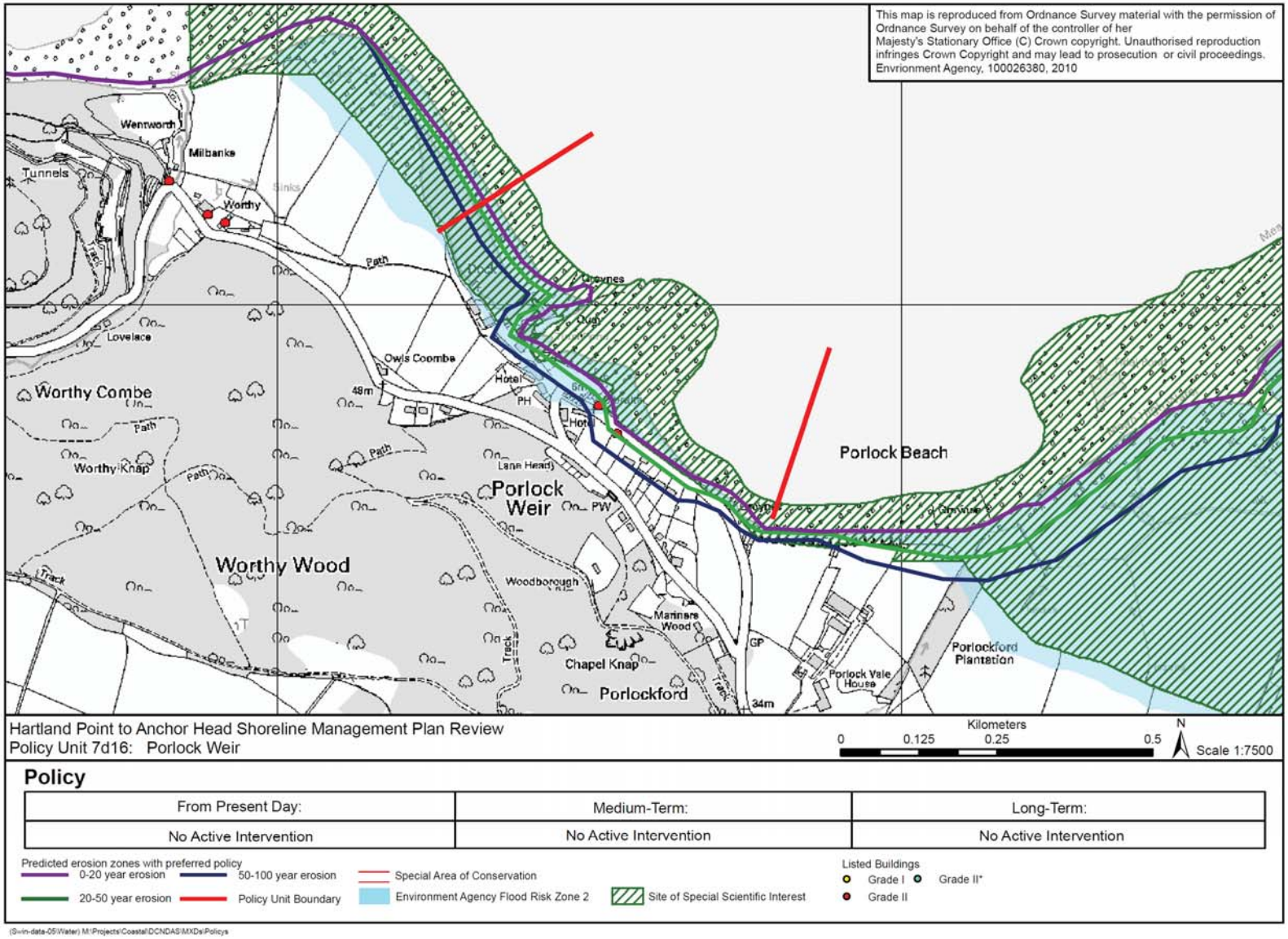

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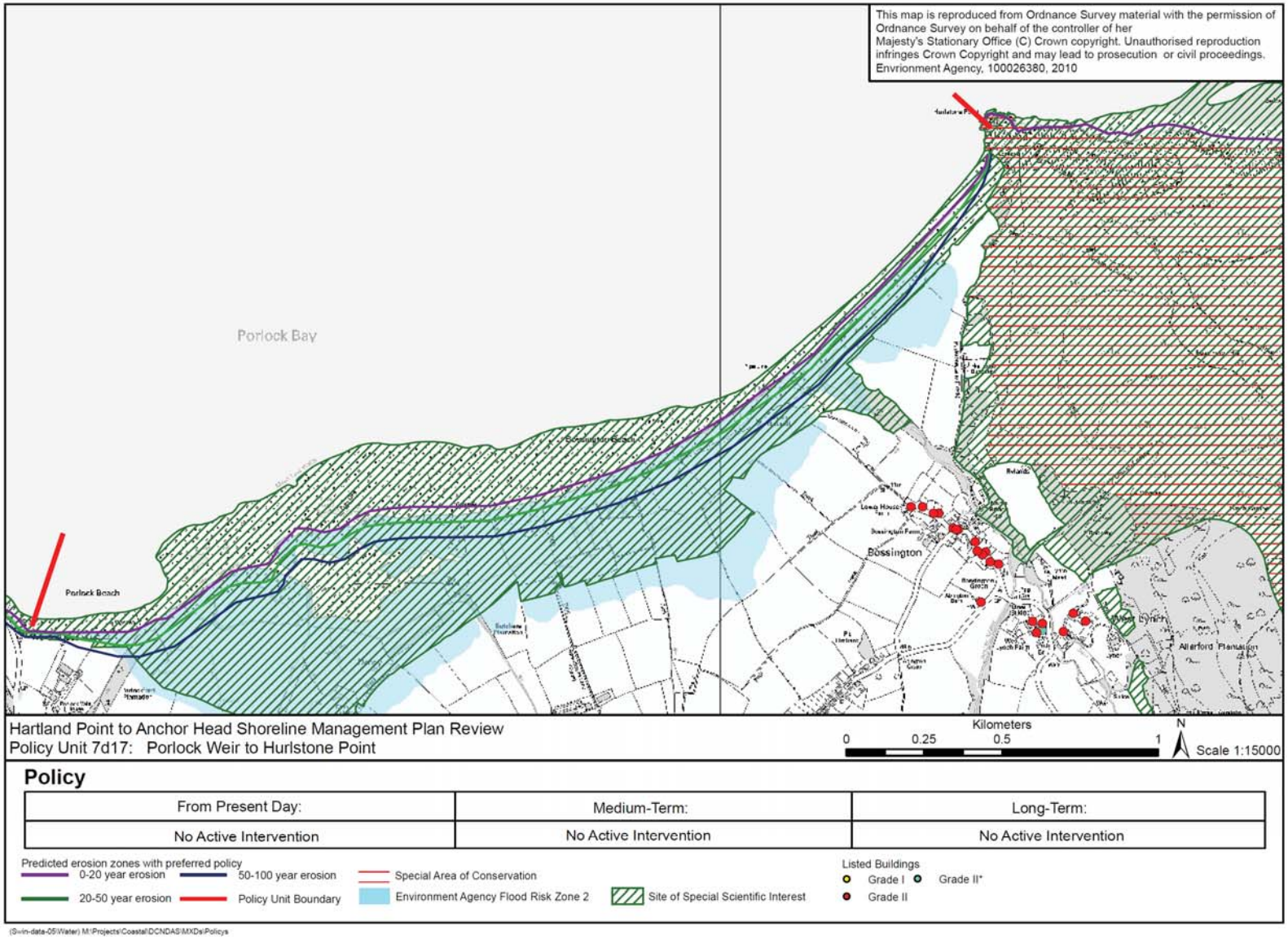

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Location reference:	**Hurlstone Point to Minehead (west)**
Policy unit reference:	**7d18**

Summary of preferred plan recommendations and justification

Plan:

The long term plan in this area is to continue to allow this undefended, slowly eroding cliffed coastline to evolve naturally with no human intervention.

The erosion risk along this shoreline over the next 100 years is predicted to be low and there are very few assets at risk. Continued erosion will also benefit the geological designations of environmental features along the coast by maintaining these exposures.

Preferred policies to implement plan:

From present day (short term):	The policy for this section of coast is one of **no active intervention**. Due to the slow cliff recession rates there is minimal erosion risk to historic environment assets along the cliff-top area and no risk of outflanking of the defences at Minehead to the east.
Medium term:	The continuation of the policy of **no active intervention** will allow the cliffs along this section of coast to continue to evolve naturally. There is no risk of cliff recession here causing outflanking of defences at Minehead to the east and only minimal erosion risk to historic environment assets along the cliff-top area.
Longer term:	The continuation of the policy of **no active intervention** will allow natural coastal evolution to continue. This is not expected to affect the defences at Minehead.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d18	**Hurlstone Point to Minehead (west)**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.

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Location reference:	Hurlstone Point to Minehead (west)
Policy unit reference:	7d18

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	No management activities will be undertaken along this stretch of coast.	No risk to properties at along this stretch of coast.	Risk of flooding at Quay Street Lifeboat station and two substations in Minehead.	Risk of flooding to the Conservation Area at Minehead.	Minor changes in landscape due to increased erosion and flooding but this is due to natural processes.	No known impact to designated sites.	No known impact on Water.	Natural cliff erosion may cause loss of cliff habitats allowing the continued evolution of the Exmoor Coastal Heaths SSSI and SAC. This policy is considered further within the Habitats Regulations Assessment (Appendix J).
2025 to 2055	No management activities will be undertaken along this stretch of coast.	As above.	Risk of flooding and damage through erosion at Quay Street Lifeboat station and two substations in Minehead.	As above.	As above.	As above.	No known impact on Water.	As above.
2055 to 2105	No management activities will be undertaken along this stretch of coast.	As above.	Risk from erosion to the road at Quay Street Lifeboat station lock infrastructure, pipeline and harbour infrastructure. Risk of flooding at Quay Street, Lifeboat station and two substations in Minehead.	As above.	As above.	As above.	No known impact on Water.	As above.

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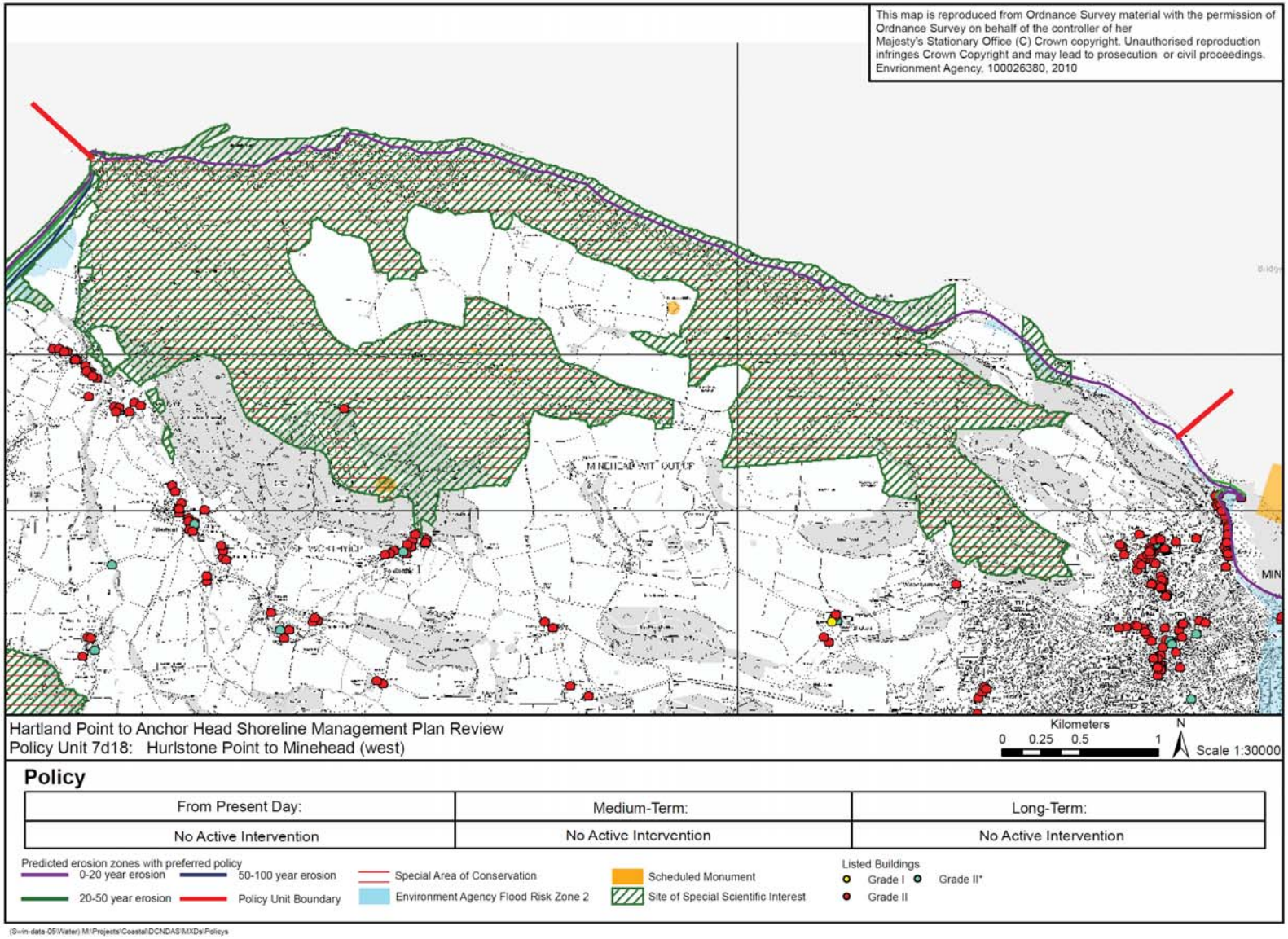

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Location reference:	**Minehead to Blue Anchor**
Policy unit reference:	**7d19 to 7d23**

Summary of preferred plan recommendations and justification

Plan:

This statement covers the coastline from Minehead Harbour to the eastern end of Blue Anchor Bay. It incorporates the large commercial and residential centre of Minehead, as well as the smaller resorts of Dunster Beach and Blue Anchor.

The long term plan for this area is to continue to minimise flood risk to Minehead, including that from The Warren to Ker Moor frontage, whilst achieving a more sustainable defence line along the adjacent frontages to the east. This will involve continuing to maintain an adequate level of protection to Minehead with provision of a set-back defence along the adjacent frontages. It is expected that any realigned position would have to be seaward of, or incorporate in some way, the West Somerset Railway in order that this resource of value to the economy of the area is retained; to relocate or realign the railway is unlikely to be feasible.

At Blue Anchor it will increasingly become technically difficult to maintain the present defences. As these reach the end of their effective life replacement is unlikely to attract public funds from the flood and coastal defence budget. Therefore in the long term there will be a move towards a no intervention policy.

The plan will both provide long term protection to the majority of shoreline assets, whilst affording potential habitat gains through implementation of managed realignment. There would be potential for impacts on the golf course and also some shoreline assets, depending upon the location of the set back defences. The timing of providing a set back defence will vary along the shoreline and will require investigation to determine the most appropriate realignments.

Preferred policies to implement plan:

From present day (short term):	The policy for the Minehead, The Warren, Dunster Beach and Blue Anchor frontages is to **hold the line** during this period. This will involve maintenance of existing defences, but some will need to be replaced with larger structures to ensure they provide adequate levels of protection in the longer term. As part of this policy it is assumed that privately funded management activities on Dunster Beach would continue, provided that they continue to have a minimal effect upon the down-drift coast. In order to reduce the risk of 'back door' flooding to Minehead from The Warren/Dunster Beach/Ker Moor frontage, a secondary defence line would be constructed in this period. Study is required to assess possible options for this and will need to consider issues of fluvial flooding behind any secondary defence line, implications for the River Avill flood relief channel, and the impact of groynes at Minehead and Dunster Beach on longshore drift patterns. In the short to medium term this would form a secondary defence line, but in the longer term could become the primary defence line as continued defence of The Warren and Dunster Beach frontages becomes increasingly unsustainable along existing alignments. Opportunities for longer term realignment of this frontage should be investigated as part of the detailed study, including the effects of the potential release of beach building sediment from erosion of The Warren. Whilst these studies are undertaken, measures should be put in place to manage the risk of a breach along The Warren. Along Ker Moor the policy is **managed realignment**, implemented through construction of a secondary defence embankment in line with that proposed at The Warren and Dunster Beach. Investigations would be required to define the appropriate realignment which will need to consider continued protection of the West Somerset Railway. If defences at the eastern end of Blue Anchor are not upgraded they will fail and expose this area to the risk of increased cliff recession. This would occur

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	at rates similar to those on the adjacent undefended coast, with potential for recession of up to 50m along any part of the cliffed frontage during this period and could impact upon the B3191 road (that is protected by new defences along the rest of Blue Anchor). As the plan along the whole SMP frontage is to conserve this road in the short and medium term at least, then new defences under the **hold the line policy** may have to be constructed to reduce the risk of cliff recession occurring and impacting upon the road here. If constructed, these new defences are likely to have to extend eastwards for a short distance.
Medium term:	The policy along this frontage is to **hold the line** of either the existing or newly constructed set back defences. This will be implemented through ongoing maintenance of the defences and beach management, which may require some of the groynes at Minehead to be re-built, together with additional beach recharge. Along The Warren and Dunster Beach frontage it may increasingly become technically difficult to sustain the existing defence line through continuation of embankment maintenance and beach management. If this becomes unsustainable during this period then the policy here would change to one of managed realignment. The secondary defence line constructed in the short term would then become the primary flood defence line along this frontage. Here, the fronting areas would be allowed to flood and erode landwards, potentially allowing a salt marsh and intertidal habitat to develop in front of the defence, which could have both habitat and defence benefits. There may also be release of additional beach material from erosion of The Warren, which could benefit this and down-drift frontages.
Longer term:	The long term policy along the majority of this section is to **hold the line**. At Minehead this will involve ongoing maintenance and eventual construction of larger defences. At Ker Moor, the set back defence constructed in the preceding periods would be maintained although armouring of this structure may be required to resist wave damage. Defences may also need to be constructed to protect the railway line at the western end of Blue Anchor, depending upon decisions made regarding the protection of the railway along the rest of the frontage. If not already occurred in the medium term, then it is probable that the change in policy to **managed realignment** will take place along The Warren and Dunster Beach frontage. At Blue Anchor itself the defences would be maintained for as long as technically viable to do so. However, as these reach the end of their effective life they will fail. Replacement defences are unlikely to attract public funds from the flood and coastal defence budget, so maintenance would be withdrawn and policy would change to **no active intervention**. Alternative routes to the B3191 are readily available to link Blue Anchor and Chapel Cleeve and these may need to be developed as a result of the policy here. There will be impacts on residential properties and associated infrastructure and facilities, therefore measures will need to be in place to manage this change in policy.

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Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d19	**Minehead**	Maintain and improve the existing defences to continue to provide protection to Minehead, through a **hold the line** policy.	Maintain and further improve the existing defences to continue protection for Minehead, through a **hold the line** policy.	Maintain and further improve the existing defences to continue protection for Minehead, through a **hold the line** policy.
7d20	**The Warren (Minehead Golf Course)**	Continue to provide protection by replacing and maintaining embankment defences along existing alignment, possibly supported by beach recycling and replenishment, under a policy of **hold the line**. Investigate and construct a secondary defence embankment inland to protect Minehead against flood risk.	Continue to provide protection by maintaining embankment defences along existing alignment, possibly supported by beach recycling and replenishment, under a policy of **hold the line**. Maintain the secondary defence embankment inland to protect Minehead against flood risk.	As it becomes unsustainable to maintain defence along the existing alignment, move to a policy of **managed realignment**, whereby the secondary defence line becomes the primary defence line.
7d21	**Dunster Beach**	Continue to provide protection through beach management under a policy of **hold the line**. Investigate and construct a secondary defence embankment inland to protect Minehead against flood risk.	Continue to provide protection through beach management under a policy of **hold the line**. Maintain the secondary defence embankment inland to protect Minehead against flood risk.	As it becomes unsustainable to maintain defence along the existing alignment, move to a policy of **managed realignment**, whereby the secondary defence line becomes the primary defence line.
7d22	**Dunster Beach (east) to Ker Moor**	Investigate and implement construction of set-back defence embankment under a policy of **managed realignment**.	**Hold the line** of the realigned defence through continued maintenance.	**Hold the line** of the realigned defence through continued maintenance and improvement.
7d23	**Blue Anchor**	Maintain the existing seawall and rock revetment defences, and replace defences at the eastern end near the Blue Anchor Hotel. Extend them a little to the east, to continue protecting people, property and the B3191 from erosion risk, through **hold the line**.	Maintain the defences to continue protection against flood and erosion risk, through **hold the line**.	Allow natural coastal evolution to occur by moving towards a policy of **no active intervention**, with implementation of local **managed realignment** if necessary to protect the railway.

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Location reference:	Minehead to Blue Anchor
Policy unit reference:	7d19 to 7d23

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Maintenance and improvement of defences at Minehead and preparation for managed realignment in this or subsequent epochs.	Protection of residential properties at Minehead and Blue Anchor from flooding.	Protection of roads, the West Somerset railway (and railway facilities) amenities and infrastructure, including tourist infrastructure, from flooding at Minehead, Dunster and Blue Anchor NB the design details of the defence work needs to be consulted on with West Somerset Railway to ensure the track bed is not damaged. Protection of the West Somerset Coastal Path from flooding along low-lying sections of this coast with the exception of Dunster Beach (east) to Ker moor Protection of the gardens of the Blue Anchor Hotel from erosion. The spatial extent of the West Somerset Golf Club is at risk due to erosion. In addition it is at risk from flooding. Loss of varying amounts of Grade 3 agricultural land due to flooding and erosion	Protection of the Conservation Areas at Dunster, and Dunster Castle from flooding. Protection of the West Somerset Railway from erosion. None of the Schedule Monuments or Registered Parks and Gardens present along this section of coast are at risk from erosion. Protection of Listed Building at Minehead from flooding.	Minor changes in landscape due to natural processes of erosion and flooding. Larger or more structures may be required to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.	There will be a reduction in the spatial extent of the beaches at Minehead Terminus, The Strand and Dunster through coastal squeeze. No reduction in spatial extent of the beach at Blue Anchor in this epoch. At Blue Anchor SSSI managed realignment will allow the continuation of processes to maintain the geological features.	No known impact on Water.	Reduction in spatial extent of the CWS at the Blue Anchor Hotel Field and Blue Anchor to Lilstock Cliff CWS. Potential damage to the West Somerset Golf Course wildlife importance due to flooding. Potential damage habitat and species through saline intrusion. If managed realignment occurs in this epoch intertidal habitat will be created potentially offsetting losses due to the maintenance of defences at Minehead or other areas of coastal squeeze. There could be a loss of freshwater habitat as a result of this.
2025 to 2055	Maintenance and improvement of defences at Minehead and managed realignment outside of population centres where there is adequate space.	Dependent on the location of the secondary defences, residential properties, are at risk from flooding at Dunster Secondary defence will protection the low lying hinterland from flooding. Protection of residential properties at Minehead and Blue Anchor from flooding.	Protection of the esplanade and slipway at Minehead from erosion. Protection of roads, the West Somerset railway (and railway facilities) amenities and infrastructure, including tourist infrastructure, from flooding at Minehead and Blue Anchor Protection of the West Somerset Coastal Path from flooding along low-lying sections of this coast with the exception of Dunster Beach (east) to Ker moor	As above.	As above.	There will be a reduction in the spatial extent of the beaches at Minehead Terminus, The Strand and Dunster through coastal squeeze. At Blue Anchor SSSI managed realignment will allow the continuation of processes to maintain the geological features. There will be a reduction in the spatial extent of the beaches at Blue Anchor through coastal squeeze.	No known impact on Water.	As above.

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Location reference:	Minehead to Blue Anchor
Policy unit reference:	7d19 to 7d23

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
			Protection of small sections of the B3191 and gardens of the Blue Anchor Hotel from erosion. The spatial extent of the West Somerset Golf Club is at risk due to erosion. In addition it is at risk from flooding. Dependent on the location of the secondary defences, residential properties, roads, West Somerset Railway Line (and associated facilities) community and tourist infrastructure, are at risk from flooding at Dunster Secondary defence will protection the low lying hinterland from flooding. Protection of residential properties at Minehead and Blue Anchor from flooding. Loss of varying amounts of Grade 3 agricultural land due to flooding and erosion.					
2055 to 2105	Maintenance and improvement of defences at Minehead and managed realignment outside of population centres where there is adequate space.	Dependent on the location of the secondary defences, residential properties, are at risk from flooding at Dunster Secondary defence will protection the low lying hinterland from flooding. Protection of residential properties at Minehead and Blue Anchor from flooding.	Protection of harbour assets, place of worship, section of Quay street, the esplanade, slipway and a number of properties on the seafront from erosion at Minehead. Small sections of the B3191 and gardens of the Blue Anchor Hotel are at risk from erosion. The spatial extent of the West Somerset Golf Club is at risk due to erosion. In addition it is at risk from flooding. Dependent on the location of the secondary defences, residential properties, roads, West Somerset Railway Line (and associated facilities)	As above.	As above.	There will be a reduction in the spatial extent of the beaches at Minehead Terminus, The Strand and Dunster through coastal squeeze. At Blue Anchor SSSI managed realignment will allow the continuation of processes to maintain the geological features. There will be a reduction in the spatial extent of the beaches at Blue Anchor through coastal squeeze.	No known impact on Water.	As above.

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Location reference:	Minehead to Blue Anchor							
Policy unit reference:	7d19 to 7d23							
Implications of the preferred plan for this location								
Time period	**Management activities**	**Human Health, Property and Population**	**Land use, infrastructure and material assets**	**Historic Environment**	**Landscape character and Visual Amenity**	**Geology and Soils**	**Water**	**Biodiversity, flora and fauna**
			community and tourist infrastructure, are at risk from flooding at Dunster Secondary defence will protection the low lying hinterland from flooding. Protection of residential properties at Minehead and Blue Anchor from flooding. Loss of varying amounts of Grade 3 agricultural land due to flooding and erosion					

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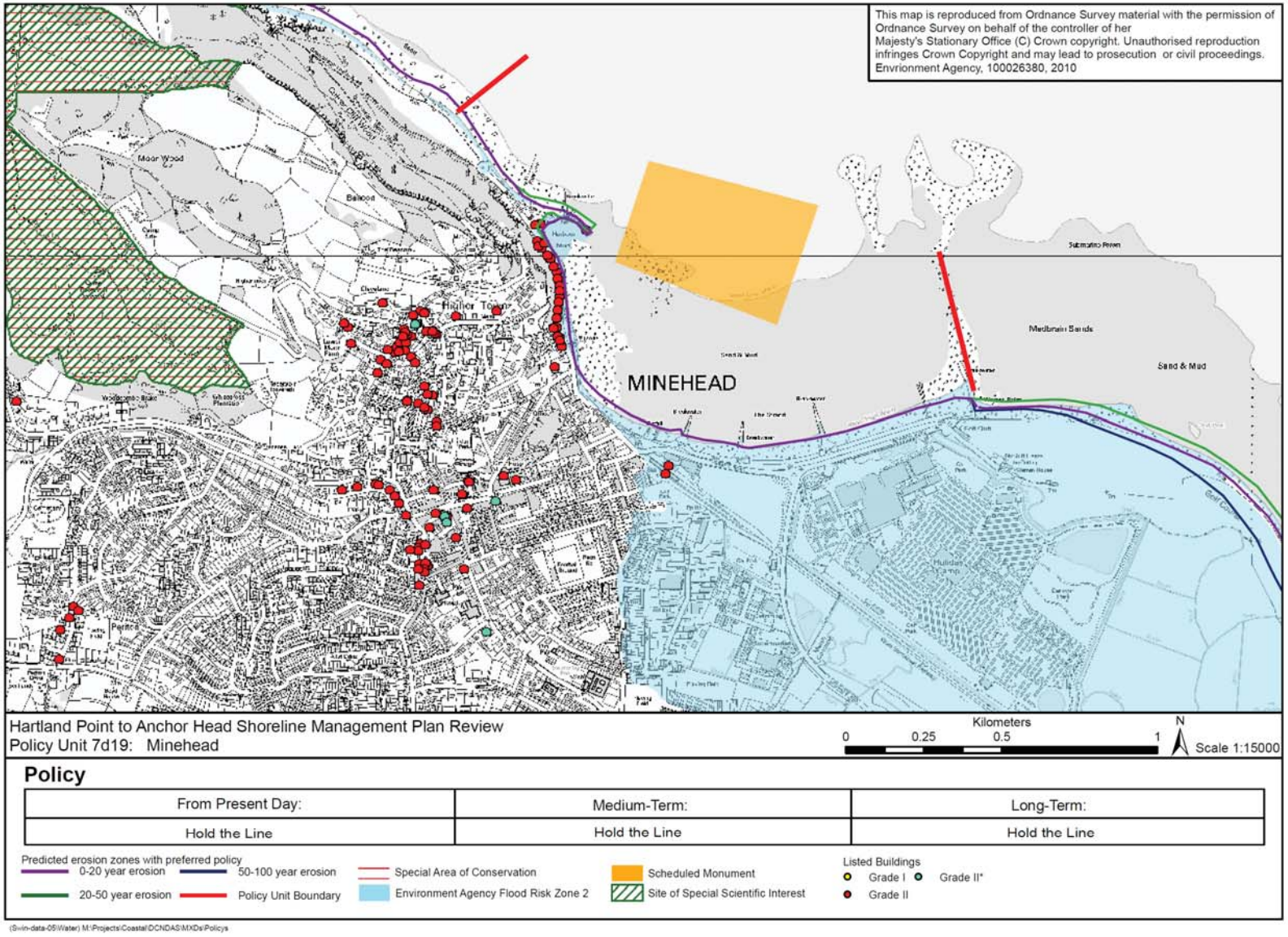

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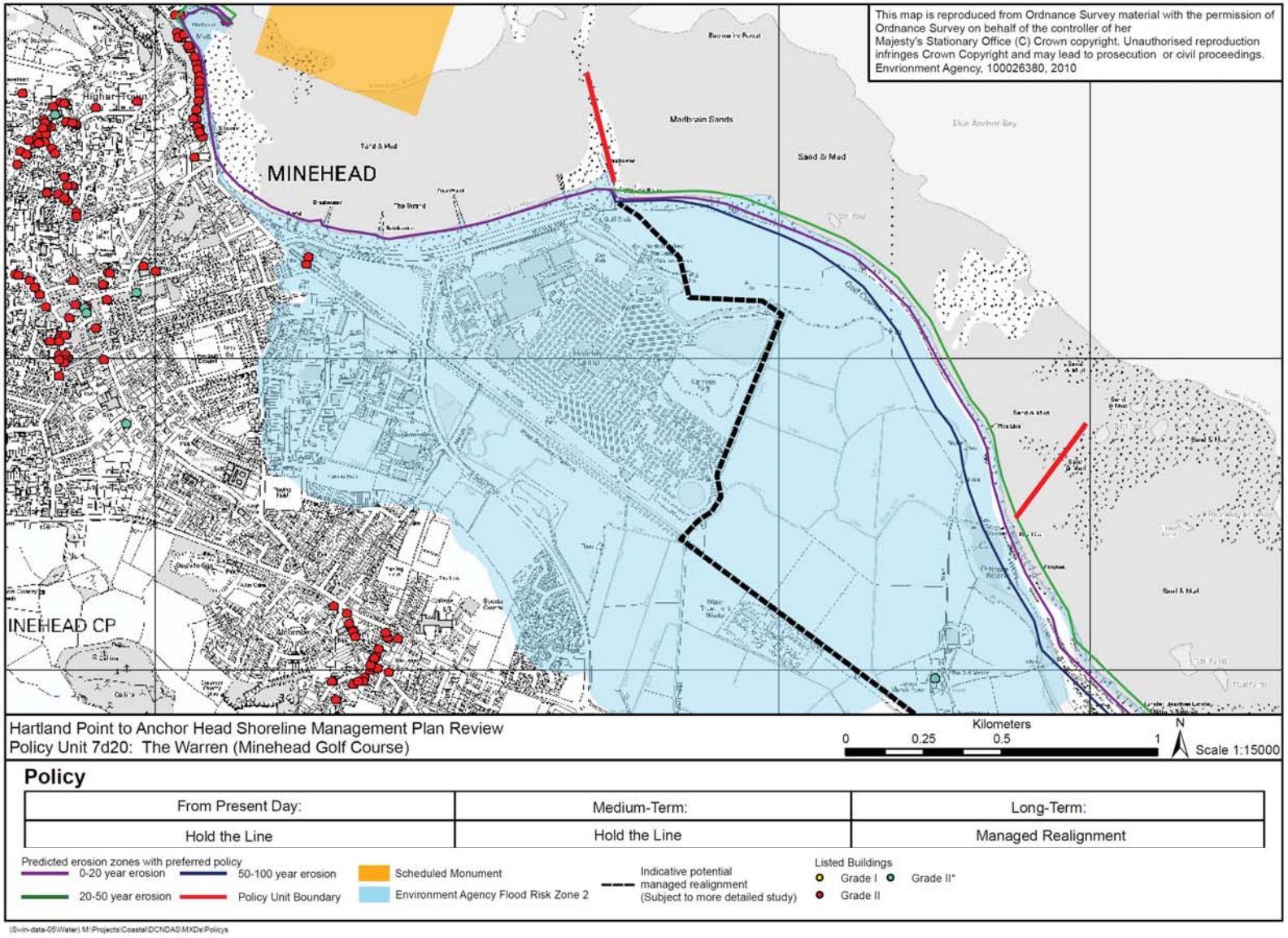

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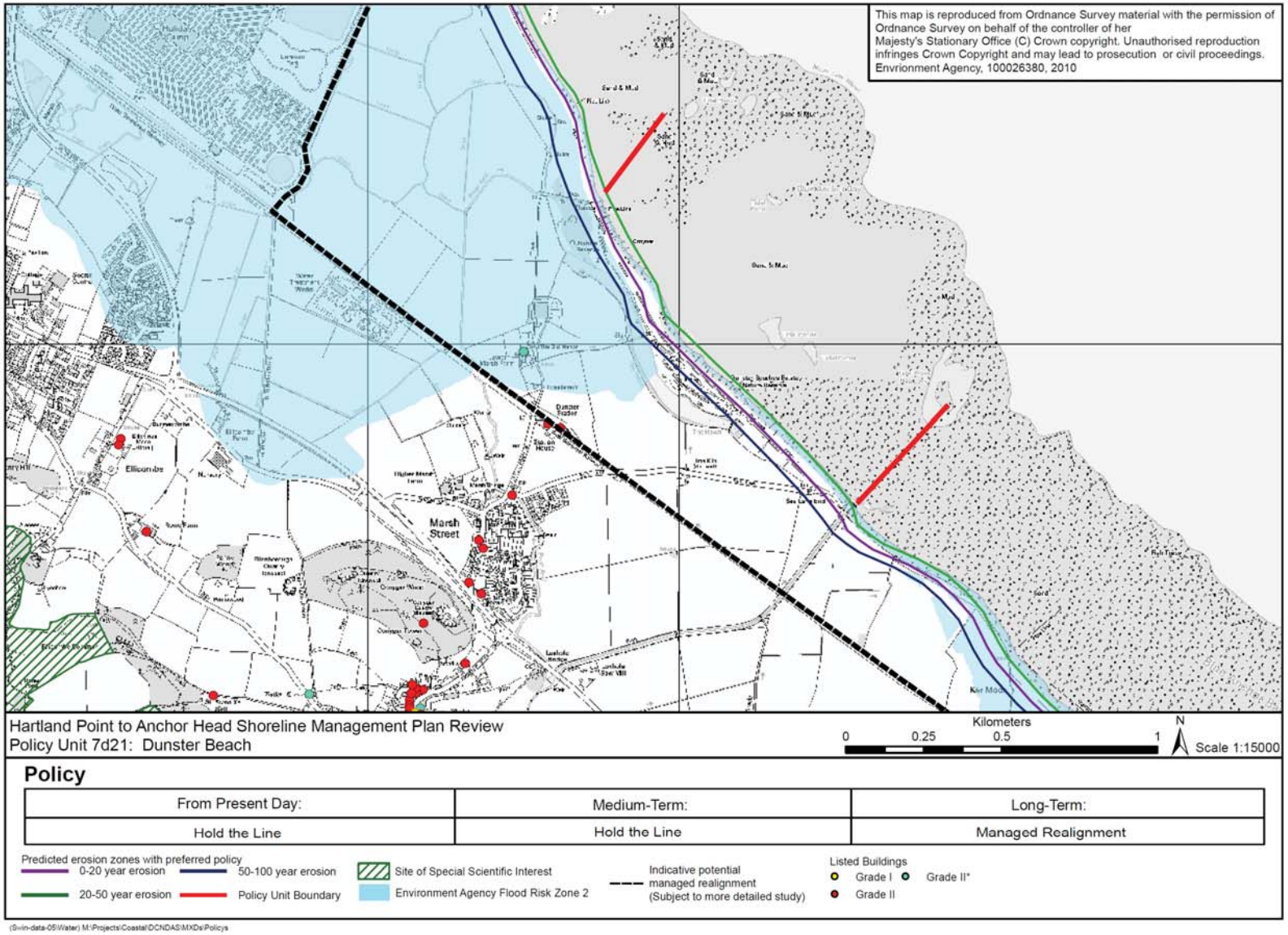

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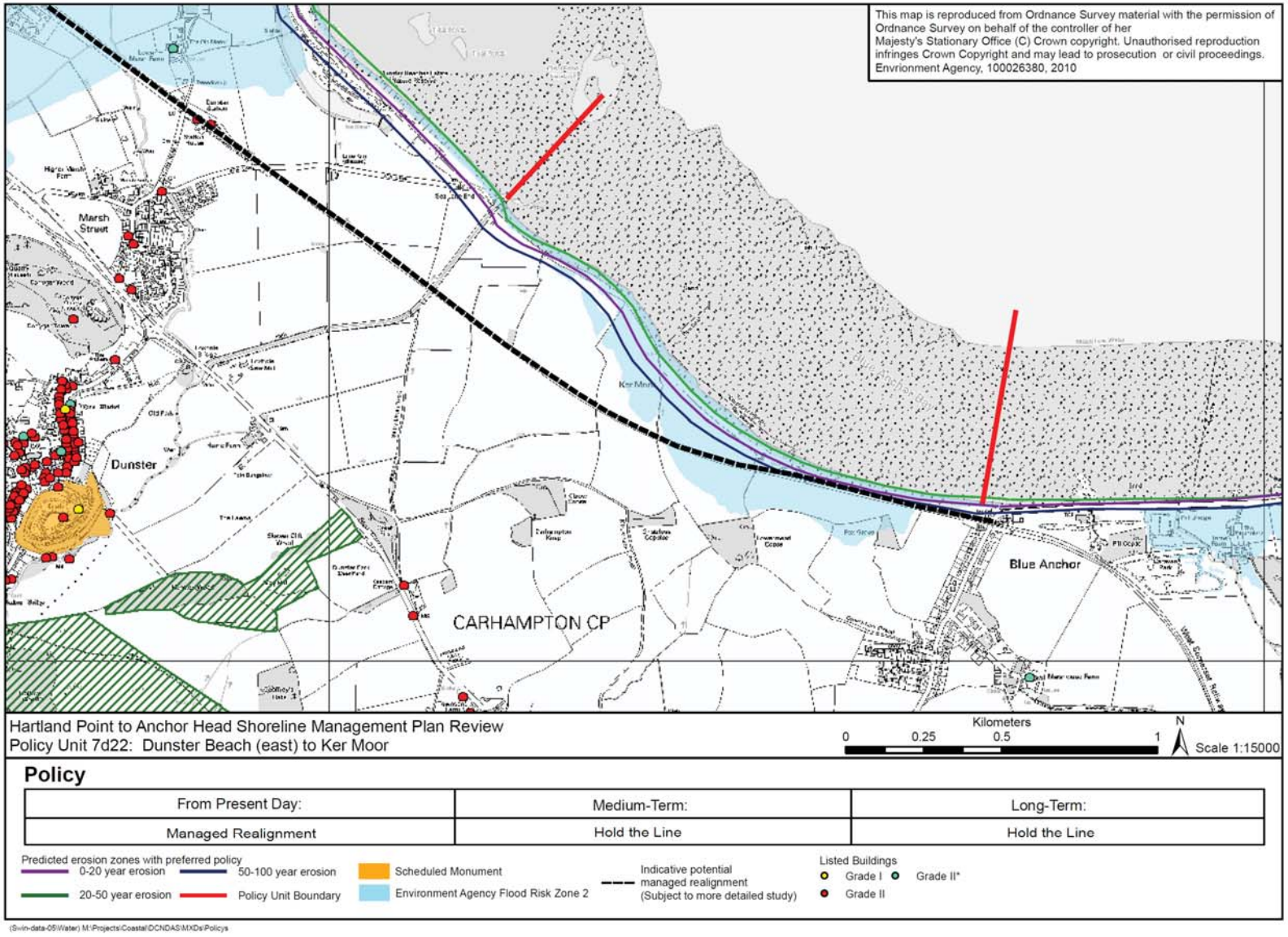

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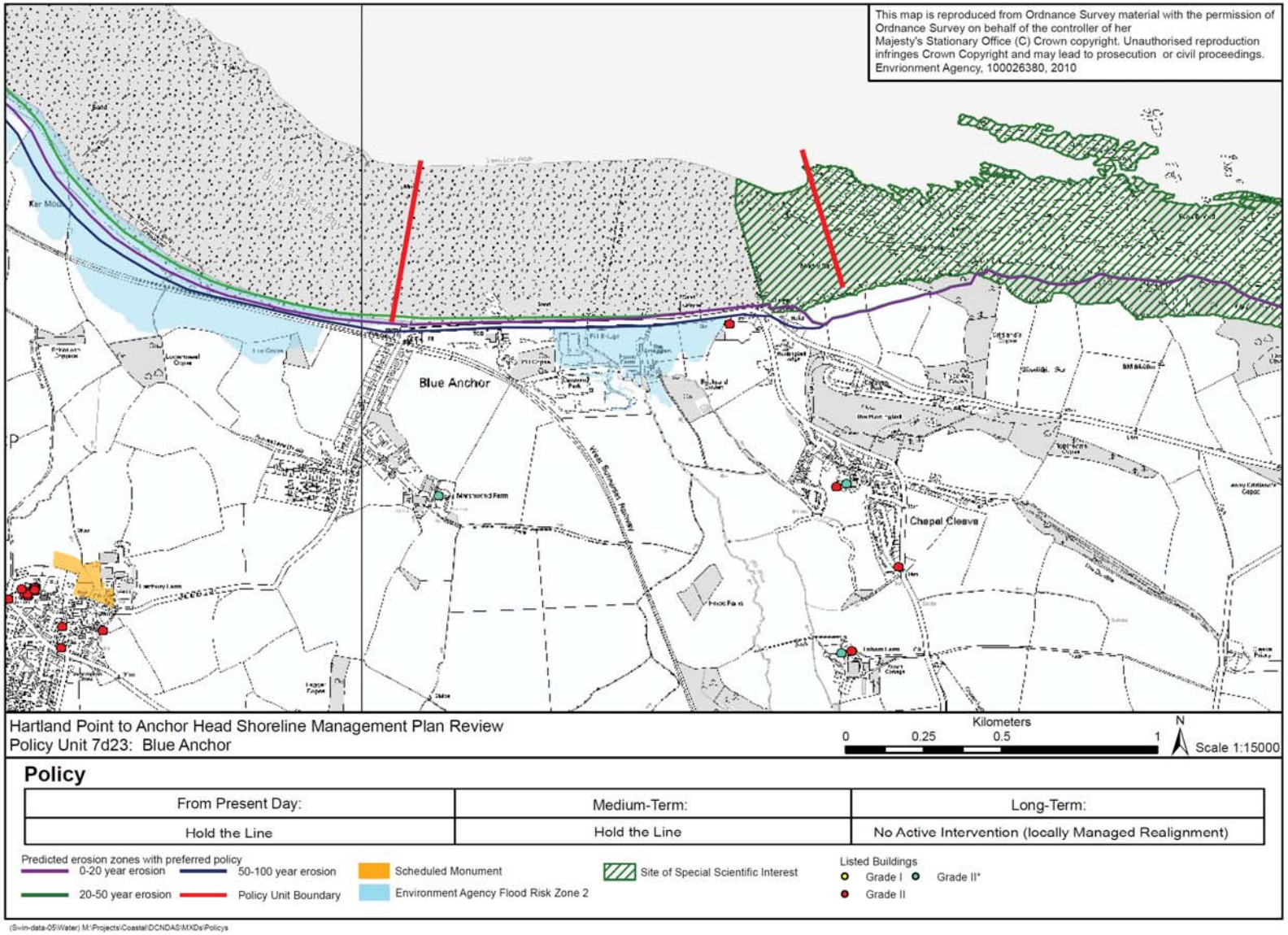

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Location reference:	**Blue Anchor to St Audries Bay**
Policy unit reference:	**7d24 to 7d27**

Summary of preferred plan recommendations and justification

Plan:

This coastline is characterised by a number of small settlements and holiday resorts along the shoreline. The largest settlement is at Watchet, where there are a large number of residential and commercial properties as well as a small harbour.

The long term plan for this coast is for it to evolve naturally, thereby retaining the important landscape character of the area. The key exception will be at Watchet where the scale of the socio-economic assets justifies continued protection, although there would be a local impact on Blue Anchor to Lilstock Site of Special Scientific Interest, as the defences would limit visible exposures of the designated geological features.

It is unlikely that the holiday parks, such as Doniford Holiday Park, will attract public funds from the flood and coastal defence budget. Therefore the plan is to move towards a long term policy of no active intervention as existing defences fail. This will have potential habitat and geological benefits but will mean currently defended areas will be at increased risk of flooding and erosion in the future. A number of other assets could also be at risk, including parts of Daw Castle Scheduled Monument, a number of non-designated archaeological sites and a small section of the registered park and garden at St Audries. Measures may therefore be required to manage this transition, so in the short term the policy is to continue to maintain existing defences along these frontages.

At Watchet there will be continued protection from erosion of homes and businesses, the harbour, some of the allotments, a place of worship, a museum and a small part of the West Somerset Railway. Two substations and the Conservation Area at Watchet will also be protected from flooding.

Preferred policies to implement plan:

From present day (short term):	The policy along the majority of this undefended section is one of **no active intervention**, allowing the coast to continue to evolve naturally. Along currently defended areas such as those at Watchet and Doniford, the short term policy is to **hold the line**. This will be implemented through ongoing maintenance of the defences at Watchet and possible improvements to the piece-meal defences that protect the West Somerset Railway towards Doniford. This would be consistent with other management policies along the coast to the west to protect the railway. This will be kept under review as relocation of the line here may become a more practical solution in the long term. On the western side of Watchet, there may be a need to intervene to reduce the risk of cliff recession to the B3191 if it proves impractical to realign the road landwards. The need for such intervention should be informed by continuing the monitoring that presently occurs in this area. The policy for the rock revetment defences at Doniford Holiday Park is one of **no active intervention** as it is unlikely to attract public funds from the flood and coastal defence budget to maintain and improve them. However, these defences are privately owned and maintained at present and could be retained during this period if alternative funds are available. However, to continue to provide an effective level of protection they would eventually need to be replaced with much larger structures. Continued defence here will exacerbate beach loss as sea levels rise, which could affect the viability of the holiday park in the medium to long term.
Medium term:	The policy along the majority of this undefended section will remain **no active intervention**, thereby allowing the coast to evolve naturally.

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	At Watchet, the policy will be to continue to provide protection to the town, through **hold the line**, maintaining, and when necessary building new more substantial defences. Continued defence of the section of railway between Watchet and Doniford will depend upon decisions made for the coast to the west on the viability of continuing to protect the West Somerset Railway. A **hold the line** policy would be implemented here should the decision be made to protect the entire line. On the western side of Watchet, in line with protecting the B3191 at other parts of the coast in this period, there may be a need to intervene to reduce the risk of cliff recession if it proves impractical to realign the road landwards. Any decision to intervene should informed by continuing the monitoring that presently occurs in this area. At Doniford Holiday Park, the recommended policy is **no active intervention** as it is unlikely that future maintenance or improvement of defences here would attract public flood and coastal defence budget funds. There is no reason in terms of coastal processes not to allow the private defence owner to maintain the rock revetment defences, but this will become technically more difficult and exacerbate local loss of beach.
Longer term:	The long term policy along the majority of this undefended section is to continue **no active intervention**. The key exception is at Watchet where, due to the socio-economic assets, the recommended policy is to continue to **hold the line**, and along the railway frontage between Watchet and Doniford. This would require ongoing maintenance of defences, assuming that adequate improvements to the level of defence were undertaken in the short or medium term. On the western side of Watchet there may remain a need to intervene to reduce the risk of cliff recession to the B3191. Any decision to intervene during this period should informed by continuing the monitoring that presently occurs as well as decisions about the future defence of the road along other parts of the coast such as at Blue Anchor. Any decision to continue to provide protection to Doniford Holiday Park would depend, in part, on conclusions made during early epochs on the viability of providing defences along this section; given the implications for the level of economic investment from private funds and potential loss of recreational beach.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d24	**Blue Anchor to Watchet**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d25	**Watchet to Doniford**	Maintain the existing seawall and breakwater defences, with eventual replacement of some	Maintain the defences, eventually replacing those not replaced in short term with larger structures, to	Maintain the defences to continue protection against flood and erosion risk, through **hold the**

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Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
		defences with larger structures, to continue protection against flood and erosion risk, through **hold the line**.	continue protection against flood and erosion risk, through **hold the line**.	**line**.
7d26	**Doniford to St Audries Bay**	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.	Continue to allow existing localised defences to be maintained or replaced if alternative funding is available to reduce the risk of erosion. If alternative funds are not available, then allow natural coastal evolution to continue through **no active intervention**.
7d27	**St Audries Bay**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.

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Location reference:	Blue Anchor to St Audries Bay
Policy unit reference:	7d24 to 7d27

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Maintenance and improving existing defences at Watchet. Withdraw defences at Doniford to St Audries Bay to allow to coast to function more naturally and no management activities along the rest of this section of coast.	Properties in Watchet are at risk from fluvial flooding.	Protection of harbour infrastructure from erosion at Watchet. Protection of the holiday park infrastructure from outflanking of localised defence structures at Doniford. Loss of varying amounts of Grade 3 agricultural land due to flooding and erosion.	Potential for Audries Bay Registered Park and Garden to be flooded.	Minor changes in landscape due to increased erosion and flooding. Potential for deteriorating coastal defence structures to become unsightly between Doniford and St Audries Bay. Larger or more structures may be required at Watchet to maintain an acceptable standard of flood and erosion protection in some areas, thus potentially resulting in a change of views and a change in landscape character.	Reduction in beach width at Watchet and Lilstock due to erosion. Continuation of natural processes is key to the integrity of the Blue anchor to Lilstock SSSI. No Active Intervention will continue to maintain these geological features.	Works in areas selected for withdrawal of defences should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets.	The Quantocks SSSI is at risk from flooding with potential impact on freshwater habitat through saline intrusion, but this will be due to natural processes. Reduction in spatial extent of the CWS at Cridlands Corpse and Blue Anchor to Lilstock Cliff.
2025 to 2055	Maintenance and improving existing defences at Watchet. No management activities along the rest of this section of coast.	Protection of a small number of commercial and residential properties from erosion at Watchet. Properties in Watchet are at risk from fluvial flooding.	Protection of harbour infrastructure, place of worship, and a museum from erosion at Watchet. Reduction in beach width at Watchet due to erosion. Protection of the holiday park infrastructure from outflanking of localised defence structures at Doniford Loss of varying amounts of Grade 3 agricultural land due to flooding and erosion.	Potential for Audries Bay Registered Park and Garden to be flooded.	As above.	As above.	As above.	As above.
2055 to 2105	Maintenance and improving existing defences at Watchet. No management activities along the rest of this section of coast.	Protection of a small number of commercial and residential properties from erosion at Watchet. Properties in Watchet are at risk from fluvial flooding.	Protection of harbour infrastructure, sections of allotment gardens, place of worship, a museum, and small section of the West Somerset Railway from erosion at Watchet. Reduction in beach width at Watchet due to erosion. Protection of the holiday park infrastructure from outflanking of localised defence structures at Doniford	Potential for Audries Bay Registered Park and Garden to be flooded.	As above.	As above.	As above.	As above.

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Location reference:	Blue Anchor to St Audries Bay
Policy unit reference:	7d24 to 7d27

Implications of the preferred plan for this location								
Time period	**Management activities**	**Human Health, Property and Population**	**Land use, infrastructure and material assets**	**Historic Environment**	**Landscape character and Visual Amenity**	**Geology and Soils**	**Water**	**Biodiversity, flora and fauna**
			Loss of varying amounts of Grade 3 agricultural land due to flooding and erosion					

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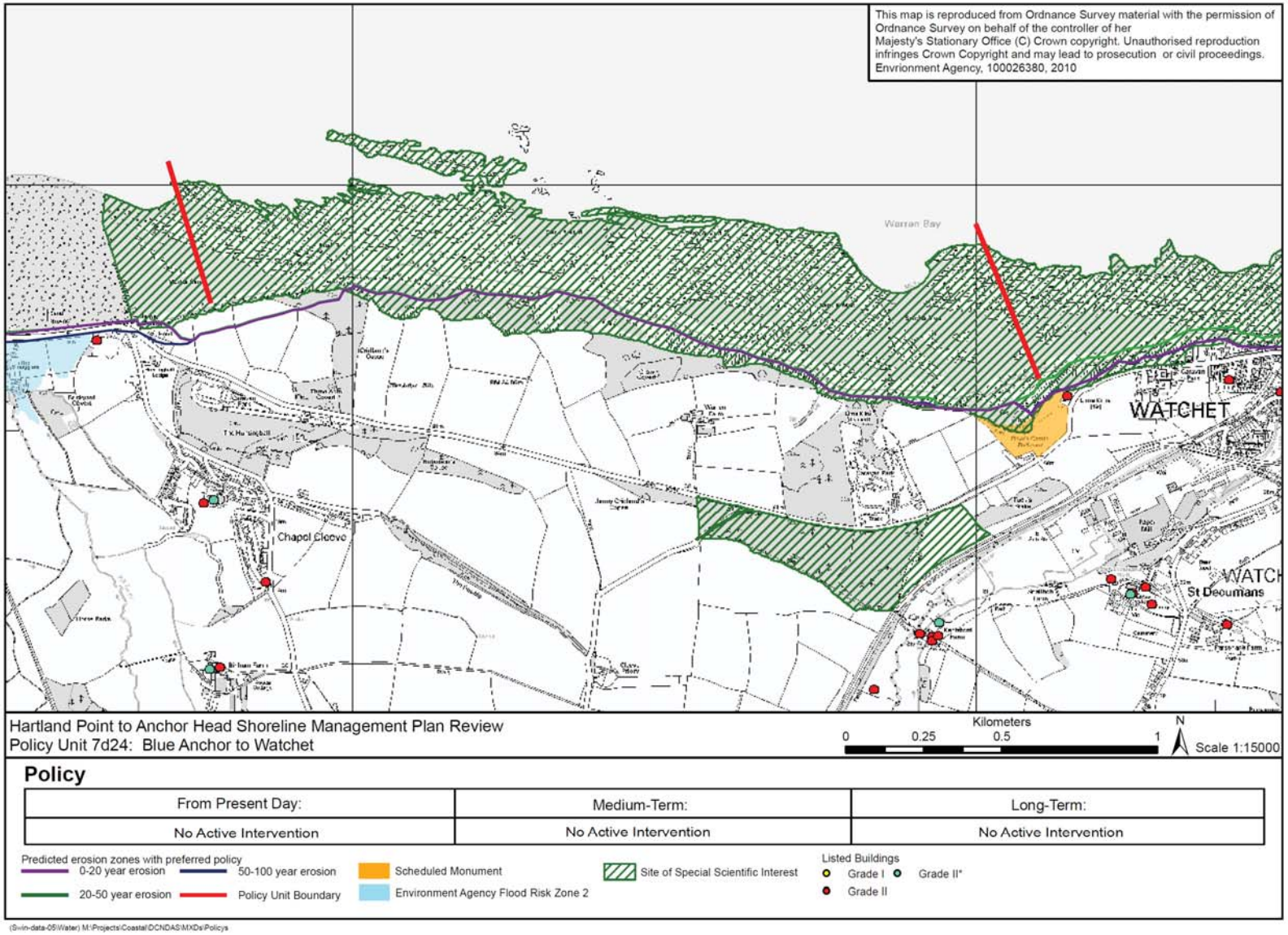

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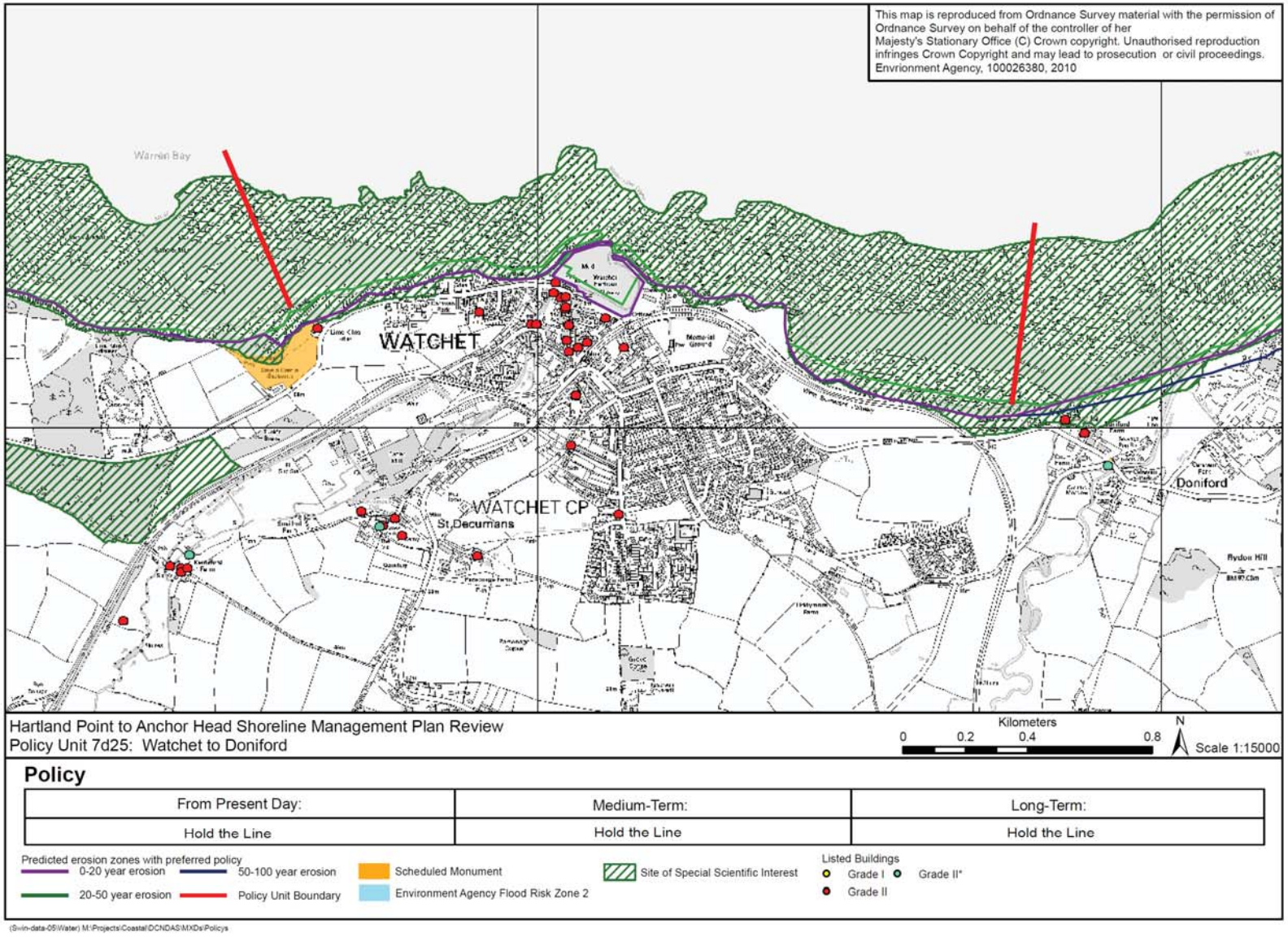

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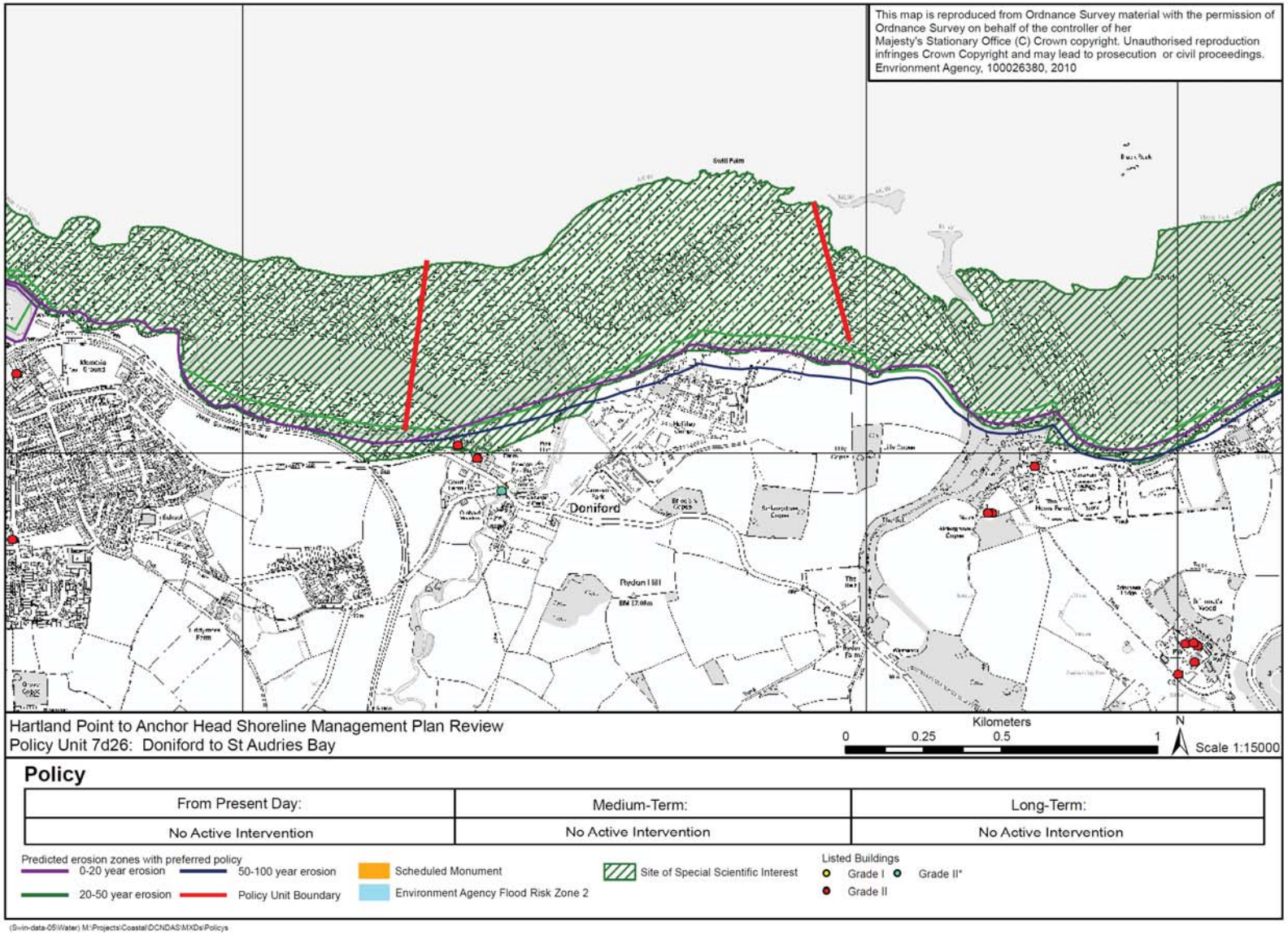

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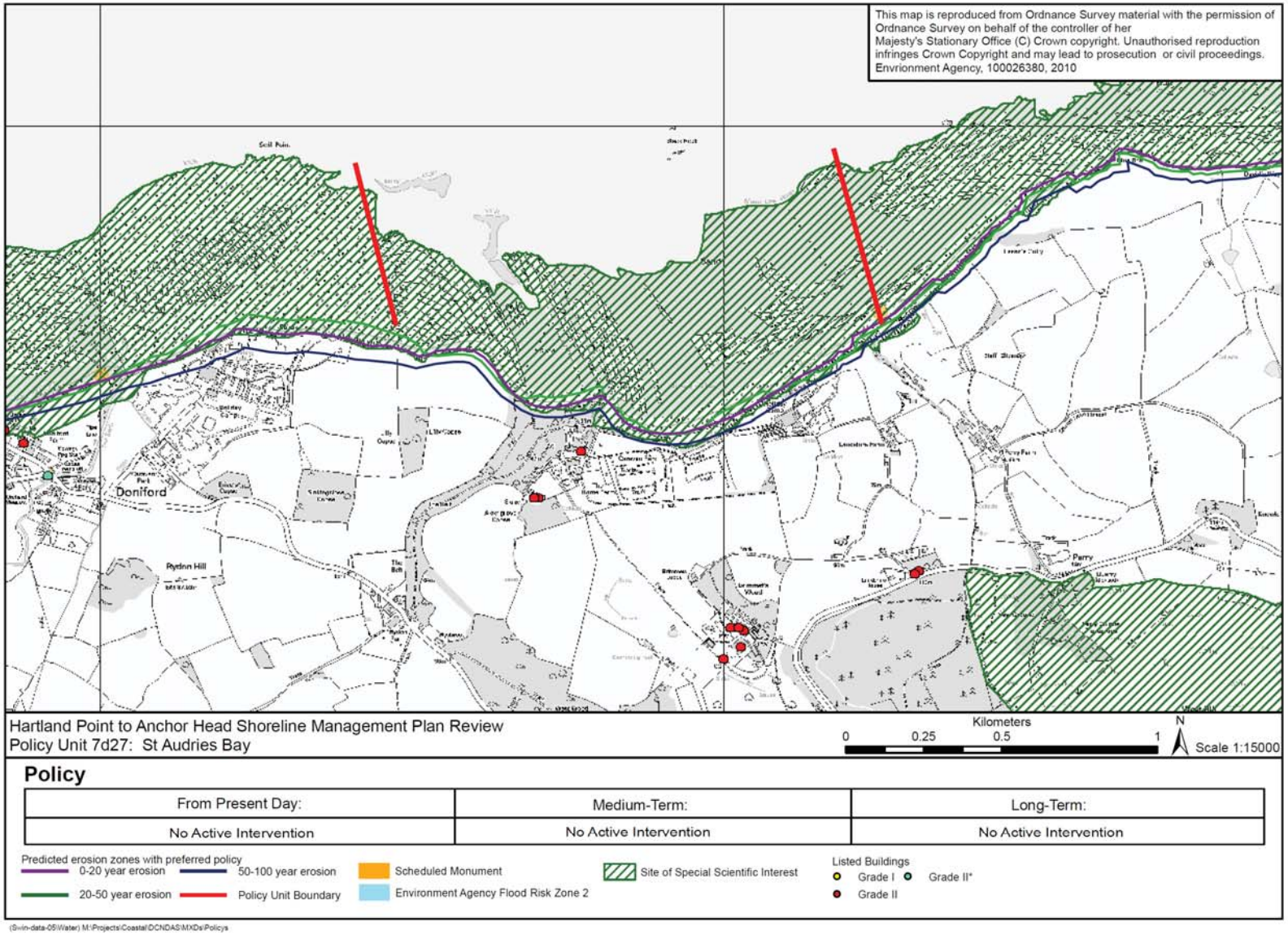

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Location reference:	**St Audries Bay to Hinkley Point**
Policy unit reference:	**7d28 to 7d30**

Summary of preferred plan recommendations and justification

Plan:

This statement covers the largely natural coastline between St Audries Bay and the western end of the power stations site at Hinkley Point. The long term plan for this section of coast is to allow it to evolve naturally along much of its length, retaining the important landscape character of the area. No cliff top assets are expected to be at risk.

Currently there is a short stretch of defence at Lilstock. Continuing to provide protection here, whilst unlikely to have a significant impact on coastal processes, is not likely to attract public funds (national flood and coastal defence budget). The plan here to not intervene further once defences have failed. This will have local implications for the access road and agricultural land which will be at increased risk of flooding.

Preferred policies to implement plan:

From present day (short term):	The policy for the majority of this undefended section is to allow the coast to continue to evolve naturally during this period, through **no active intervention**. Due to the flood risk at Lilstock, the existing embankment will be maintained for as long as technically feasible through a policy of **hold the line**. It is unlikely that improvement of this defence would attract public funds from the flood and coastal defence budget and once the defence reaches the end of its effective life and fails, it would not be replaced.
Medium term:	The policy along this entire frontage is **no active intervention**, allowing the coast to continue to evolve naturally. At Lilstock this would have local implications in terms of the access road and agricultural land.
Longer term:	The recommended policy along this whole section of coast is for **no active intervention**, allowing the shoreline to continue to evolve naturally.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d28	**St Audries Bay to Lilstock**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d29	**Lilstock**	Maintain the existing embankment/gabion defences to continue protection against flooding, through **hold the line**, while preparing to move towards the medium term policy.	Allow natural coastal evolution by moving towards a policy of **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7d30	**Lilstock to Hinkley Point**	Allow natural coastal evolution to continue	Allow natural coastal evolution to continue	Allow natural coastal evolution to continue

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Policy unit		Preferred policies		
		Short term	Medium term	Long term
		through **no active intervention**.	through **no active intervention**.	through **no active intervention**.

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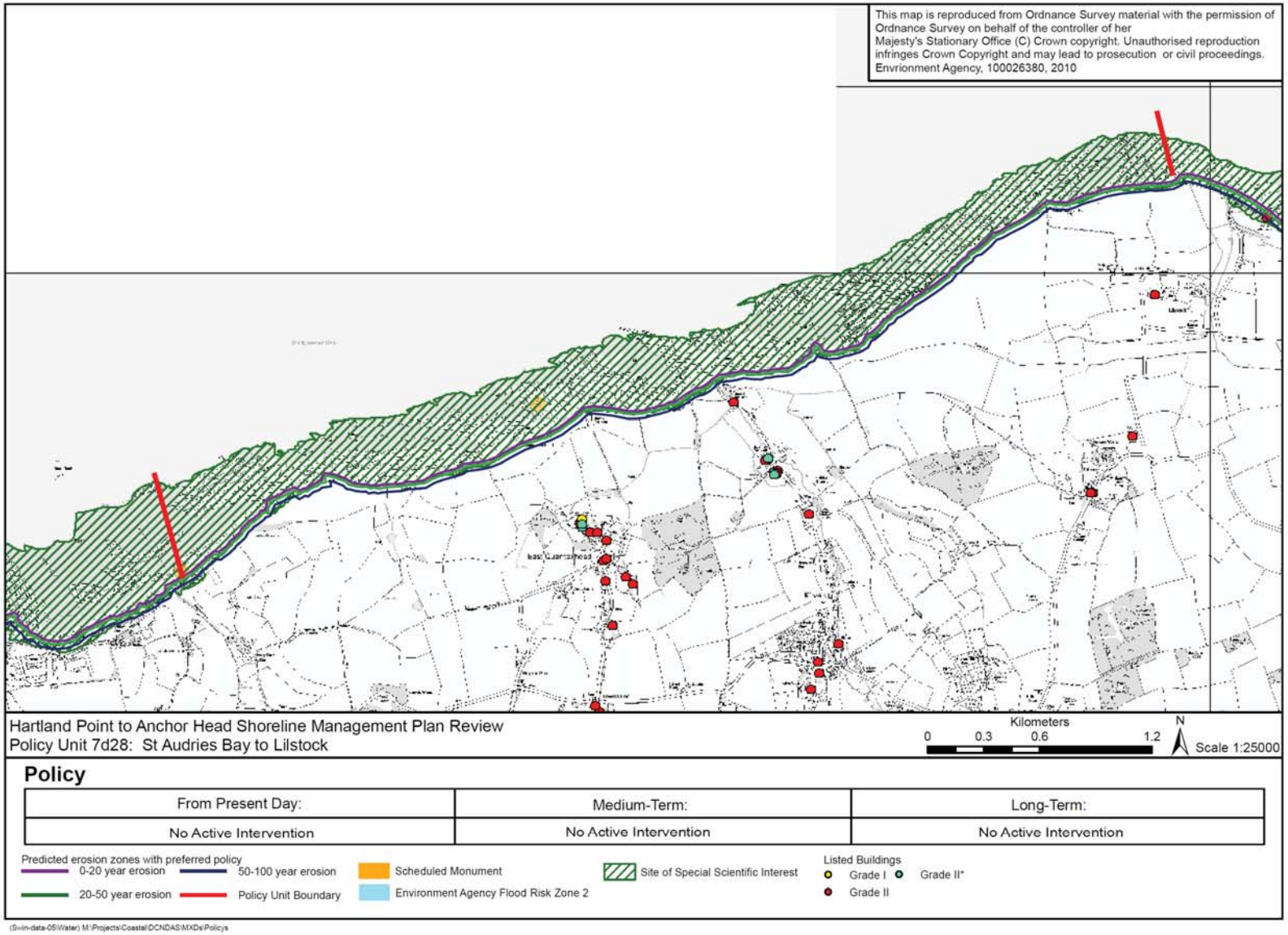
Location reference:	St Audries Bay to Hinkley Point
Policy unit reference:	7d28 to 7d30

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Management activities of maintenance and improvement will be undertaken at Lilstock. The remaining stretch of coast will be left to function naturally.	No properties are at risk from erosion and flooding along this section of coast.	No infrastructure or material assets are at risk from erosion and flooding along this section of coast.	No historic environment features are at risk along this section of coast.	No known changes in landscape.	Reduction in beach width at Lilstock due to erosion. Continuation of natural processes is key to the integrity of the Blue Anchor to Lilstock Coast SSSI. No Active Intervention will continue to maintain these geological features.	No known impact on Water.	The Quantocks SSSI is at risk from flooding with potential impact on freshwater habitat through saline intrusion, but this will be due to natural processes. Reduction in spatial extent of the CWS at Cridlands Corpse, Blue Anchor to Lilstock Cliff and Hinkley Point due to the natural erosion of the cliffs.
2025 to 2055	This stretch of coast will be left to function naturally.	No properties are at risk from erosion and flooding along this section of coast.	No infrastructure or material assets are at risk from erosion and flooding along this section of coast.	The post medieval haven at Lilstock is potentially at risk from erosion. No additional historic environment features are at risk along this section of coast.	As above.	As above.	No known impact on Water.	As above.
2055 to 2105	This stretch of coast will be left to function naturally.	No properties are at risk from erosion and flooding along this section of coast.	No infrastructure or material assets are at risk from erosion and flooding along this section of coast.	As above.	As above.	As above.	No known impact on Water.	As above.



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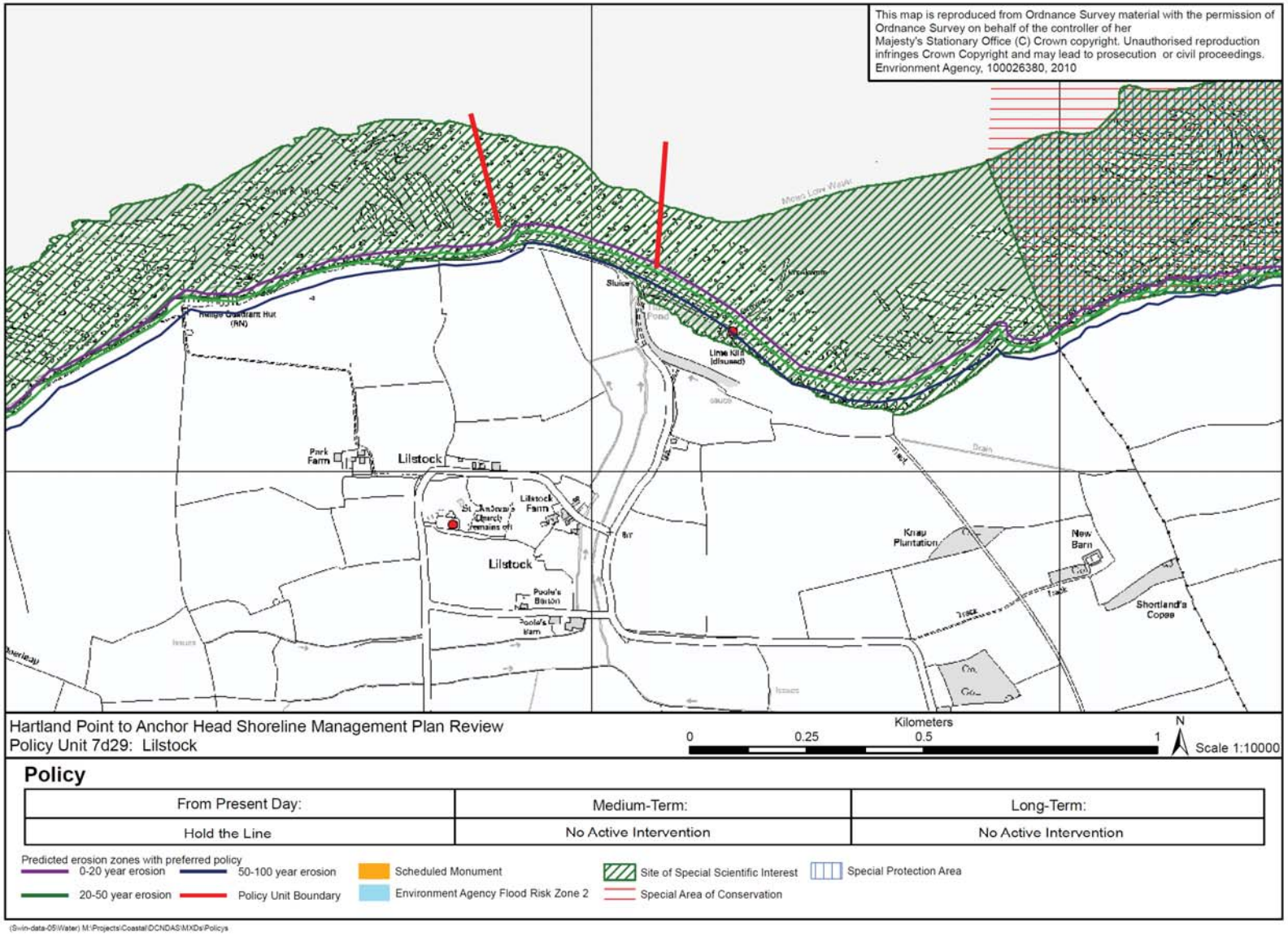

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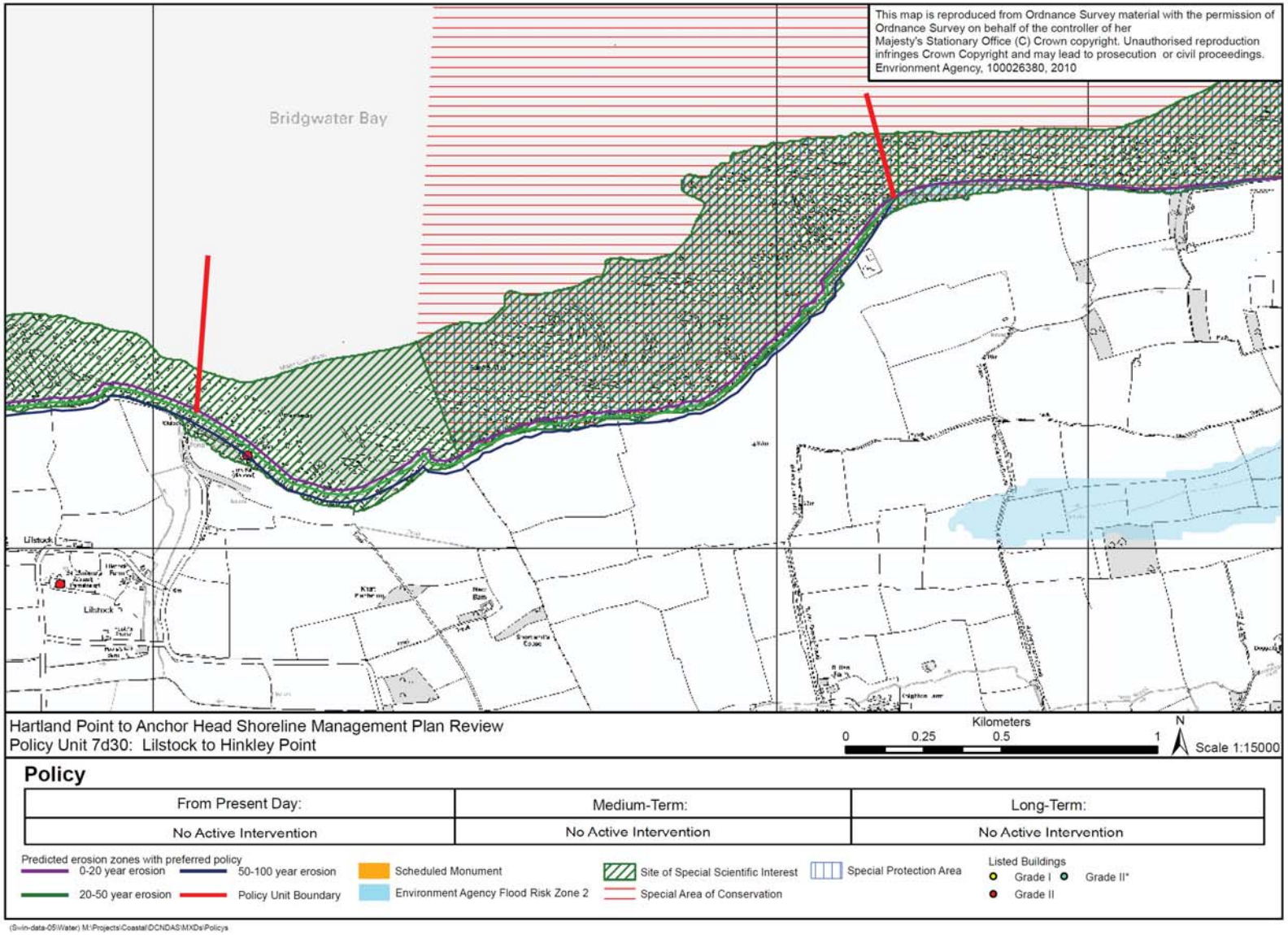

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Location reference:	**Hinkley Point**
Policy unit reference:	**7d31**

Summary of preferred plan recommendations and justification

Plan:

Due to the importance and proposed expansion of the power stations at Hinkley Point, the long term plan here is to continue to provide protection against flood and erosion risk. This will ensure continued protection of the existing power station, its outfall pipes and landfill sites from the risk of flooding and erosion. This includes the option to extend defences by about 1km westwards if required for expansion of the site to allow for construction of new power stations in the coming years. At the time of the SMP being drafted no planning application has been submitted and so precise details of the expansion are not yet available.

Any westward extension of hard defences is likely to result in loss of some intertidal habitat through coastal squeeze (narrowing of the shoreline). This could affect Bridgwater Bay Site of Special Scientific Interest and national nature reserve, Severn Estuary Special Area for Conservation, Special Protection Area for Birds, Ramsar Site and Hinkley Point County Wildlife Site, and could also impact upon a number of non-designated archaeological sites. These are issues that would have to be addressed by the developer as part of any planning application.

Preferred policies to implement plan:

From present day (short term):	This section is currently defended along the majority of its length and the policy is to continue to **hold the line** through maintenance of existing seawall and revetment structures. A hold the line policy would also cover any extension of defences westwards along the shore if required as part of the expansion and development of new reactors at Hinkley Point Power Station. If these are not required, then there is likely to be no active intervention along the currently undefended shoreline. Defences along the current power station frontage will continue to restrict the amount of beach sediment transported around Hinkley Point from west to east towards the Steart Peninsula. This would occur regardless of any effects of a proposed jetty that may be built as part of the power station extension; although such a construction could exacerbate the problem. Further studies would be required to quantify this.
Medium term:	Continuing to **hold the line** at Hinkley Point will require ongoing maintenance of defences to provide protection to the site, including any expansion and new defences constructed in accordance with that. If this has not occurred, then the currently undefended cliffs could evolve naturally under a policy of **no active intervention**.
Longer term:	Continuation of the policy to **hold the line** at Hinkley Point will require ongoing maintenance of defences to reduce the risk of flooding and erosion to the present, and potentially expanded, site of the power stations. If the site has not been extended then the currently undefended cliffs could evolve naturally under a policy of **no active intervention**.

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Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d31	**Hinkley Point**	Maintain the existing seawall defences, and possibly construct new seawall defences along the shoreline to the west, to continue protection against flood and erosion risk, through **hold the line**. If new defences are not required along the western part of this frontage as part of the Hinkley Point power station expansion, then **no active intervention** is to occur.	Maintain the defences to continue protection against flood and erosion risk, through **hold the line**. Any areas where the coast remains undefended are to be allowed to evolve naturally under **no active intervention**.	Maintain the defences to continue protection against flood and erosion risk, through **hold the line**. Any areas where the coast remains undefended are to be allowed to evolve naturally under **no active intervention**.

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Location reference:	Hinkley Point
Policy unit reference:	7d31

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Maintain existing defences and construct new defences as required.	No Known impact on residential property or population.	Protection of the power station and waste holding facilities from minor erosion on the western edge of the site.	No known impact on the Historic Environment.	Minor changes in landscape due to larger defences or more structures being required to maintain an acceptable standard of flood and erosion protection, thus potentially resulting in a change of views and a change in landscape character.	Defence may reduce the area of the intertidal platform through coastal squeeze,	No known impact on Water.	Coastal squeeze will occur at Hinkley Point (sea level rise against sea defences) resulting in a net decrease in intertidal habitat and distribution of the habitats and species in this area, which are key features of the Bridgwater Bay SSSI and NNR, Severn Estuary Ramsar, SPA and SAC. Therefore this policy is considered further within the Habitats Regulations Assessment (Appendix J).
2025 to 2055	Maintain existing defences.	No Known impact on residential property or population.	Protection of the power station and waste holding facilities from erosion on the western edge of the site.	No known impact on the Historic Environment.	As above.	As above.	No known impact on Water.	As above.
2055 to 2105	Maintain existing defences.	No Known impact on residential property or population.	Protection of the power station and waste holding facilities from erosion on the western edge of the site.	No known impact on the Historic Environment.	As above.	As above.	No known impact on Water.	As above.

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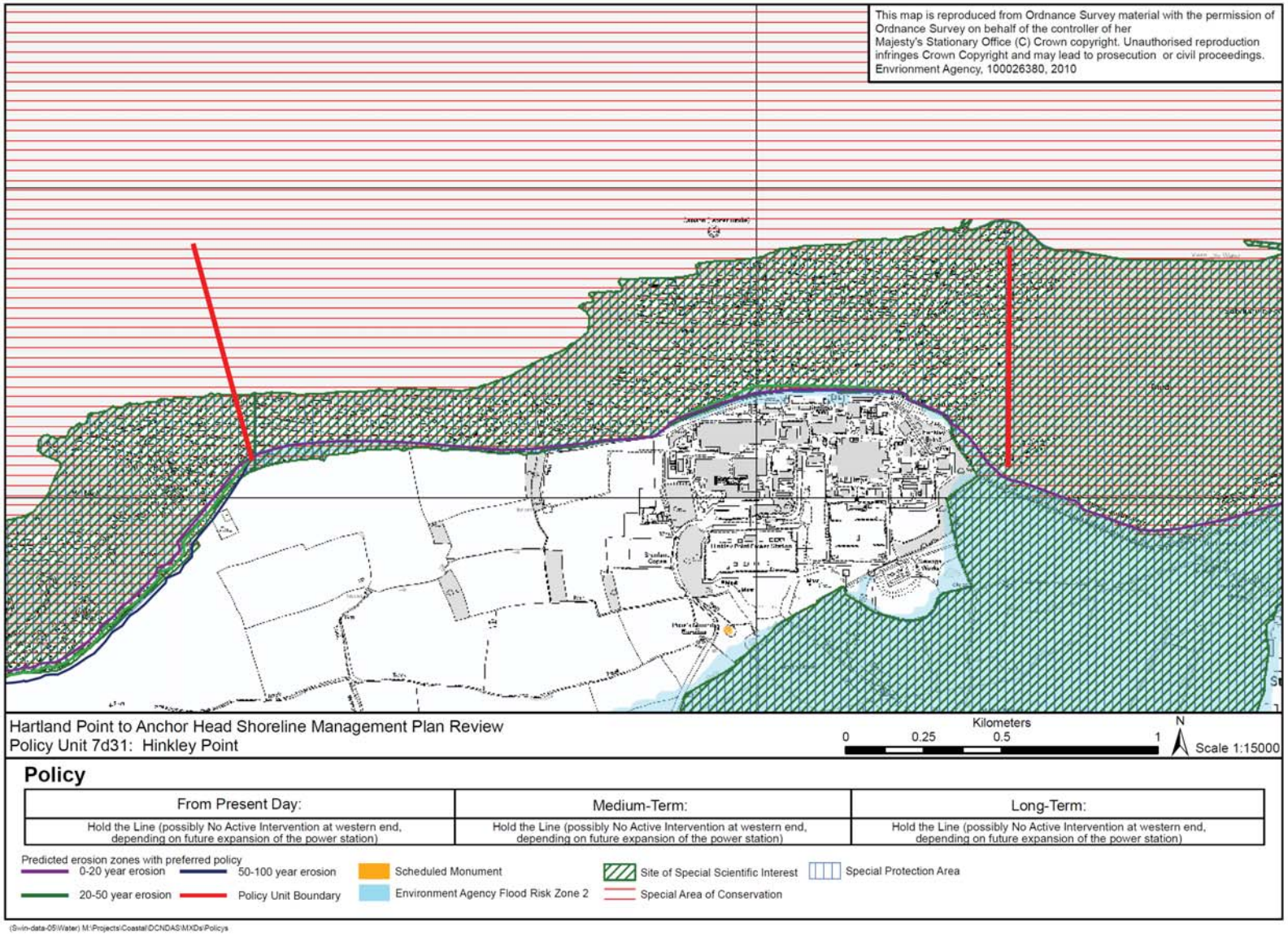

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Location reference:	**Hinkley Point to Stolford**
Policy unit reference:	**7d32 and 7d33**

Summary of preferred plan recommendations and justification

Plan:

This section covers the large flood risk area between the eastern end of the power station site at Hinkley Point, and settlement of Stolford. The long term plan is to continue to provide flood protection to the majority of properties and infrastructure, but along a more sustainable and affordable alignment.

Realignment along parts of this section to the east of Hinkley Point may also mitigate some of the impacts upon Site of Special Scientific Interest, National Nature Reserve, Special Area for Conservation, Special Protection Area for Birds and Ramsar habitats that are likely to occur as a result of the planned westwards extension of Hinkley Point power station.

Further studies are required to define the most appropriate alignment of set back defences; therefore the short term policy is to continue to maintain existing defences while those are carried out.

As a result of realignment, homes, businesses and roads at Stolford would likely remain protected against the risk of flooding as it is anticipated that the realigned position would be in front of this area, but some small areas of agricultural land will be permanently lost. Power lines running from Hinkley Point are also located in the floodplain and any managed realignment along this stretch of coast would need to consider the best form of protection for these assets.

Preferred policies to implement plan:

From present day (short term):	This section is presently defended along its full length and the short term policy is to **hold the line** through maintaining the existing revetment and embankment structures. This will allow time for detailed investigations to be carried out to determine the most appropriate form of any future managed realignment.
Medium term:	The medium term policy is for **managed realignment** through the construction of set back defences, the location of which would be determined through earlier studies. The exact location of any new set back defences would affect the assets at risk, and studies would also need to consider the power lines running from Hinkley Point, and be consistent with the implementation of policies for the Steart Peninsula.
Longer term:	The long term policy is to **hold the line** of the set back defences in order to minimise the risk of flooding and erosion to people, property and infrastructure. This will likely involve ongoing maintenance of future embankments.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d32	**Hinkley Point to Stolford**	Continue to maintain existing embankment defences under a **hold the line** policy. Investigate opportunities for managed	Implement **managed realignment** along this stretch.	**Hold the line** of the realigned defence.

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Policy unit		Preferred policies		
		Short term	Medium term	Long term
		realignment.		
7d33	**Stolford**	Continue maintaining existing embankment defences under a **hold the line** policy. Investigate managed realignment opportunities.	Implement **managed realignment** along this stretch.	**Hold the line** of the realigned defence.

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Location reference:	Hinkley Point to Stolford
Policy unit reference:	7d32 and 7d33

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Continue maintaining existing embankment defences. Investigate Managed Realignment opportunities.	Protection of residential and commercial s from flooding.	Protection of residential and commercial properties and roads from flooding.	Protection of Listed Buildings at Stolford Farm.	No known change in landscape or visual amenity.	No known impact on Earth Heritage, Soils and Geology	No known impact on Water.	Protection of freshwater habitats from flooding although there may be issues of coastal squeeze where sea level rise against sea defences leading to a net decrease in intertidal habitat which are key features of the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC . Therefore this policy is considered further within the Habitats Regulations Assessment (Appendix J)
2025 to 2055	Implement Managed Realignment along this stretch.	As above. Loss of agricultural land (Grade 3, 4 and 5) to areas of managed realignment.	Protection of residential and commercial properties and roads from flooding. This is dependent on the location of the secondary defences. Potential inundation/protection of critical infrastructure (power lines)	Stolford Farm is at risk from flooding depending on the position of the set back defence. Potential risk to prehistoric peat and forest bed from erosion. Historic landscape of reclaimed land forming wetlands will change towards an intertidal landscape in areas of managed realignment.	Managed realignment will cause a change in landscape from low lying wetland to intertidal habitat as well as construction of a new set-back defence.	Potential changes in soil chemistry through saline inundation.	Works in areas selected for managed realignment should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets.	In areas of managed realignment there will be a loss of freshwater habitat to intertidal habitat. This will offset losses of intertidal habitat to coastal squeeze elsewhere in the Estuary.
2055 to 2105	Maintenance of the realigned defence.	As above.	As above	As above	As above	As above.	As above.	As above.

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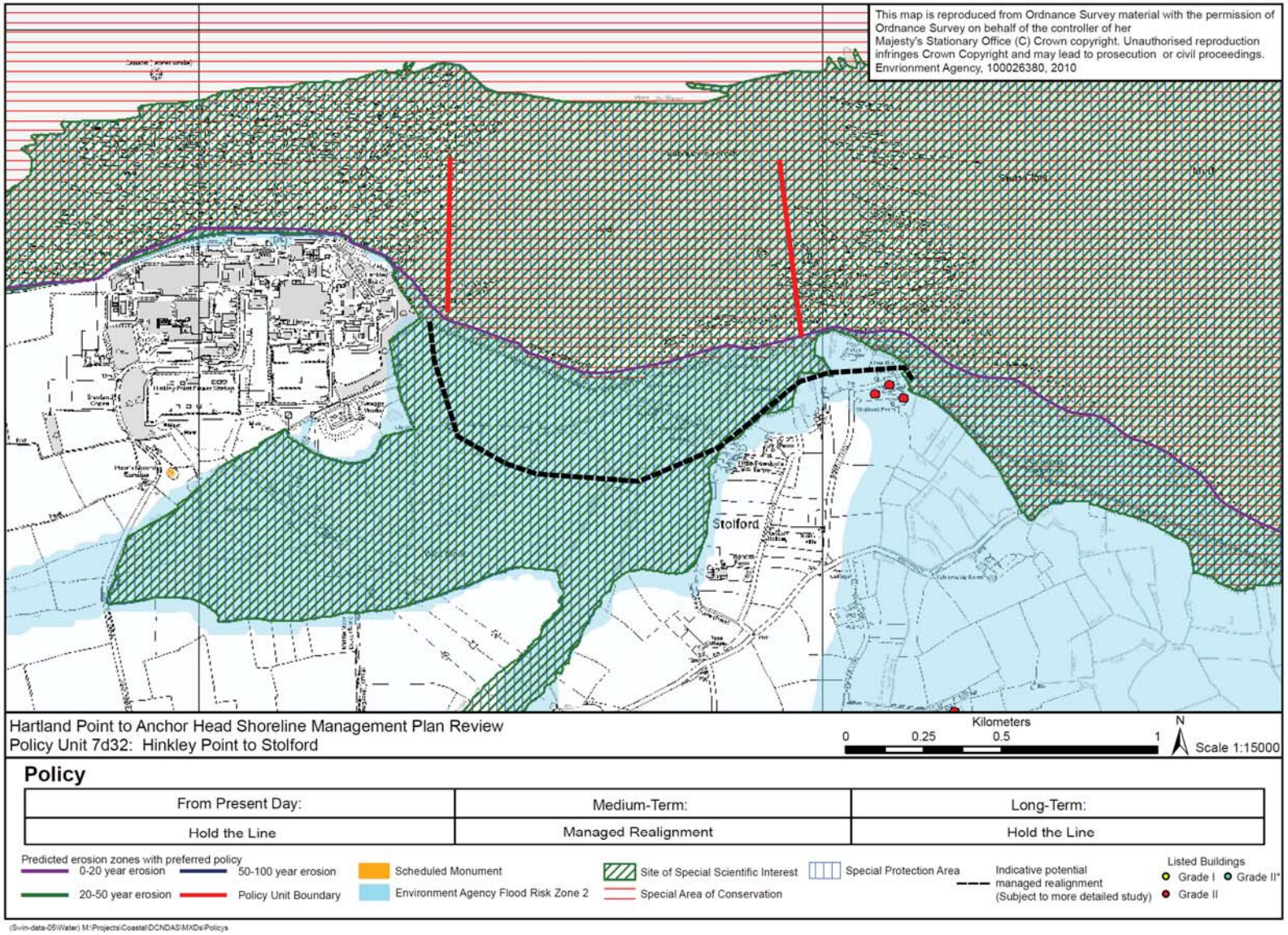

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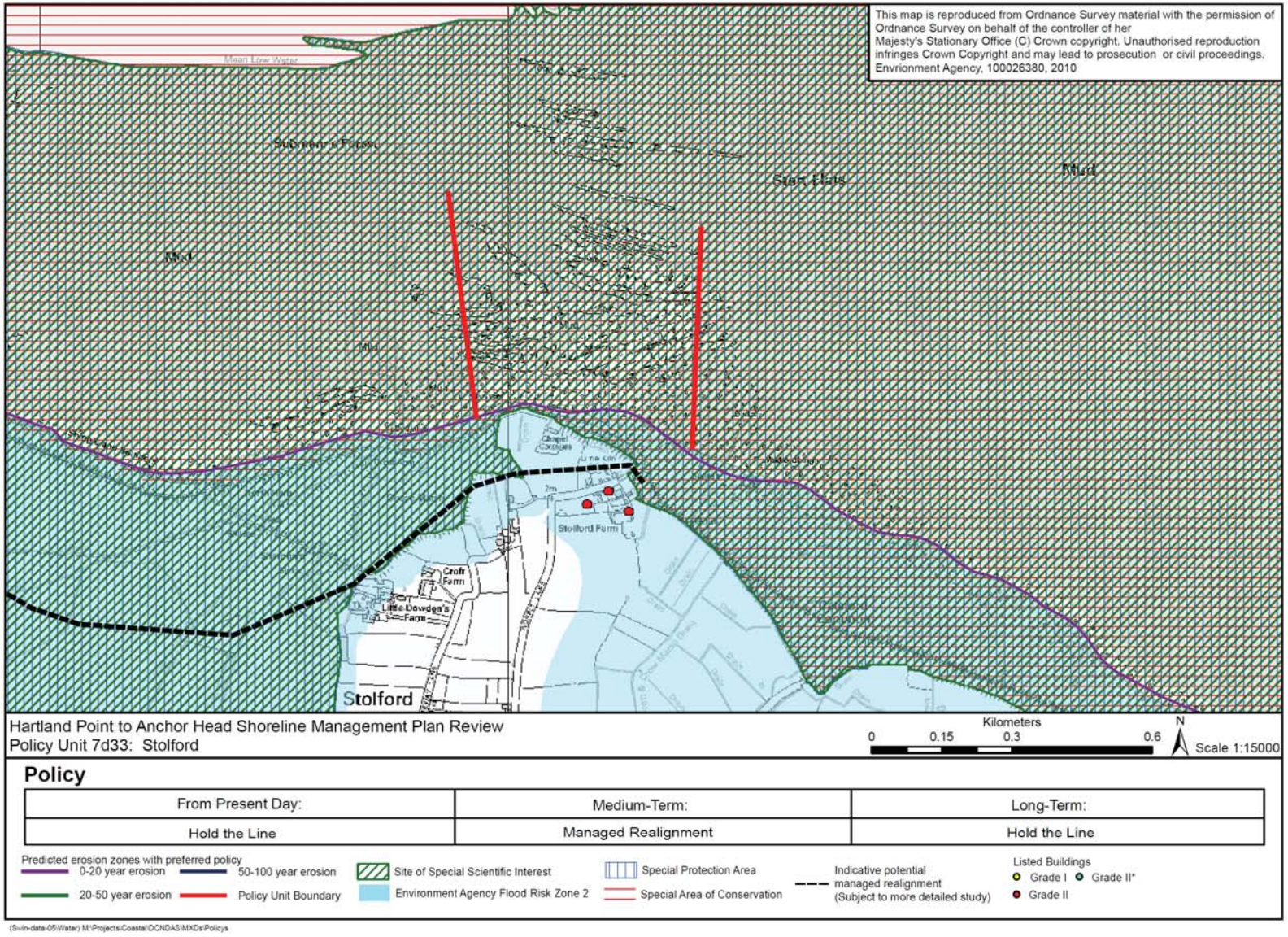

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Location reference:	**Steart Peninsula (Stolford to Combwich)**
Policy unit reference:	**7d34 to 7d37**

Summary of preferred plan recommendations and justification

Plan:

This statement should be read in combination with the statement for the Parrett Estuary as the plans for the two areas are closely linked.

The long term vision for the wider Parrett Estuary is to return it to a more natural, less constrained, state while continuing to provide defence to people and property against the risk of flooding in a way that is environmentally acceptable and economically viable. There are areas within the outer Parrett Estuary where it will become increasingly difficult in the future to economically justify continuing to defend the coast along present alignments. The Steart Peninsula is one of those areas.

The long term plan for Steart Peninsula is therefore to allow this area to function more naturally with little or no human intervention along the shorelines, with defence of assets provided through set-back defences where these can continue to be economically justified. This plan will result in the evolution of new natural intertidal and transitional habitats but would impact upon existing terrestrial habitats. There will eventually be loss of property and infrastructure at Steart village, agricultural land, and a number of non-designated archaeological features. There is also potential for impacts on the national grid power lines running from Hinkley Point and some properties at Stockland Bristol unless realigned defences are provided to protect these against future flooding.

There are also potential implications for the wider estuary hydrodynamic and geomorphological regime, one impact of which could be changes in the low water channel of the estuary which could affect the intertidal area at Burnham-on-Sea and navigation to Dunball. However, sea level rise will also produce considerable changes in these regimes irrespective of management policies within the estuary, and the impacts of any changes in policy need to be considered in that context.

In advance of any long term policy change, measures to manage the transition from present day conditions to the future state are advocated if these can be introduced effectively and economically. There is an opportunity for nature conservation and biodiversity creation to offset losses elsewhere in the Severn Estuary if a managed realignment scheme is introduced in the short term. This also provides opportunity to better manage and potentially improve the immediate flood risk to people and property on the peninsula.

Such changes require detailed investigation to determine the viability, approach, timing, consequences, and any measures that would need to be put in place to manage risk. Opportunities for undertaking realignment to create habitat are currently under review and consultation as part of the Environment Agency led Steart Coastal Management Project.

Preferred policies to implement plan:

From present day (short term):	The policy in the immediate term, i.e. the next few years, is to continue to maintain current flood defences to **hold the line** and minimise the risk of flooding while measures are developed to manage the change in policy in the medium and long term. A longer term continuation of this policy would mean that present defences will need to be re-built and raised but that will not be economically viable to do so along present alignments. During this period the policy will therefore transition to **managed realignment**, providing retired line(s) of defence further inland. The precise location and nature of these is being determined by the ongoing Steart Coastal Management Project, but expected to involve constructing a set back defence line seaward of the power lines reducing any risk of flooding to these and Stockland Bristol. There would also be a need for protection to the village of Steart such that the risk of flooding is not increased from that now by the implementation of such a scheme. The proposed scheme would include breaching the existing defence line to allow the managed development of new wetland habitats.

The above provides the local details in respect of the SMP-wide policy presented in the preceding sections of this Plan document. These details must be read in the context of the wider-scale issues and policy implications, as reported therein.

	If a habitat creation scheme does not go ahead, then existing defences would be maintained for as long as economic and practical to do so but will ultimately transition to one of **no active intervention** where improvements or set back defences are not economically justified, i.e. Steart village.
Medium term:	The medium term policy would be to **hold the line** of newly constructed set back embankments as long as it remained economically viable and practical to maintain these. This would provide flood protection to people and property, and the continued development of natural habitats over a large area. Eventually, once the set back defences reach the end of their effective life in the medium to long term then the justification for any reconstruction of these will need to be re-evaluated. In some circumstances, e.g. Steart village, it may no longer be viable to continue to provide defences and policy in those areas would become **no active intervention**. Over time Stert Drove road will become more frequently inundated and impassable as sea levels rise, which may also influence this decision.
Longer term:	Provided that it remains economically viable to do so, the long term policy is likely to remain **hold the line** of set back defences and continue to provide protection to the area to the south of the power lines. Elsewhere a policy of **no active intervention** unless an economic case, or alternative funding, can be provided to continue to protect Steart village.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d34	**Stolford to Wall Common**	Initially continue to maintain the shingle bank and defences to **hold the line** while measures are put in place to manage the change to **managed realignment**.	**Hold the line** of the set-back defences protecting the power lines and areas to the west provided this remains economically justified. **No active intervention** along the shoreline.	**Hold the line** of the set-back defences protecting the power lines and areas to the west provided this remains economically justified. **No active intervention** along the shoreline.
7d35	**Steart Village**	Continue to minimise flood and erosion risk to Steart village from the Parrett, through **managed realignment** if a scheme can be justified on habitat creation ground, otherwise, **no active intervention**. On the seaward side initially continue to minimise flood and erosion risk to Steart village, through **hold the line**, while measures are	Continue to maintain set back defences while it remains viable to do so. Allow natural coastal evolution on the seaward side through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.

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Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
		put in place to manage the change in policy to **no active intervention**.		
7d36	**South of Steart Village to north of Combwich (line of national grid power lines)**	Initially continue to minimise flood and erosion risk to Steart village, through **hold the line**, while measures are put in place to manage the change in policy to **managed realignment** in PUs 7d34, 7d35 and 7d37.	**No active intervention** along the former Parrett Banks.	**No active intervention** along the former Parrett Banks.
7d37	**Parrett Estuary from line of national grid power lines to Combwich**	Maintain the existing defences to continue to minimise flood risk, through **hold the line**.	Maintain the existing defences to continue to minimise flood risk, through **hold the line**, including the new set-back defences protecting the power lines and areas to the west, provided it remains economically justifiable to do so.	Maintain the existing defences to continue to minimise flood risk, through **hold the line**, including the set-back defences protecting the power lines and areas to the west, provided it remains economically justifiable to do so.

The above provides the local details in respect of the SMP-wide policy presented in the preceding sections of this Plan document. These details must be read in the context of the wider-scale issues and policy implications, as reported therein.

Location reference:	Steart Peninsula (Stolford to Combwich)
Policy unit reference:	7d34 to 7d37

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Maintenance of existing defence except in area of managed realignment in this epoch where new set back defences will be constructed.	Protection of residential and commercial properties at Stolford and Steart Village.	Protection of minor roads on the Steart Peninsula from flooding. Potential loss of some parts of the West Somerset Coastal Path from flooding but can be re-routed. Potential inundation of critical infrastructure (powerlines).	Protection of Listed Buildings at Stolford Farm from flooding. Historic landscape of reclaimed land forming wetlands will change towards an intertidal landscape in areas of managed realignment.	No change to the landscape character and visual amenity.	No known impact on Earth Heritage, Soils and Geology. No designated sites along this stretch of coast. Potential changes in soil chemistry through saline inundation.	Works in areas selected for managed realignment should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets.	Wall Common CWS and Wall Common West Local Wildlife Site are at risk from flooding through managed realignment, resulting in a loss of freshwater habitats to intertidal habitat. This will offset losses of intertidal habitat to coastal squeeze elsewhere in the Estuary benefiting the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC. This policy is considered further within the Habitats Regulations Assessment (Appendix J)
2025 to 2055	Maintenance of set back defences and defences at Stolford. No active intervention in other areas therefore no management activities.	Protection of residential and commercial properties at Stolford unless a policy of no active intervention is pursued. This may result in an increased flood risk to aforementioned properties. Damage or even loss of residential and commercial properties from flooding at Steart Village.	Protection of minor roads surrounding Stolford from flooding unless a policy of no active intervention is pursued. This may result in an increased flood risk to aforementioned roads. Stolford to Combwich damage or even loss of roads from flooding. Potential inundation of critical infrastructure (powerlines).	Protection of Listed Buildings at Stolford Farm from flooding unless a policy of no active intervention is pursued Historic landscape of reclaimed land forming wetlands will change towards an intertidal landscape in areas of managed realignment.	Managed realignment will cause a change in landscape from low lying wetland to intertidal habitat as well as construction of a new set-back defence.	As above.	As above.	As above.
2055 to 2105	Maintenance of set back defences and defences at Stolford. No active intervention in other areas therefore no management activities.	Protection of residential and commercial properties at Stolford unless a policy of no active intervention is pursued. This may result in an increased flood risk to aforementioned properties. Damage or even loss of residential and commercial properties from flooding at Steart Village.	Protection of minor roads surrounding Stolford from flooding unless a policy of no active intervention is pursued. This may result in an increased flood risk to aforementioned roads. Stolford to Combwich damage or even loss of roads from flooding. Potential inundation of critical infrastructure (powerlines).	Protection of Listed Buildings at Stolford Farm from flooding unless a policy of no active intervention is pursued Historic landscape of reclaimed land forming wetlands will change towards an intertidal landscape in areas of managed realignment.	Managed realignment will cause a change in landscape from low lying wetland to intertidal habitat as well as construction of a new set-back defence.	As above.	As above.	As above.

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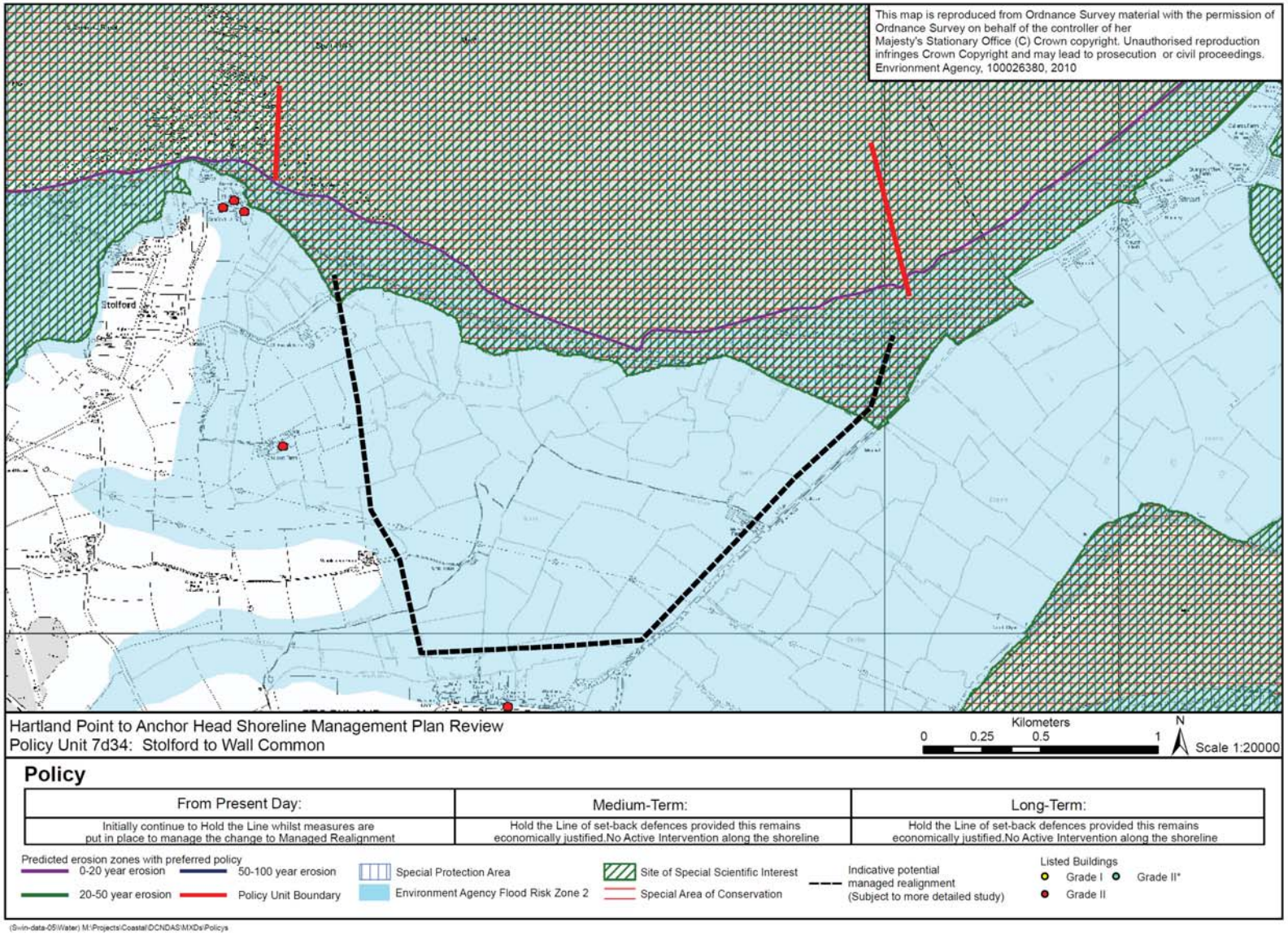

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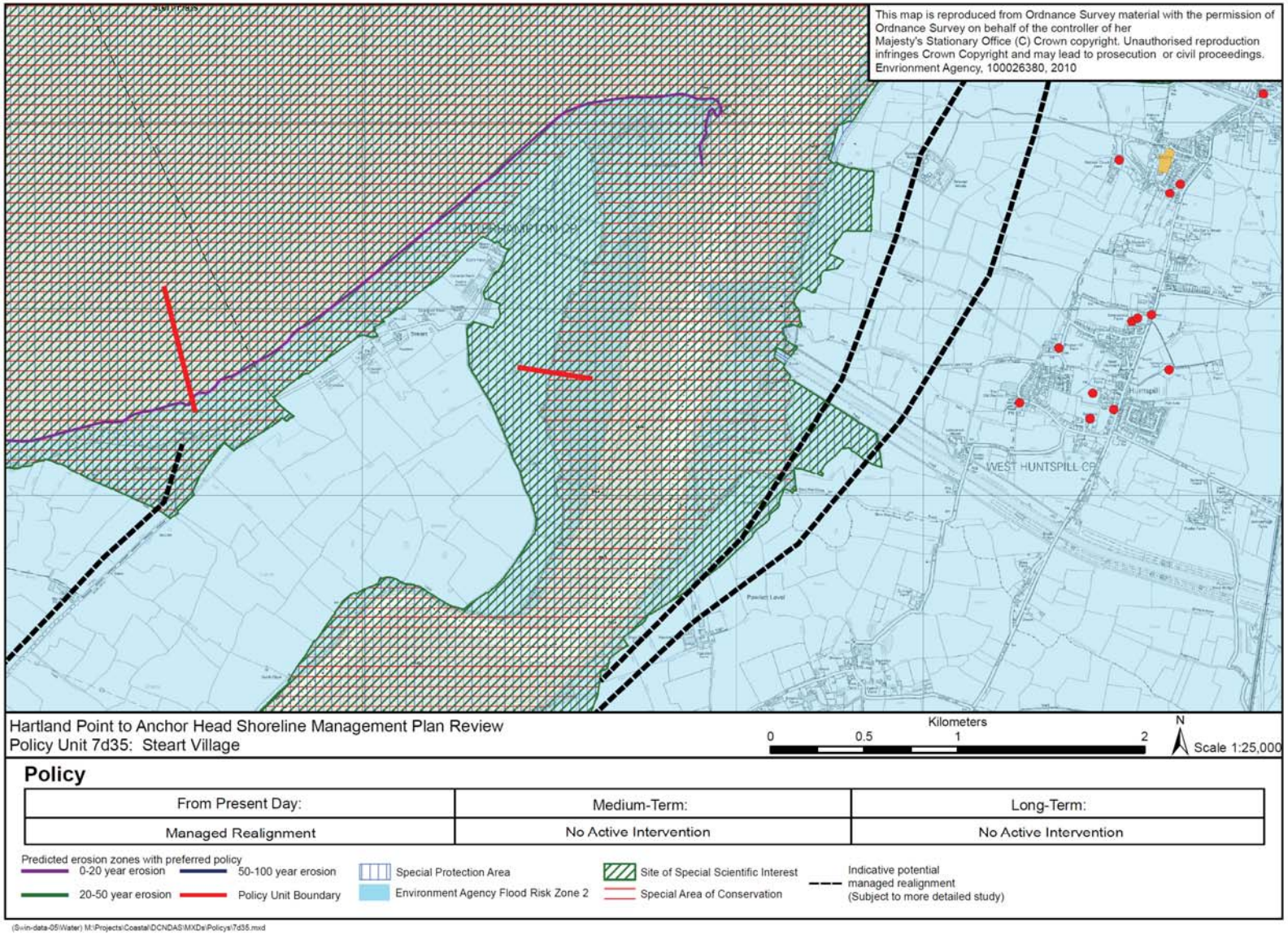

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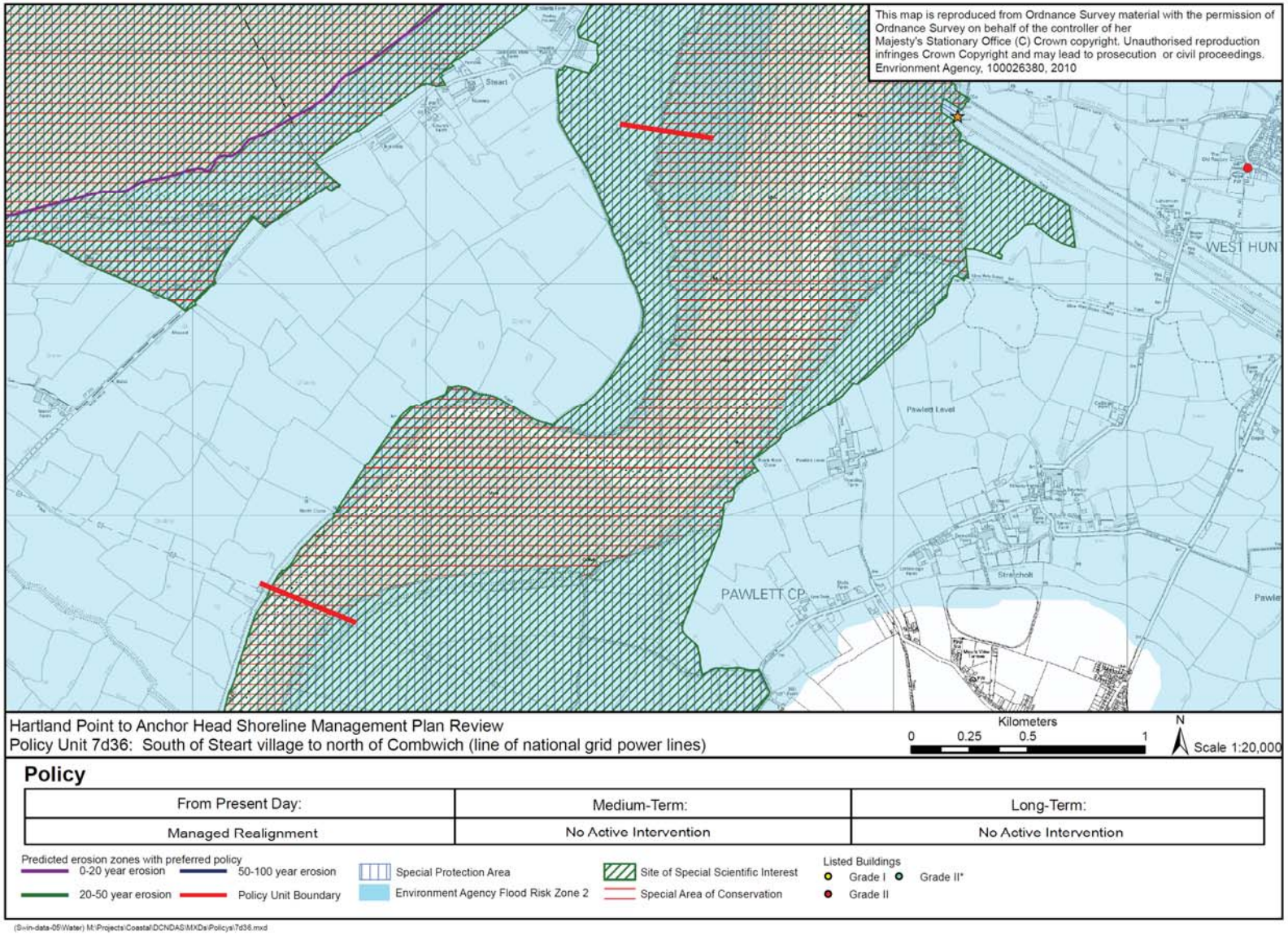

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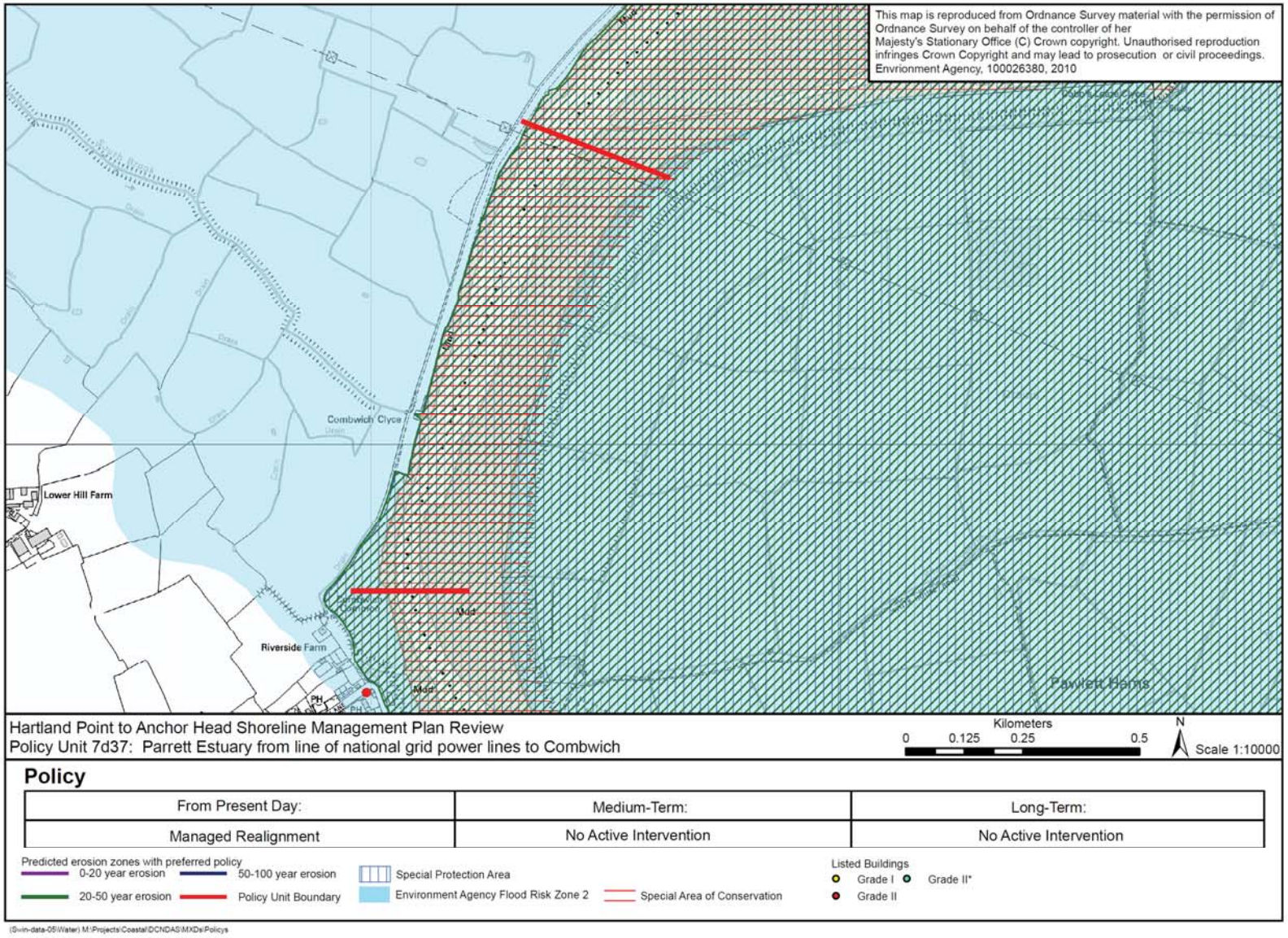

The abo… e wider-scale issues and policy implications, as reported therein.

Location reference:	**Parrett Estuary (Combwich to River Brue)**
Policy unit reference:	**7d38 to 7d42**

Summary of preferred plan recommendations and justification

Plan:

This statement should be read in combination with the statement for the Steart Peninsula as the plans for the two areas are closely linked.

The long term plan for the Parrett Estuary area is to return it to a more natural, less constrained, state while continuing to provide defence to people and property against the risk of flooding in a way that is environmentally acceptable and economically viable. There are areas within the outer Parrett Estuary where it will become increasingly difficult in the future to economically justify continuing to defend the coast along present alignments. Some of these areas offer scope for set back defences which can still provide flood protection to the majority of built assets though smaller (and less expensive) defences along shorter alignments.

These potentially large realignments also provide opportunity to maximise environmental benefits which could offset losses elsewhere, while the majority of assets in the estuary and wider Somerset Levels remain protected. Such dramatic changes require more detailed investigation to determine the viability, approach, timing, consequences, and any measures that would need to be put in place to manage risk for each site. Until such studies are undertaken the plan is to continue to defend along existing alignments for as long as is technically, environmentally and economically sustainable to do so, while preparing for any changes in policy in the medium to long term.

The potential for considerable nature conservation and biodiversity opportunities would alter some currently designated sites. Some assets, such as sewerage works, could be lost or need to be relocated and there is potential loss or damage to a number of non-designated archaeological sites, and a significant area of agricultural land. Any such losses and their extent would depend upon the exact alignment of the set-back defences.

There are also potential implications for the wider estuary hydrodynamic and geomorphological regime. This could include changes in the structure of the outer estuary, impact on navigation and access for shipping to Dunball and Combwich, change in flood risk to the upper Parrett Estuary at Bridgwater and Dunball, and changes in the position of the low water channel which could also affect the intertidal area at Burnham-on-Sea. However, sea level rise will also produce considerable changes in these regimes irrespective of management policies within the estuary, and the impacts of any changes in policy need to be considered in that context.

Preferred policies to implement plan:

From present day (short term):	The recommended policy throughout the Parrett Estuary is to continue to minimise the risk of flooding along existing defence alignments, through **hold the line**. This will involve ongoing maintenance and, where necessary, local reconstruction as already identified in the recently completed Parrett Estuary Flood Risk Management Strategy (Environment Agency, 2009b). There are, however, opportunities to increase natural habitat gain and reduce further flood defence expenditure. Alternative realignment options and the mechanisms required to enable and manage any change should continue to be explored during this period.
Medium term:	Until any investigative studies are completed to guide appropriate future realignments, the recommended policy for most of the estuary is continue to minimise flood and erosion risk along the existing defence alignments, through a **hold the line** policy. This will require further maintenance of defences and local works to reconstruct defences as they reach the end of their effective life or raised to continue to provide the necessary standards of protection. Where the need for higher defences to address the impacts of sea level rise is

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	identified the future long term plans for those areas should be re-evaluated before undertaking any works, considering less expensive options for realignment whilst also providing habitat gain and potential flood storage. Where realignment is unlikely to be appropriate, such as at Combwich, Bridgwater and between Bridgwater and Dunball, higher defences could be constructed as necessary. Pawlett Ham is identified as one site for **managed realignment**. As existing embankments reach the end of their effective life, the medium term policy will be to adopt a retired line of defence further inland. This will though be dependent upon the prior construction of a surge barrier. The need for a surge barrier in the upper estuary to counter the effects of rising sea levels has already been identified in the Parrett Estuary Flood Risk Management Strategy. This is consistent with the long term vision for this estuary by providing adequate flood protection to extensively developed areas such as Bridgwater and beyond. It may also help to limit the potential changes in tidal prism (the volume of water the moves in and out of the estuary with each tide) that may result from sea level rise.
Longer term:	The long term vision is for a more naturally functioning estuary, through construction of set-back defences under a policy of **managed realignment.** The location of any realignments will depend upon the outcome of the studies carried out during the short and medium terms but opportunities for realignment could exist along parts of the west bank of the Parrett Estuary between Combwich and Bridgwater and along the Pawlett and Huntspill Levels. Realignment along the latter frontage, if it were to be implemented, would most likely only be considered at a time when the Huntspill Sluice reaches the end of its design life and needs to be replaced. Where studies have concluded that managed realignment would not be appropriate, the long term policy would be to continue to provide flood and erosion protection along the existing defence alignments, through **hold the line**. In response to sea level rise, this will require the construction of new, higher defences. Under managed realignment and hold the line policies, there would be continued flood protection for the majority of homes and businesses throughout the estuary and wider Somerset Levels. The A38 and M5, mainline railway and associated facilities and infrastructure would also benefit. Where set-back defences are constructed and the shoreline is allowed to evolve more naturally, there would be potential benefits to the Bridgwater Bay Site of Special Scientific Interest and National Nature Reserve, Severn Estuary Special Area for Conservation, Special Protection Area for Birds and Ramsar site through the creation of intertidal habitat. This would though change some existing designations. Depending on the position of the set-back defences there is a risk that certain assets could be lost or would need to be relocated, for example: the sewage treatment works that serve Burnham-on-Sea and Highbridge, power lines running from Hinkley Point, a number of non-designated archaeological sites, and a significant area of agricultural land.

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Summary of specific policies

Policy unit		Preferred policies		
		Short term	Medium term	Long term
7d38	**Combwich**	Continue to minimise flood risk to Combwich by maintaining the existing flood defences, through **hold the line**.	Continue to minimise flood risk to Combwich by maintaining and, if necessary, rebuilding the existing flood defences, through **hold the line**.	Continue to minimise flood risk to Combwich by maintaining the existing flood defences, through **hold the line**.
7d39	**Combwich to Bridgwater (Parrett west)**	Continue to minimise flood risk by maintaining the existing flood defences, through a **hold the line** policy, as proposed by the Parrett Estuary Flood Risk Management Strategy.	Continue to minimise flood risk by maintaining the existing flood defences, through a **hold the line** policy. Investigate opportunities for implementing managed realignment in the long term.	Implement **managed realignment** as informed by studies, otherwise maintain and, if necessary, rebuild the existing flood defences under a policy of **hold the line**.
7d40	**Bridgwater (upper Parrett Estuary)**	Continue to minimise flood risk to Bridgwater by maintaining the existing flood defences, through a **hold the line** policy.	Continue to minimise flood risk to Bridgwater by maintaining and, if necessary, rebuilding the existing flood defences, through a **hold the line** policy. Construction of a surge barrier (as informed by further studies).	Continue to minimise flood risk to Bridgwater by maintaining the existing flood defences, through a **hold the line** policy.
7d41	**Bridgwater to Dunball**	Continue to minimise flood risk by maintaining the existing flood defences, through a **hold the line** policy.	Continue to minimise flood risk to Bridgwater by maintaining and, if necessary, rebuilding the existing flood defences through a **hold the line** policy.	Continue to minimise flood risk by maintaining the existing flood defences, through a **hold the line** policy.
7d42	**Dunball to River Brue**	Continue to minimise flood risk by maintaining the existing flood defences, through a **hold the line** policy. Investigate opportunities for managed realignment.	Implement **managed realignment** at Pawlett Ham, for example, as informed by studies. Otherwise maintain and, if necessary, rebuild the existing flood defences, under a policy of **hold the line**.	Implement **managed realignment** as informed by studies at places such as Pawlett and Huntspill levels. Otherwise maintain and, if necessary, rebuild the existing flood defences under a policy of **hold the line**.

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Location reference:	Parrett Estuary (Combwich to River Brue)
Policy unit reference:	7d38 to 7d42

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Continue to maintain the existing flood defences, through a hold the line policy. Investigate opportunities for managed realignment.	Protection of residential and commercial properties, in the Parrett Estuary from flooding. The development opportunities planned for Bridgwater are potentially at risk from flooding depending on its location.	Protection of roads (A38 and M5), Mainline Railway (and associated facilities) and infrastructure in the Parrett Estuary from flooding. Protection of substations in the Bridgwater area, Dunwear and Sedgemoor from flooding. Potential loss of some parts of the River Parrett Trail from flooding but can be re-routed. Loss of Grade 3 agricultural land due to flooding	Protection of Listed Buildings at Combwich from flooding. Protection of Inland Scheduled Monuments at Stogursey Castle, Motte Baileys at Down End, Wick Barrow Mound, Cynwit Castle, Alstone lake settlement site and the Medieval Village at Horsey flooding. Protection of sections of the Conservation Areas at Bridgwater	No change to the landscape character and visual amenity.	No known impact on Earth Heritage, Soils and Geology. No designated sites along this stretch of coast.	No known impact on water.	Protection of freshwater habitats from flooding although there may be issues of coastal squeeze where sea level rise against sea defences leading to a net decrease in intertidal habitat which are key features of the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC . This policy is considered further within the Habitats Regulations Assessment (Appendix J) The Huntspill River NNR is protected from flooding.
2025 to 2055	Continue to maintain and rebuild existing defences. Where research indicates it is appropriate, implement managed realignment.	Protection of residential and commercial properties, in the Parrett Estuary from flooding. The development opportunities planned for Bridgwater are potentially at risk from flooding depending on its location.	Protection of roads (A38 and M5), Mainline Railway (and associated facilities) and infrastructure in the Parrett Estuary from flooding. Protection of substations in the Bridgwater area, Dunwear and Sedgemoor from flooding. Potential loss of some parts of the River Parrett Trail from flooding but can be re-routed. Loss of Grade 3 agricultural land due to flooding	Protection of Listed Buildings at Combwich from flooding. Protection of Inland Scheduled Monuments at Stogursey Castle, Motte Baileys at Down End, Wick Barrow Mound, Cynwit Castle, Alstone lake settlement site and the Medieval Village at Horsey flooding. Protection of sections of the Conservation Areas at Bridgwater	In areas of managed realignment there will be a change in landscape from a terrestrial to intertidal landscape.	No known impact on Earth Heritage, Soils and Geology.	Works in areas selected for managed realignment should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets.	Freshwater habitats are at risk of flooding through managed realignment, resulting in a loss of freshwater habitats to intertidal habitat. This will offset losses of intertidal habitat to coastal squeeze elsewhere in the Estuary benefiting the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC. This policy is considered further within the Habitats Regulations Assessment (Appendix J) The Huntspill River NNR is potentially at risk from flooding which is currently detached from tidal influences by a sluice.
2055 to 2105	Continue to maintain and rebuild existing defences. Where research indicates it is appropriate, implement managed realignment.	Protection of residential and commercial properties in the Parrett Estuary from flooding. Unless managed realignment places defences forward of assets listed above. The development opportunities planned for Bridgwater are potentially at risk from flooding depending on its location.	Protection of roads (A38 and M5), Mainline Railway (and associated facilities) and infrastructure in the Parrett Estuary from flooding. Protection of substations in the Bridgwater area, Dunwear and Sedgemoor from flooding. Potential loss of some parts of the River Parrett Trail from flooding but can be re-routed.	Protection of Listed Buildings at Combwich from flooding. Protection of Inland Scheduled Monuments at Stogursey Castle, Motte Baileys at Down End, Wick Barrow Mound, Cynwit Castle, Alstone lake settlement site and the Medieval Village at Horsey flooding. Protection of sections of the Conservation Areas at	As above	No known impact on Earth Heritage, Soils and Geology.	As above.	As above

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Location reference:	Parrett Estuary (Combwich to River Brue)							
Policy unit reference:	7d38 to 7d42							
Implications of the preferred plan for this location								
Time period	**Management activities**	**Human Health, Property and Population**	**Land use, infrastructure and material assets**	**Historic Environment**	**Landscape character and Visual Amenity**	**Geology and Soils**	**Water**	**Biodiversity, flora and fauna**
			Loss of Grade 3 agricultural land due to flooding	Bridgwater				

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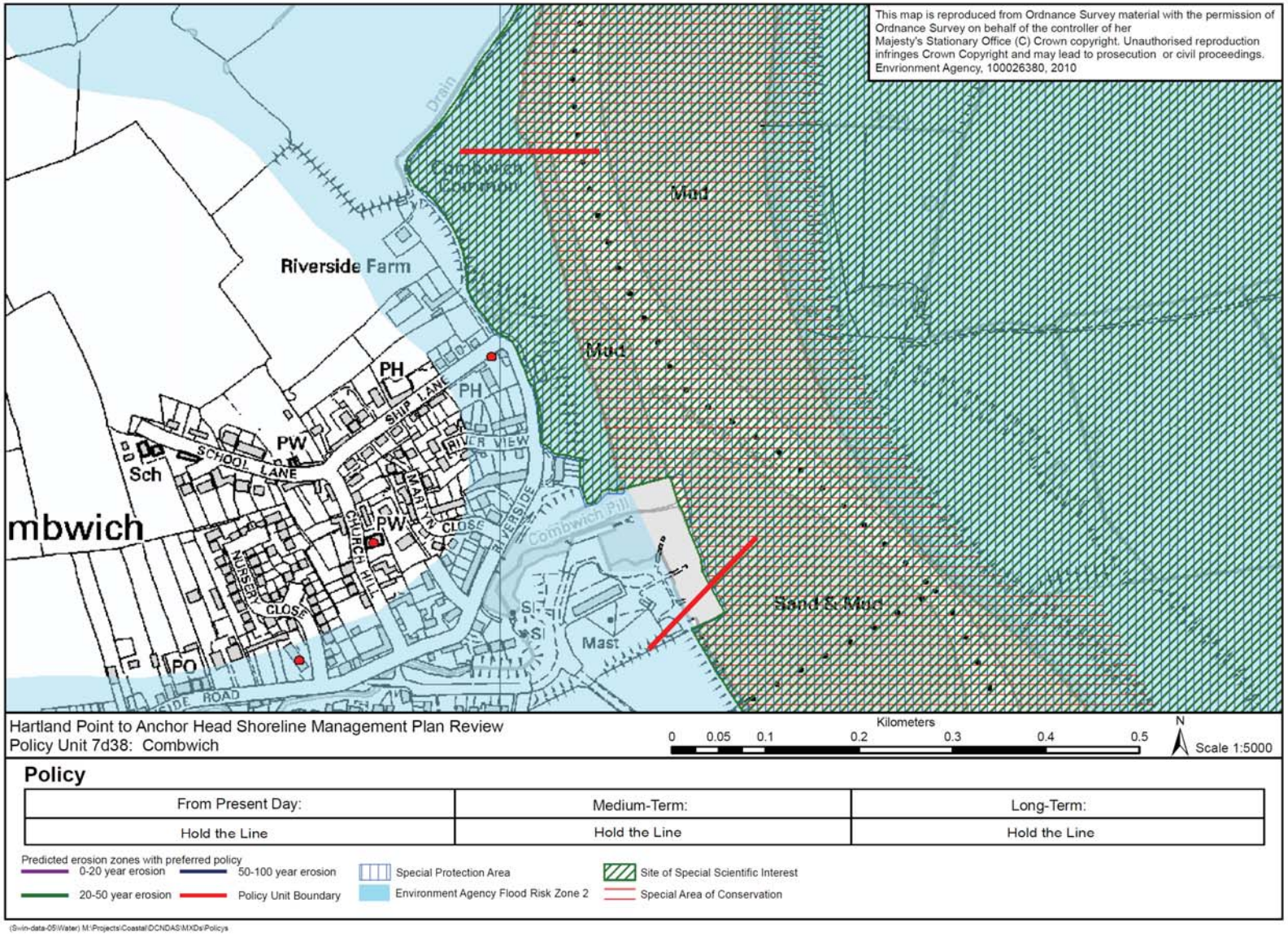

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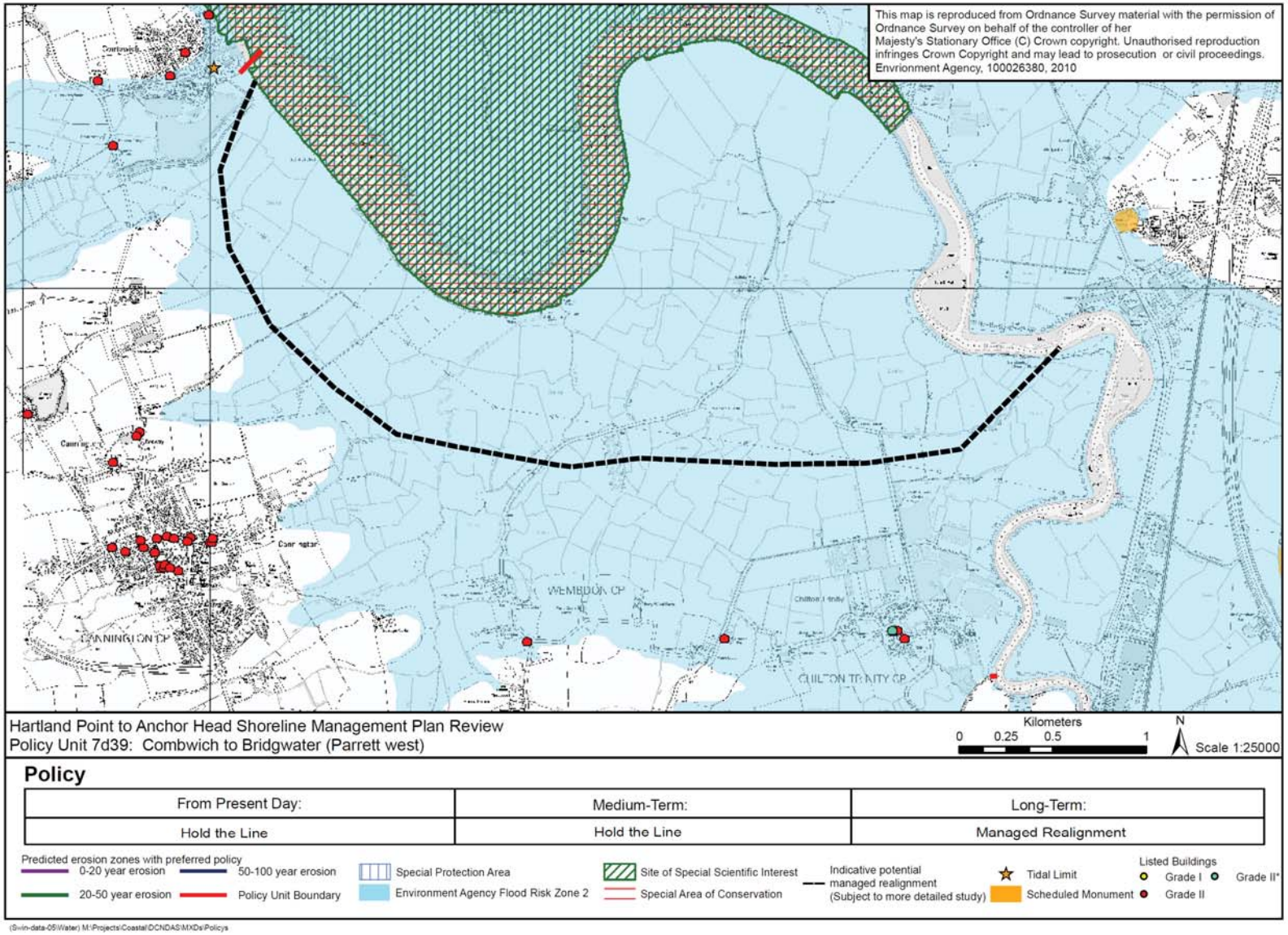

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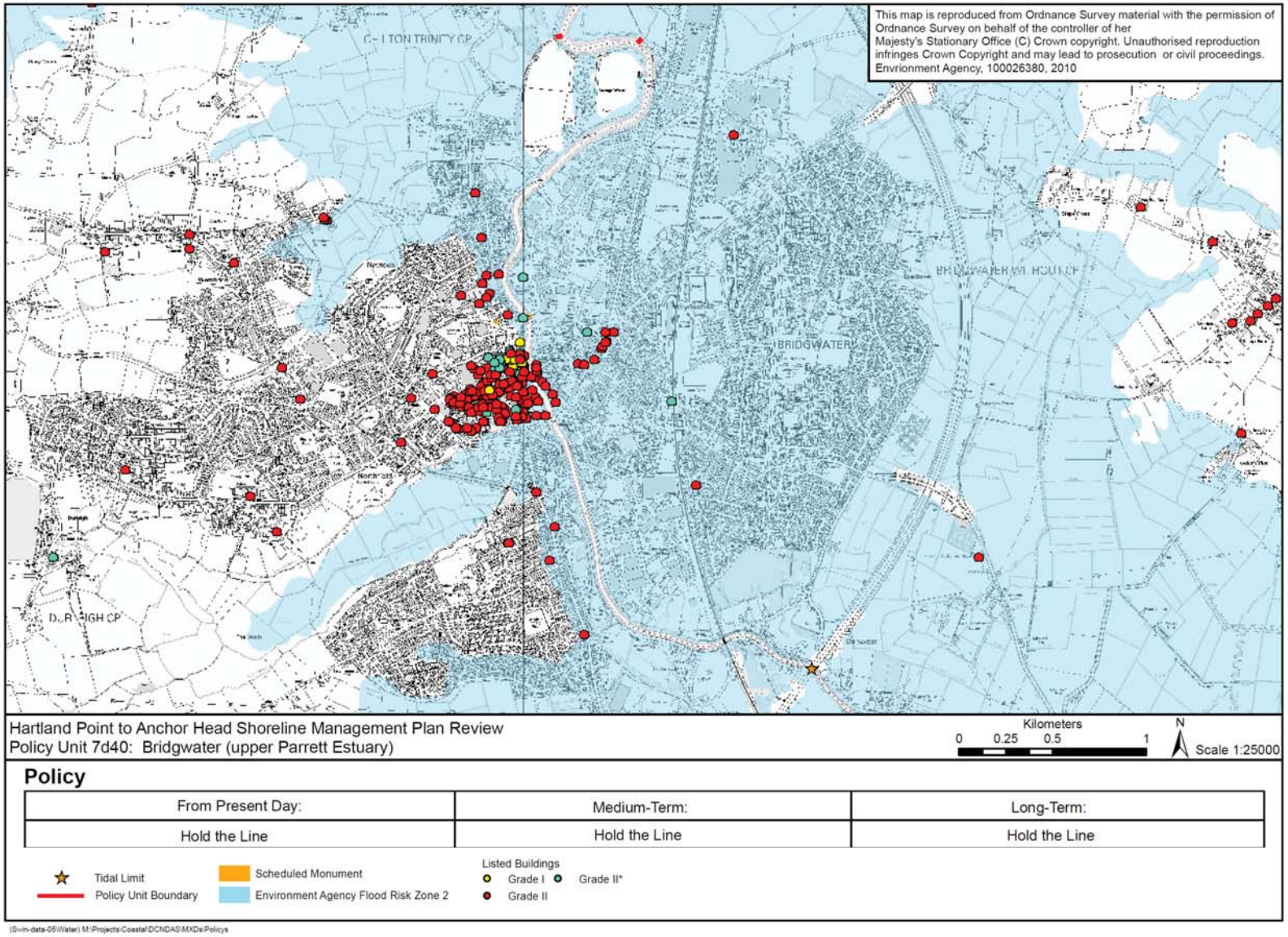
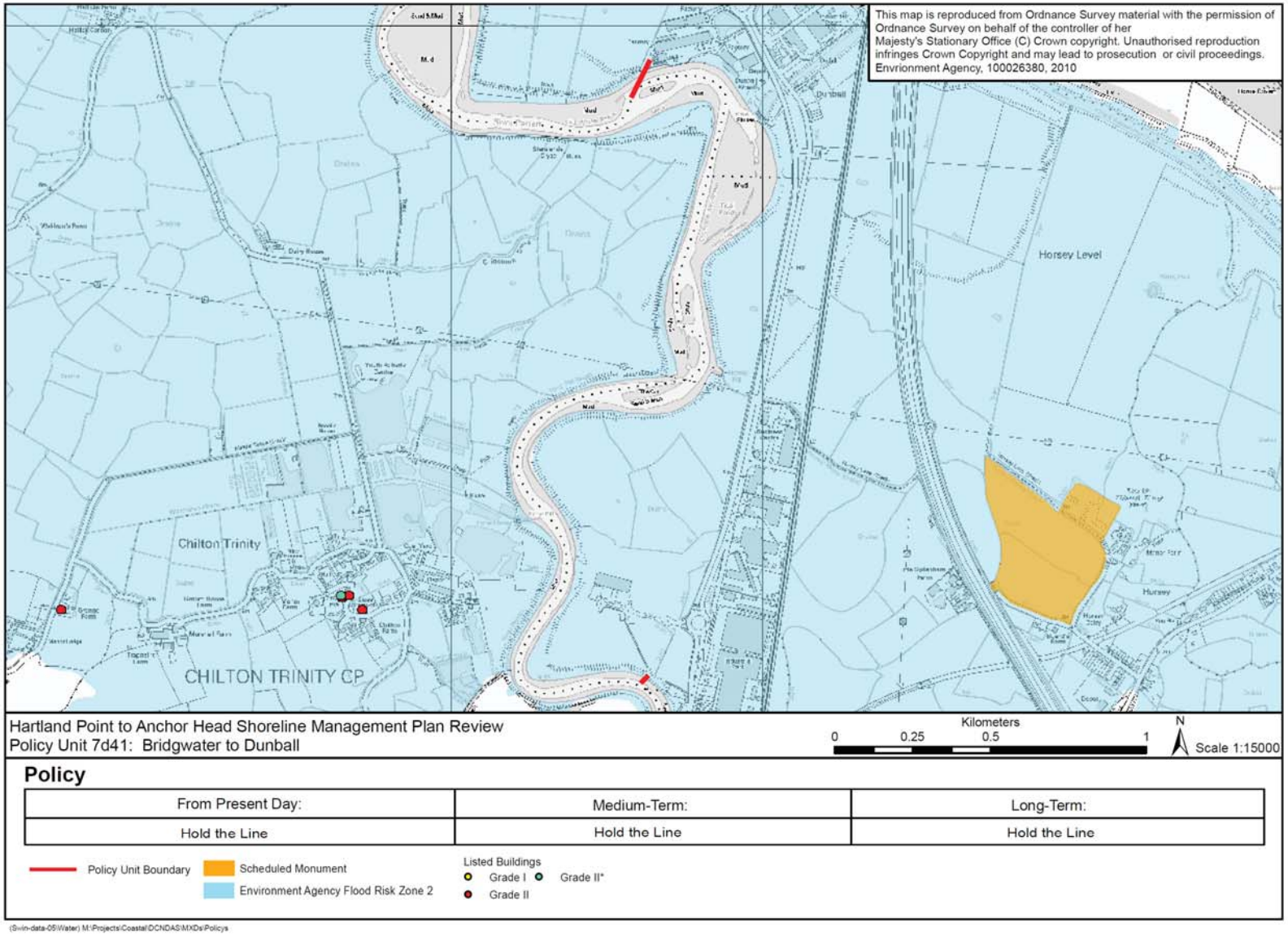


The abo e wider-scale issues and policy implications, as reported therein.



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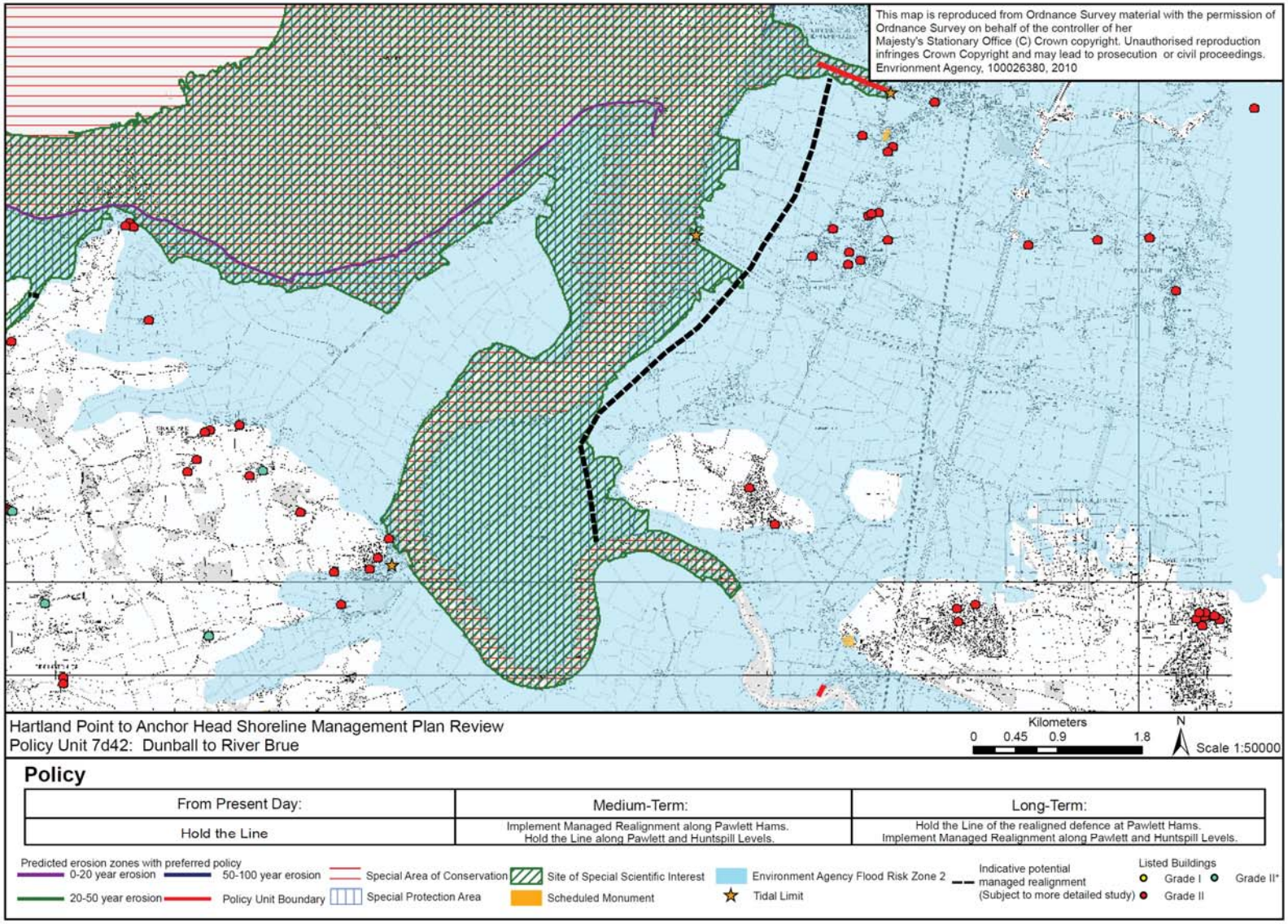

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Location reference:	**Burnham-on-Sea and Highbridge**
Policy unit reference:	**7d43**

Summary of preferred plan recommendations and justification

Plan:

The significant socio-economic assets along this frontage justify a long term plan to continue to minimise the risk of flooding to Burnham-on-Sea and the wider area of the Somerset Levels. The beach along this section is an important aspect of the tourism value of this area, and is backed by large sea wall defences along the open coast, and embankment defences along the north bank of the River Brue.

The future course of the Parrett Estuary low water channel could significantly influence how the plan is achieved in the future, particularly at Burnham-on-Sea. This will be affected by sea level rise changing the hydrodynamic and geomorphological regime of the estuary and also potentially by management changes within the Parrett Estuary (see policy statements for Parrett Estuary and Steart Peninsula). Decisions on appropriate management of the Parrett will be informed by studies which will look at these potential wider-scale impacts. This frontage will also be affected by the plan along the adjacent section of dune frontage at Berrow and Brean towards Brean Down (refer to policy units 7d44 and 7d45), which should help to retain amenities nearby.

Preferred policies to implement plan:

From present day (short term):	The policy is to continue to minimise the risk of erosion and flooding along this frontage, through **hold the line**. This will require maintenance of the existing seawall and embankment defences along the open coast and the north bank of the River Brue to ensure continued protection to key assets.
Medium term:	The medium term policy is to continue to defend the frontage through a **hold the line** policy. Implementation would be through maintaining, replacing and upgrading flood defence structures. Coastal squeeze resulting from sea level rise and the presence of hard defences, potentially compounded by changes in the low water channel from the Parrett Estuary, may require the introduction of beach stabilisation structures if this asset is to be maintained to its current extent. Along the north bank of the River Brue, new, higher defences would need to be constructed to address the issue of sea level rise, once the existing defences reach the end of their effective life. This policy will ensure continued protection to key assets along this frontage, including the A38 and M5, mainline railway and associated facilities, and Conservation Areas and Grade II Listed Buildings at Burnham-on-Sea. The narrowing and lowering of the beach at Burnham-on-Sea could reduce its amenity value.
Longer term:	The long term policy is to continue defending the frontages of Burnham-on-Sea and Highbridge through a **hold the line** policy. The defences will require ongoing maintenance, with the seawall at Burnham-on-Sea replaced by a much larger structure as the existing structure reaches the end of its effective life. This policy will ensure continued protection of key assets along this frontage. It is likely, however, that the loss or reduction of the beach at Burnham could result from holding the existing defences; which would have an impact on its amenity value.

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Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d43	**Burnham-on-Sea and Highbridge**	Continue to minimise flood risk along this frontage by maintaining and improving as necessary the defences, through a **hold the line** policy.	Continue to minimise flood risk along this frontage by maintaining and improving as necessary the defences, through a **hold the line** policy.	Continue to minimise flood risk along this frontage by maintaining and improving as necessary the defences, through a **hold the line** policy.

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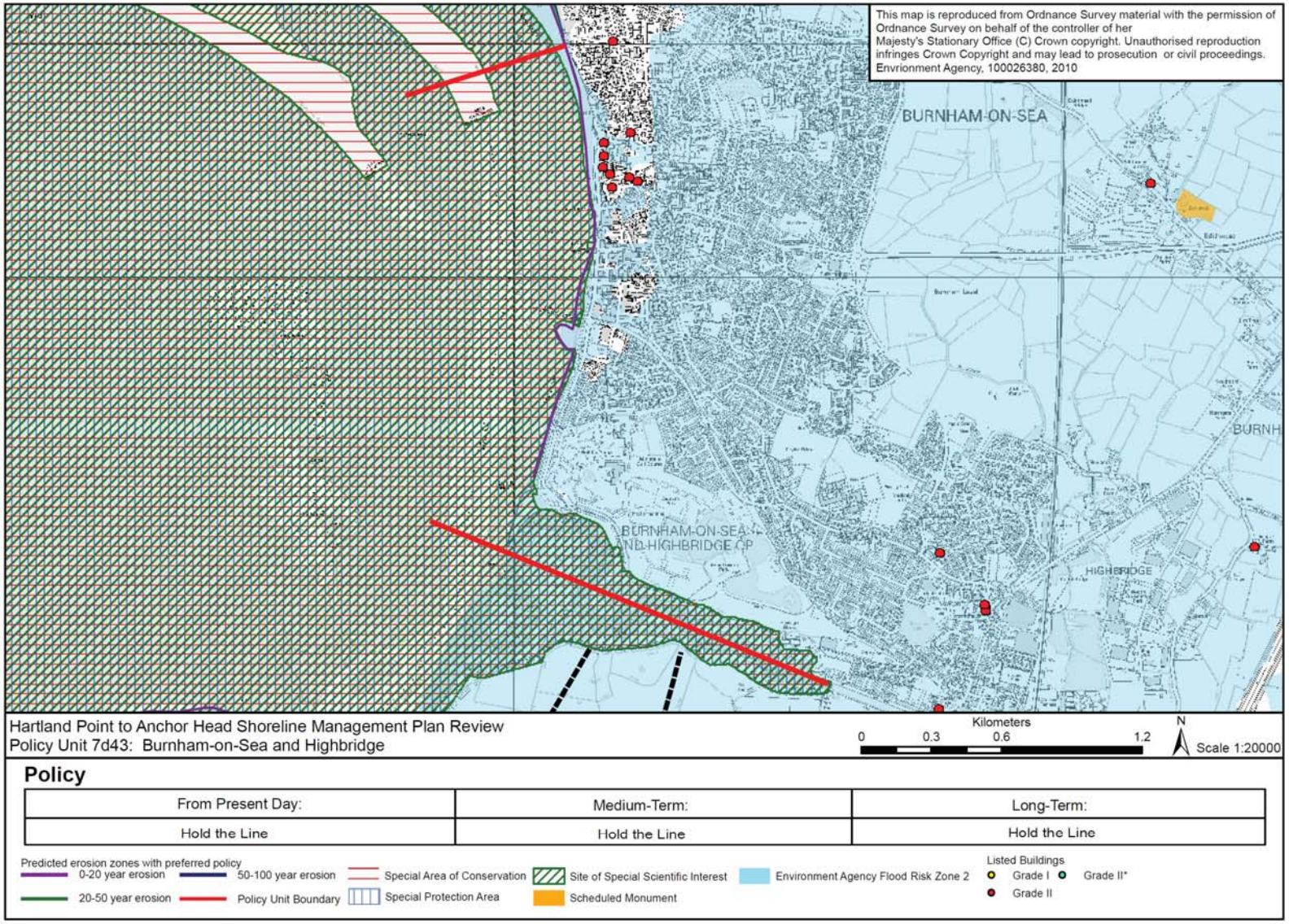
Location reference:	Burnham-on-Sea and Highbridge
Policy unit reference:	7d43

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Continue to maintain the defences and undertaking dune management.	Protection of residential and commercial properties at Burnham-on-Sea, Highbridge and Berrow. The development opportunities planned for Highbridge and Burnham-on-Sea are potentially at risk from flooding depending on their locations.	Protection of roads (A38 and M5), Mainline Railway (and associated facilities including the Highbridge and Burnham-on-Sea railway stations), community and tourist infrastructure and the Burnham-on-Sea sailing club from flooding. Protection of tourist infrastructure (holiday park including mobile homes, caravans and road) and the Burnham and Berrow Golf Course from flooding.	Protection of a number of Listed Buildings at Burnham-on-Sea, Highbridge and Berrow. Protection of sections of the Burnham-on-Sea and Highbridge Conservation Areas.	Dune management activities should complement the natural landscape. Minor changes in landscape due to larger defences or more structures being required to maintain an acceptable standard of flood and erosion protection, thus potentially resulting in a change of views and a change in landscape character.	No designated sites along this stretch of coast. Localised narrowing of the beaches may occur in front of defences. The beaches are at risk from flooding but this is unlikely to alter their spatial extent.	No known impact on water.	Maintaining the defences at Burnham on Sea will cause coastal squeeze leading to a net decrease in intertidal habitat which are key features of the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC. This policy is considered further within the Habitats Regulations Assessment (Appendix J) Dune management will help maintain the Berrow Dune SSSI and Local Nature Reserve, but may inhibit the dunes natural evolution and maturing process.
2025 to 2055	Continue to maintain the defences and undertaking dune management.	Protection of residential and commercial properties at Burnham-on-Sea, Highbridge and Berrow. The development opportunities planned for Highbridge and Burnham-on-Sea are potentially at risk from flooding depending on their locations.	As above.	As above.	As above.	As above.	No known impact on water.	As above.
2055 to 2105	Continue to maintain the defences and undertaking dune management.	Protection of residential and commercial properties at Burnham-on-Sea, Highbridge and Berrow. The development opportunities planned for Highbridge and Burnham-on-Sea are potentially at risk from flooding depending on their locations.	As above.	As above.	As above.	As above.	No known impact on water.	As above.



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Location reference:	**Berrow to Brean Down**
Policy unit reference:	**7d44 and 7d45**

Summary of preferred plan recommendations and justification

Plan:

The long term plan along this coastline is to continue to minimise flood risk to the settlements along this frontage and the wider area of the Somerset Levels in the most sustainable way. This frontage could be affected in the medium to long term by changes in policy to the Axe Estuary, therefore the two statements should be read in conjunction with each other.

Along this coastline, the current defence is provided by a belt of dunes, which narrow considerably towards the north. In the future, this dune belt will become increasingly difficult to maintain in its current position due to the impacts of sea level rise and fore dune erosion. However, it is unlikely that there would be sufficient economic justification for new publicly-funded defences along the existing shoreline; a situation that has been determined to be the case from three separate studies including this SMP. Such defences would also be difficult to retain in the long term and could result in loss of beach for amenity purposes from 'coastal squeeze', unless accompanied by an extensive beach recharge scheme, with associated control structures. Such measures could also have a significant adverse environmental impact. The long term strategy for this unit should be examined and clarified in a more detailed study in the short term.

Consequently, the proposed long term plan for this frontage is to maintain the existing defences for as long as possible, within existing economic justification, whilst investigating long term sustainable management options to reduce flood risk to the wider Somerset Levels area. Whilst this would protect many homes, businesses and key infrastructure including the A38 and M5, the mainline railway and associated facilities, some shoreline assets such as the coast road to Brean Down are likely to be lost and some tourism assets may need to be relocated as part of any potential managed realignment scenario. Therefore measures would need to be put in place to manage the increase in future risk to coastal property and mitigate the displacement of people and loss of property and facilities.

Preferred policies to implement plan:

From present day (short term):	The short term policy is to continue to protect the frontage through **hold the line**. Along the Berrow and Brean part of this section, this would involve undertaking active dune management to address long term net erosion of this frontage and ensure the retention of the dunes as an effective coastal defence. Such measures will also help to reduce the impacts of recreational pressure on the dunes such as along footpaths that cut through the dunes. The fore dunes at Brean, particularly where they are narrowest towards the north end of the village, are currently at risk of erosion and measures should be introduced to encourage the dunes to form a more effective defence for the older, higher back dunes such that they are not exposed to wave action during storm events which would promote erosion of the back dunes and so increase the risk of breaching. This, however, would be subject to more detailed study during this period and continual monitoring. A detailed study at this time should not only appraise the sustainability of this dune management approach for providing adequate levels of flood protection, but also appraise all long term sustainable options for managing flood and coastal erosion risk along this section. This should include the potential improvement of existing defences and the possibility and location of set back defences as a policy of managed realignment in the medium to long term. The impact and sustainability of any privately funded defences should also be considered. Any investigation of realignment options in this area will need to consider possible realignment along the Axe Estuary, and how realignment from both the estuary side and open coast side may be combined. All options should be assessed in terms of relative long term technical, economic, environmental and sustainable objectives.

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	Relocation of property may be required in the long term and consequently the study would need to consider this, specifically in terms of funding options to facilitate any relocation requirements that arise. Between Brean and Brean Down, implementation of the hold the line policy in the short term will involve maintaining the existing rock revetment.
Medium term:	In the medium term, the plan is to continue to protect the developed frontage as far as possible, whilst acknowledging the (presently unknown) outcomes of a more detailed study. Between Brean and Brean Down, it is expected that the plan will be achieved through maintaining the existing rock revetment and seawall under a policy of **hold the line**. This will ensure that the structure continues to protect the low-lying land behind against the risk of flooding for as long as possible into the long term. As sea levels rise, retaining the defences here is likely to exacerbate the narrowing and loss of the beach along this part of the frontage. The beach would become covered at most states of the tide. It will also become technically more difficult to maintain defences in the long term particularly as the seaward dunes to the south of the defences are likely to continue to retreat eastwards (albeit with management to control this), exposing the relatively more stable back dunes to erosion pressure. It is also unlikely that replacement defences along existing alignments would be economically justified in terms of public (flood and coastal defence budget) funds. Ongoing funding of localised private defences along this section could continue if alternative funds are available, but should recognise the long term implications of management along adjacent parts of this frontage. Whilst more detailed study and monitoring in the short term is needed to investigate all sustainable long term management options, between Berrow and Brean (north) it is anticipated that there will be continued maintenance of the dunes as an effective defence. However, it may not be possible to hold the front edge of the dunes. Therefore the policy is likely to move to **managed realignment** during this period. A managed realignment policy will involve continuation of active dune management, but may require properties to be moved from the dunes in order for the dune system to be able to function more naturally. Although this should ensure protection to the majority of backshore assets, there may be a potential for loss of properties within the frontal dunes. As sea levels rise, the risk of dune breaches could also increase over time, particularly where fore dunes are narrow and erosion risks exposing the older back dunes to wave action. All these risks and considerations would be examined and clarified in the more detailed study proposed for the short term. In response to rising sea levels, and the increasing risk of breaching along the Berrow to Brean frontage in particular, implementation of a set-back defence (to be appraised as part of detailed studies undertaken in the short term) could be required as part of the managed realignment policy. Any set-back defence at a location inland would ensure flood risk to the Somerset Levels and Moors, and the large number of properties and key infrastructure assets including the A38 and M5, the mainline railway and associated facilities, continues to be reduced. This may also help to retain more beach material here which will be beneficial to the tourism industry of the wider area, by allowing the coast to roll-back and adapt to rising sea levels. However, it is unlikely that all properties and tourism assets would be protected under this policy and so adaptation measures including relocation of

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	caravan sites may be required. There are also potential environmental benefits associated with realignment to the Severn Estuary SSSI, SAC, SPA and Ramsar site by creating habitat in the long term. Allowing the dunes to roll back landwards towards a set back defence position as sea levels rise would also potentially conserve more beach material in this area, of benefit to the tourism interests along this coast. Transport infrastructure providing access to Brean Down could be maintained for as long as it is required; however, in the long term, access to Brean Down may need to be provided in a different way or may no longer be necessary.
Longer term:	Although dependent upon outcomes of detailed study in the short term, it is anticipated that this will be a transition period, whereby the coast should be allowed to retreat once defences reach the end of their effective life at the northern part of this frontage, and the dunes along the rest of the frontage erode further and possibly start to breach. Between Brean and Brean Down, the existing rock revetment and seawall is likely to reach the end of its effective life during this period, exacerbated by narrowing beaches at the toe of the defence. It will be more difficult technically to maintain defences in the long term and it is uncertain if larger replacement defences would be economically justified or technically sustainable in the current position to continue the policy of **hold the line**. Therefore, the long term policy for this coastal frontage may need to move towards **managed realignment**. This would be informed through continual monitoring and more detailed study and would need to work with managed realignment measures should they be introduced along the west bank of the Axe Estuary in either the medium or long term. Any move to managed realignment along this section could impact on short lengths of private defences which may become outflanked and unsustainable if the revetment defence is not maintained in its current position. Although it is to be considered further as part of a more detailed study in the short term, at this time it is possible that the policy along the rest of this frontage will be one of continued **managed realignment**. This will involve continuing measures to manage the dunes with the aim being to provide a more robust natural defence to hold the rear line of dunes along the Brean frontage similar to that provided by the more extensive dunes at Berrow. The frontal dunes at Berrow are likely to experience erosion and breaching as sea levels rise. Flood risk to the wider area from this part of the dune system will, however, be controlled by the extensive back dunes that are unlikely to be compromised over the next 100 years. However, the dunes towards the northern end of Brean village are unlikely to be able to naturally recover to the extent of those at Berrow due to limited availability of suitable sediment in the system; although these measures may mitigate recreational erosion. As such, during this period the ability of the rear line of high dunes at Brean to provide a robust natural defence against the risk of flooding to the wider area of the Somerset Levels and Moors is likely to be compromised as loss of fore dunes exposes the back dunes to wave action that leads to erosion. As a consequence of the potential transition towards managed realignment along the frontage towards Brean Down, and the increasing vulnerability of the dunes at Brean where they are narrowest, there would be increased flood risk to the wider area of the Somerset Levels and Moors. This flood risk could, however, be minimised by any set-back defences constructed in the medium

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term and maintained in this period under a policy of managed realignment along this frontage.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d44	**Berrow to Brean (north)**	Continue to minimise the risk of flooding along this frontage through dune management to provide a more effective defence, through a policy of **hold the line**. Investigate long term sustainable management options, including improvement of existing defences and construction of a set-back defence.	The aim will be to continue to minimise the risk of flooding along this frontage. Implementation expected to be investigated by detailed study in the short term but is anticipated to include dune management to provide a more effective defence, through a policy of **managed realignment** and potential construction of a set-back defence.	The aim will be to continue to minimise the risk of flooding continue to reduce the risk of flooding to the wider area of the Somerset Levels and Moors from this frontage. Implementation is to be investigated by detailed study in the short term but is expected to include management of the dunes and beach to restore the dunes as much as possible to provide a more robust natural defence through a policy of **managed realignment** and potential construction and maintenance a set-back defence.
7d45	**Brean (north) to Brean Down**	Continue to minimise the risk of flooding along this frontage by maintaining the existing defences under a **hold the line** policy.	Continue to minimise the risk of flooding along this frontage by maintaining the existing defences under a **hold the line** policy.	If not possible to continue to **hold the line**, then allow more natural coastal evolution to occur by moving towards a policy of **managed realignment**.

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Location reference:	Berrow to Brean Down
Policy unit reference:	7d44 and 7d45

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Continue to maintain the existing standard of defence through dune management activities and maintenance of existing defences. Investigate the construction of a set-back defence.	Protection of residential and commercial properties at Berrow and Brean.	Protection of tourist infrastructure (holiday park including mobile homes, caravans and road) from flooding.	Protection of Listed Buildings at Brean.	No known impact on landscape character and visual amenity.	Management of the dunes may limit their nature evolution, inhibiting their maturing process. This may impact on the integrity of the Berrow Dunes SSSI and LNR. Localised narrowing of the beaches may occur in front of defences. The beaches are at risk from flooding but this is unlikely to alter their spatial extent.	No Known impact on Water.	Maintaining the defences at will cause coastal squeeze leading to a net decrease in intertidal habitat which are key features of the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC. This policy is considered further within the Habitats Regulations Assessment (Appendix J) Management of the dunes may limit their natural evolution, inhibiting their maturing process. This may impact on the integrity of the Berrow Dunes SSSI and LNR.
2025 to 2055	Implement construction of set-back defences and continue dune management activities and maintenance of existing defences.	Protection of residential and commercial properties at Berrow and Brean. Potential re-location of some of the seaward properties built into the dunes at Brean may be required to support the managed realignment policy.	As above	Protection of Listed Building at Brean is dependant on the whether the defences are maintained.	In areas of managed realignment there will be a change from a terrestrial landscape to an intertidal landscape. Dune management should complement the landscape. Minor changes in landscape due to set back defences.	As above.	Works in areas selected for managed realignment should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets.	Freshwater habitats are at risk of flooding through managed realignment, resulting in a loss of freshwater habitats to intertidal habitat. This will offset losses of intertidal habitat to coastal squeeze elsewhere in the Estuary benefiting the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC. This policy is considered further within the Habitats Regulations Assessment (Appendix J) Management of the dunes may limit their natural evolution, inhibiting their maturing process. This may impact on the integrity of the Berrow Dunes SSSI and LNR.
2055 to 2105	Maintain the set-back defence and if not possible to continue existing defences move towards no active intervention.	Protection of residential and commercial properties at Berrow and Brean.	As above.	Protection of Listed Building at Brean is dependant on the whether the defences are maintained.	As above	As above.	As above.	As above.

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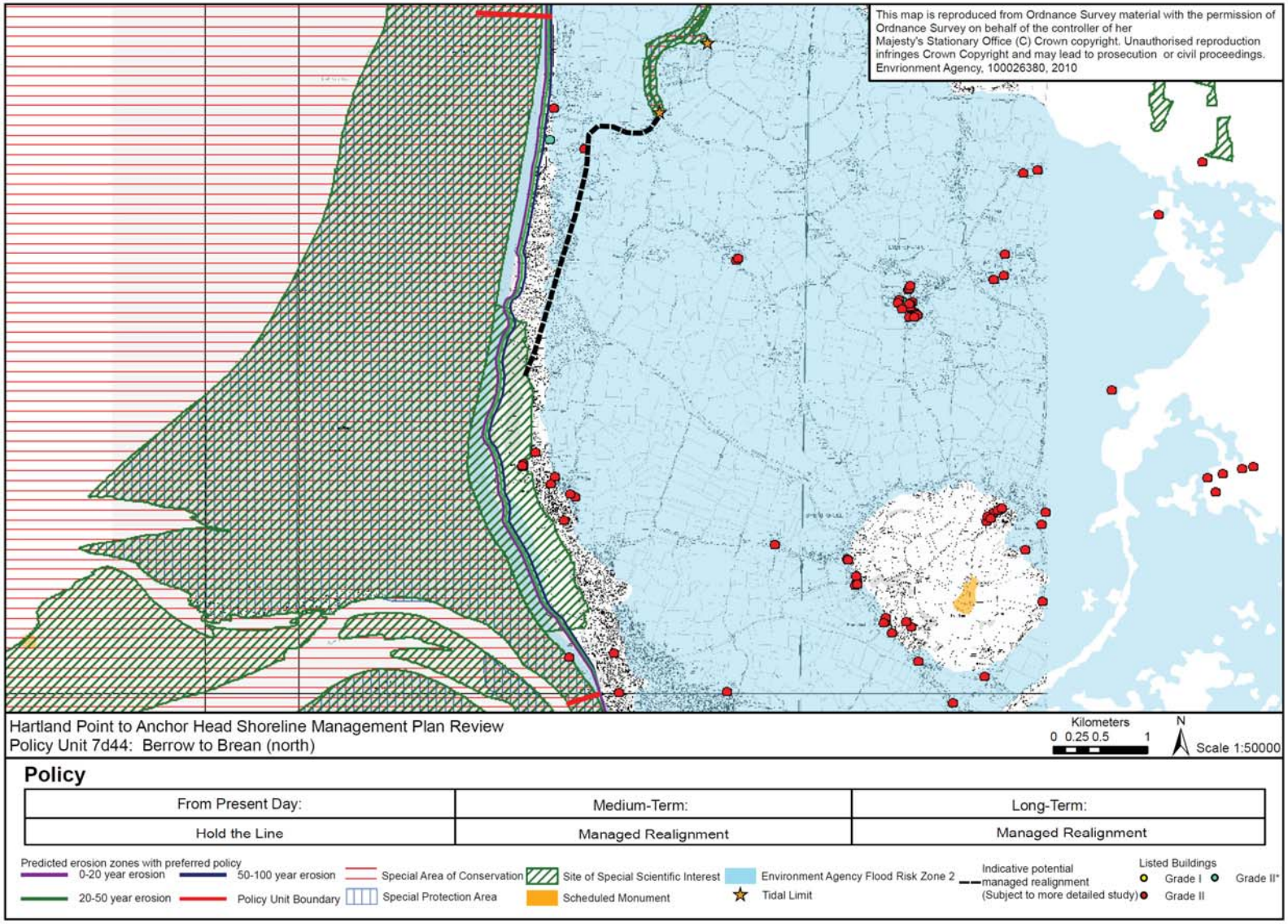

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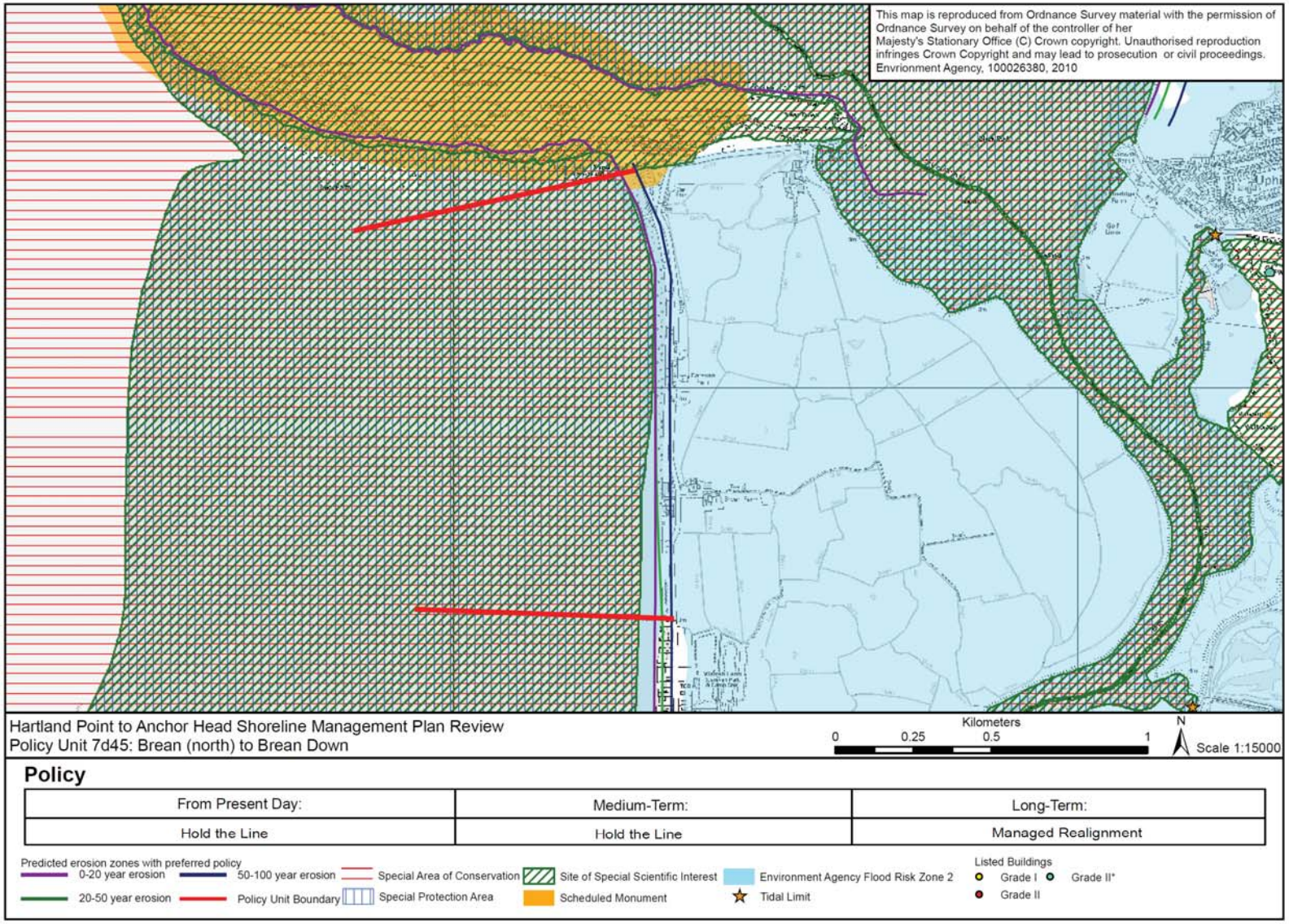

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Location reference:	**Brean Down**
Policy Unit reference:	**7d46 and 7e01**

Summary of preferred plan recommendations and justification

Plan:

The long term plan for the undefended, environmentally designated headland of Brean Down is to allow it to continue to evolve naturally without human intervention. This will allow erosion to continue to occur along the headland, conserving features through supply of sediment.

Preferred policies to implement plan:

From present day (short term):	The undefended headland of Brean Down will continue to evolve naturally under a policy of **no active intervention**.
Medium term:	The undefended headland of Brean Down will continue to evolve naturally under a policy of **no active intervention**.
Longer term:	The undefended headland of Brean Down will continue to evolve naturally under a policy of **no active intervention**.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7d46	**Brean Down (south side)**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.
7e01	**Brean Down (north side) to Axe Estuary mouth (west)**	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.	Allow natural coastal evolution to continue through **no active intervention**.

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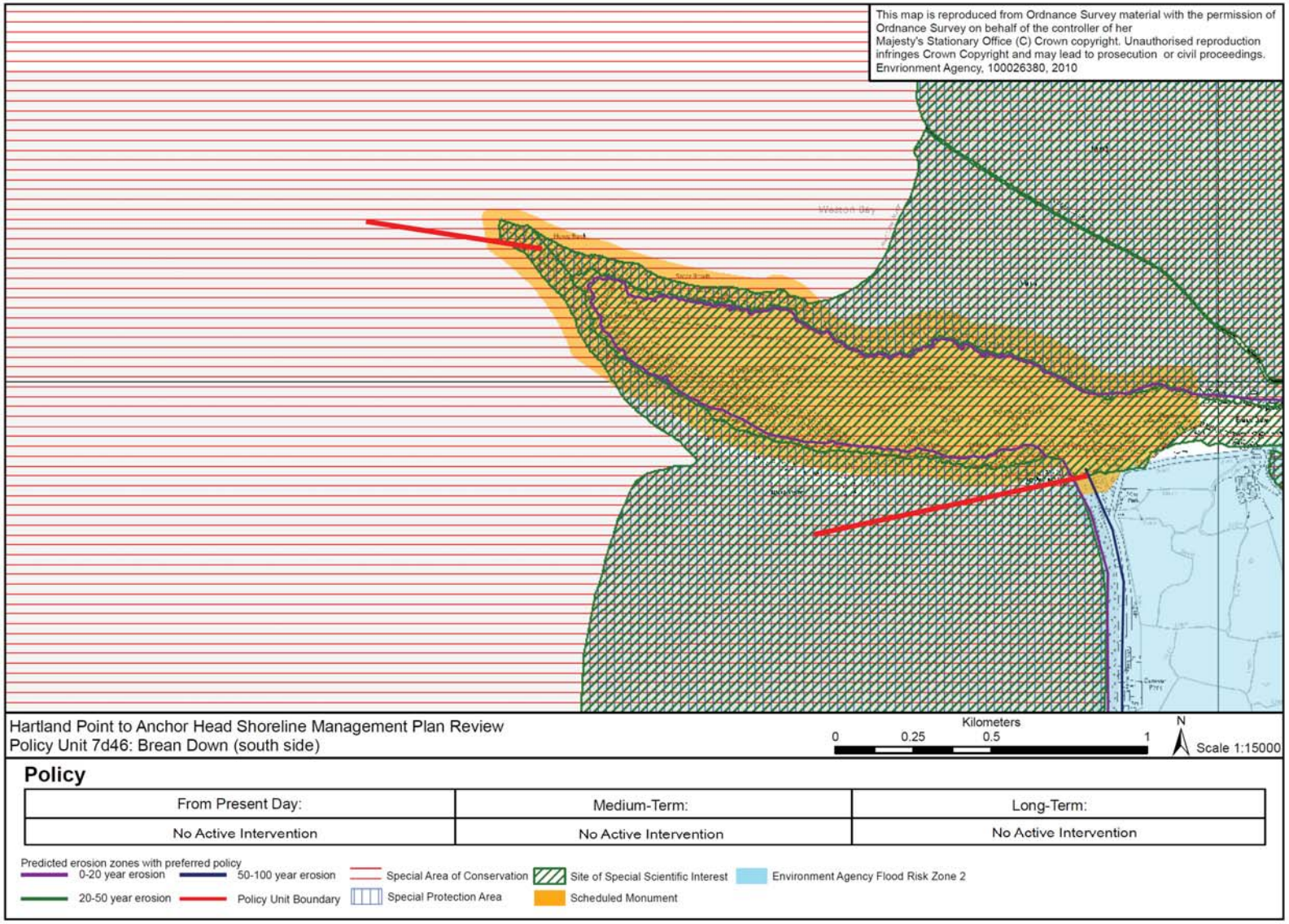
Location reference:	Brean Down
Policy unit reference:	7d46 and 7e01

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	No management activities.	No known impact on property and population.	No known impact on land use, infrastructure and material assets.	No known impact on the historic environment	No known impact on Landscape character and visual amenity.	Continuation of natural processes is key to the integrity of the Brean Down SSSI. No active intervention will continue to maintain these geological features	No known impact on water.	Brean Down SSSI will continue to evolve naturally.
2025 to 2055	No management activities.	No known impact on property and population.	No known impact on land use, infrastructure and material assets.	No known impact on the historic environment	No known impact on Landscape character and visual amenity.	As above.	No known impact on water.	As above.
2055 to 2105	No management activities.	No known impact on property and population.	No known impact on land use, infrastructure and material assets.	Potential loss of Brean Down Schedule Monument due to erosion.	No known impact on Landscape character and visual amenity.	As above.	No known impact on water.	As above.



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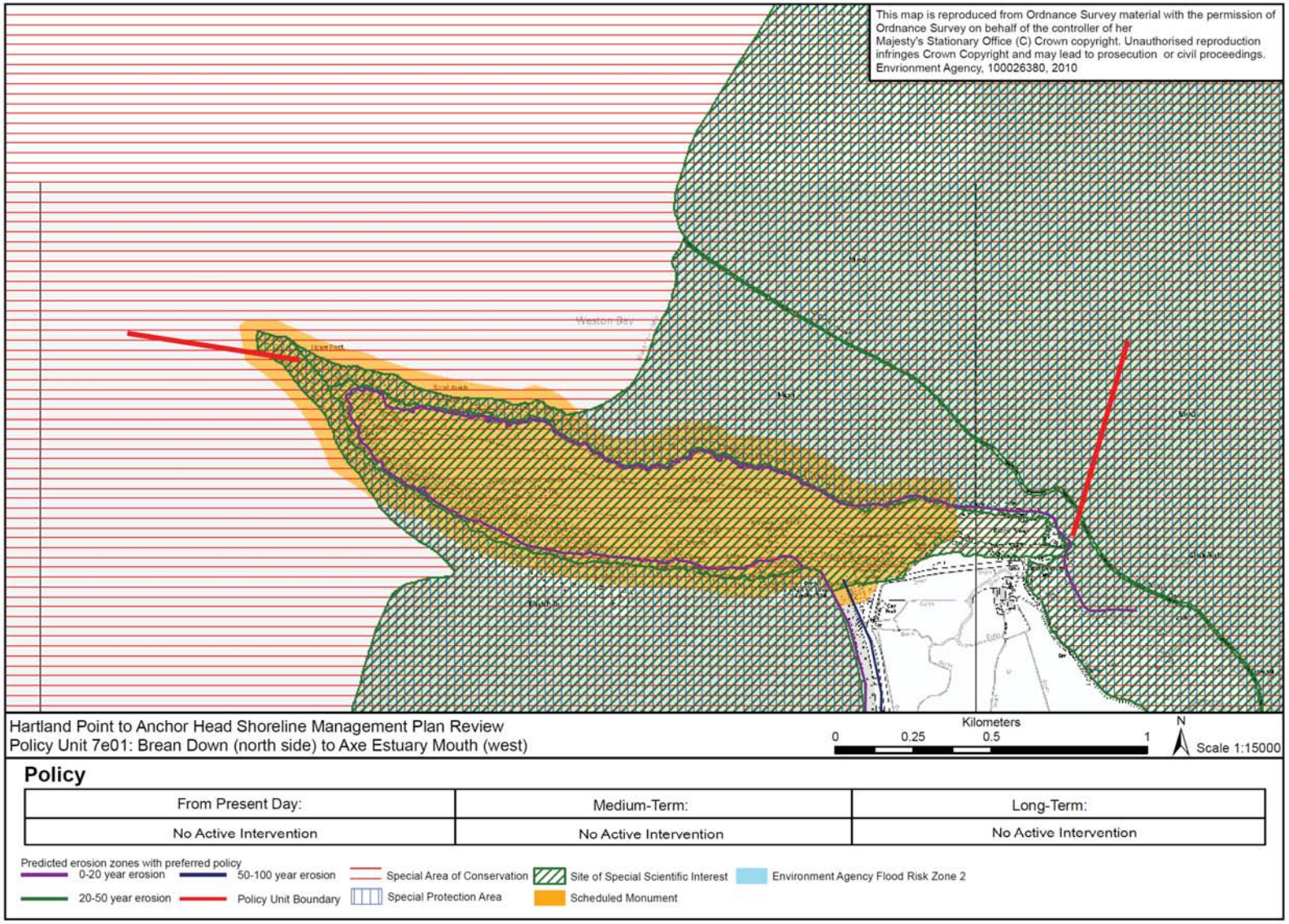

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Location reference:	**Axe Estuary**
Policy unit reference:	**7e02 to 7e04**

Summary of preferred plan recommendations and justification

Plan:

The long term plan across this whole area is to continue to minimise flood risk to the wider area of the Somerset Levels in the most sustainable way. Along the west (left) bank of the Axe Estuary, policies and implementation measures also need to take account of future management of the open coast between Berrow and Brean Down. Therefore the two statements should be read in conjunction with each other.

The long term vision for the estuary is to return it to a more natural, less constrained, state whilst continuing to provide defence against the risk of flooding in a way that it is environmentally acceptable and economically viable. The estuary is not able to return to a fully natural state as flow will remain controlled by the Brean Cross Sluice. There are however a number of locations within the Axe Estuary which offer potential opportunities for set back defences, using shorter and smaller (and less costly) defences.

Further studies are necessary to determine the viability, approach, timing and consequences of realignments, and any measures that would need to be put in place to manage risk and facilitate realignment. Although considerable nature conservation and biodiversity opportunities could be realised through this approach, this would produce changes to currently designated sites and potential impacts on habitats further inland. Although the aim would be to defend key assets, there could be potential impacts on a number of non-designated archaeological features and areas of farmland. Therefore, in the short term the present defences are to be maintained whilst retired line options are investigated more fully.

Along the west bank of the River Axe, there would be no change in the short and possibly medium term before moving towards managed realignment in the medium to long term. This would ultimately result in the loss of homes and businesses in the long term but flood risk to the wider Somerset Levels and to Brean and Berrow from the Axe Estuary would be managed. The mouth of the River Axe could potentially move position to the south of Brean Down in the very long term. If this were to occur then it could have implications for sediment circulation along the Burnham-on-Sea to Brean coast as well as within Weston Bay.

Along the east bank of the River Axe and from the east side of the mouth towards Uphill, the plan is to provide defence against the risk of flooding in a realigned position. There are opportunities here for further managed realignment to create habitat. This would continue to protect homes and businesses against flood risk, as well as key infrastructure including the A38 and M5, the mainline railway and associated facilities.

This would also provide potential benefits to the Severn Estuary SSSI, SAC, SPA and Ramsar site by creating intertidal habitat in areas of Managed Realignment. However, holding the realigned defence position in the long term may eventually cause coastal squeeze (narrowing of the shoreline) and loss of intertidal habitat. Realignment may also have potential impacts on a number of non-designated archaeological features, depending upon extent of realignment, which would be determined through further detailed study.

Preferred policies to implement plan:

From present day (short term):	Within the Axe Estuary the policy is to continue to minimise the risk of flooding to the extensive low-lying hinterland, through **hold the line** whilst studies are undertaken to investigate managed realignment opportunities. This will involve ongoing maintenance of the existing embankments.
Medium term:	Once existing defences reach the end of their effective life, the medium term policy is for **managed realignment** to implement the vision of a more naturally functioning, sustainable estuary, through construction of set back defences in a number of areas of the Axe Estuary. The location of any realignment will depend upon the outcome of the studies carried out during the short term. Realignment in this area offers potential for habitat creation benefits for the wider area as compensation for habitat losses resulting from coastal squeeze in other locations where defence continues to be provided.

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	Between the mouth of the estuary and Uphill a managed realignment policy offers potential to retain the beach along this frontage by allowing it to adapt and realign in response to rising sea levels. There is potential for managed realignment along both the left (west) and right (east) banks of the estuary at this time. Along the left bank this could create inter-tidal habitat that would act as a buffer for any long term transition in policy to managed realignment along the adjacent open coast towards Brean Down. The policy along this part of the Axe Estuary is however to be kept under review in combination with future management decisions about the adjacent open coast. If studies have concluded that managed realignment along the banks of the Axe Estuary is not appropriate, the medium term policy would be to continue to **hold the line**. In response to sea level rise, this is likely to require the construction of new, higher defences.
Longer term:	Along the east side of the Axe Estuary between the east side of the mouth and Uphill the policy will continue to be to minimise the risk of flooding to key assets through **hold the line**. This will be through ongoing maintenance along existing or set back defence alignments, depending upon decisions made during the medium term. In conjunction with the policy for the open coast between Brean and Brean Down (refer to Policy Unit 7d45), the long term policy along the west bank of the Axe Estuary may need to change to **managed realignment** if it is no longer viable to continue to hold the line of the existing defences. Construction and maintenance of a new set-back defence position may be required to continue to reduce the risk of flooding to Brean, Berrow and the wider Somerset Levels from this part of the Axe Estuary. In the very long term, this potential change in policy (along with that in 7d45) could result in the Axe Estuary mouth changing course to discharge to the south of Brean Down.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7e02	**Axe Estuary left (west) bank (mouth to near Diamond Farm)**	Continue to minimise flood risk by maintaining the existing flood defences, through **hold the line**.	Continue to minimise flood risk by maintaining the existing flood defences, through **hold the line**. Consider moving towards a policy of **managed realignment**.	If not possible to continue to **hold the line**, then allow more natural coastal evolution to occur by moving towards a policy of **managed realignment**.
7e03	**Axe Estuary right (east) bank (near Diamond Farm to mouth)**	Continue to minimise flood risk by maintaining the existing flood defences, through a **hold the line** policy. Investigate opportunities for Managed Realignment.	Implement **managed realignment** as informed by detailed studies, otherwise maintain and if necessary rebuild the existing flood defences, under a policy of **hold the line.**	Continue to minimise flood risk by maintaining the existing (or set back) flood defences, through **hold the line**

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Policy unit		Preferred policies		
		Short term	Medium term	Long term
7e04	**Axe Estuary mouth to Uphill**	Continue to minimise flood risk by maintaining the existing flood defences, through a **hold the line** policy. Investigate opportunities for Managed Realignment.	Implement **managed realignment** as informed by studies, otherwise maintain and if necessary rebuild the existing flood defences, under a policy of **hold the line.**	Continue to minimise flood risk by maintaining the existing (or set back) flood defences, through **hold the line**

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Location reference:	Axe Estuary
Policy unit reference:	7e02 to 7e04

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	Continue to maintain defences and investigate opportunities for Managed Realignment.	Protection of residential and commercial properties from back-door flooding in Uphill and Brean.	Protection of, tourist related infrastructure, roads, Mainline Railway (and associated facilities) and infrastructure from flooding. Low grade agricultural land at risk from flooding.	Protection of Listed Buildings in Uphill and a Scheduled Monument at Walborough from back-door flooding. Protection of Uphill Conservation Area. In areas of managed realignment there is risk of damage to buried deposits of the historic environment.	No known change landscape and visual amenity.	No known impact on Earth heritage, soils and geology. No designated site along this stretch of coast.	No known impact on water.	Protection of intertidal and coastal areas of the Uphill SSSI and Local Nature Reserve from flooding.
2025 to 2055	Continue to maintain defences, rebuild where necessary and implement Managed Realignment.	As above.	As above.	As above.	In areas of managed realignment there will be a change from a terrestrial landscape to an intertidal landscape.	As above.	Works in areas selected for managed realignment should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets.	Freshwater habitats are at risk of flooding through managed realignment, resulting in a loss of freshwater habitats to intertidal habitat. This will offset losses of intertidal habitat to coastal squeeze elsewhere in the Estuary benefiting the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC. This policy is considered further within the Habitats Regulations Assessment (Appendix J) Protection of intertidal and coastal areas of the Uphill SSSI and local nature reserve from flooding at the secondary defence line.
2055 to 2105	Continue to maintain defences, rebuild where necessary and implement Managed Realignment.	As above.	As above.	As above.	As above.	As above.	As above.	Maintaining the defences at the secondary defence line will cause coastal squeeze leading to a net decrease in intertidal habitat which are key features of the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC. This policy is considered further within the Habitats Regulations Assessment (Appendix J)

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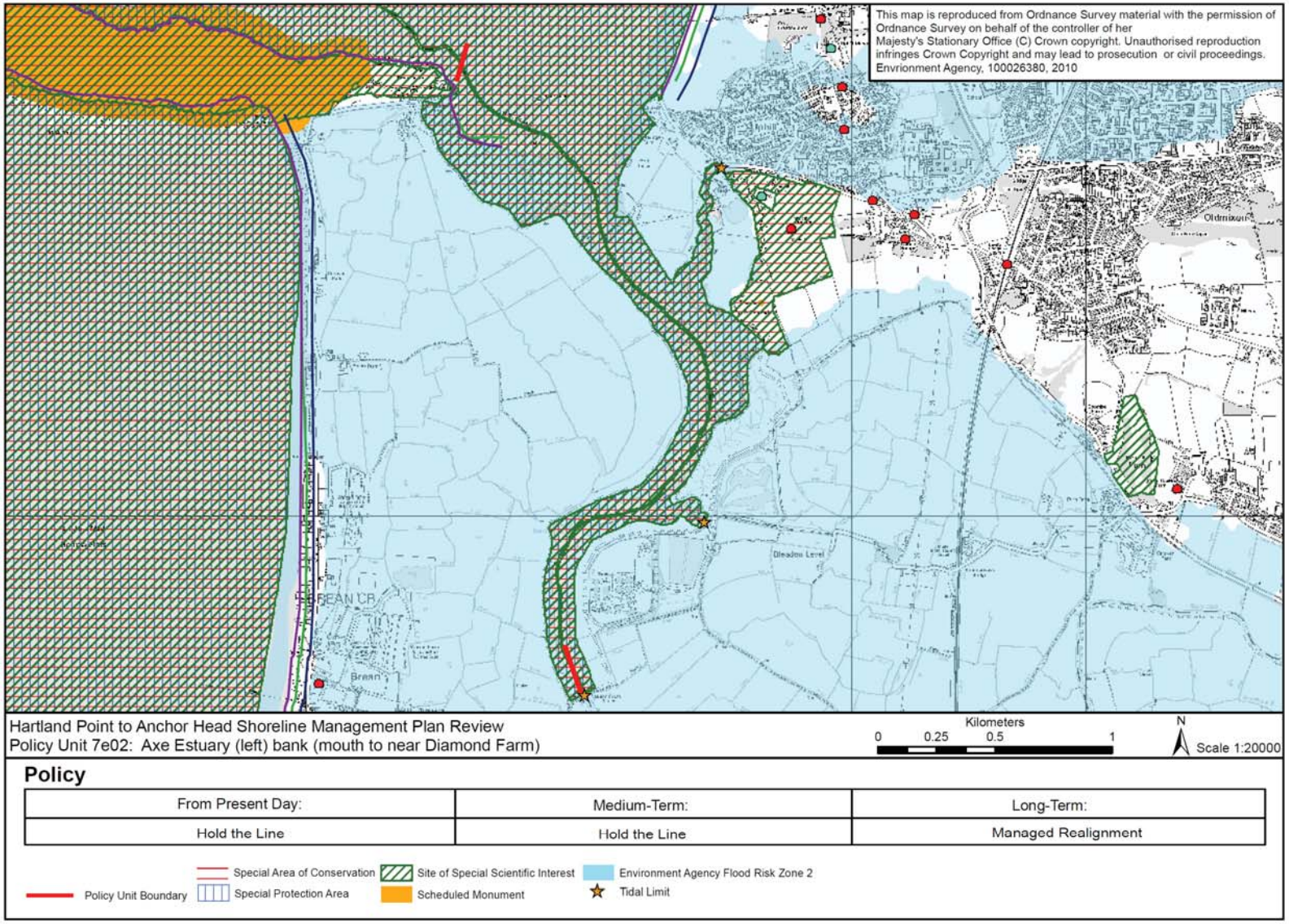

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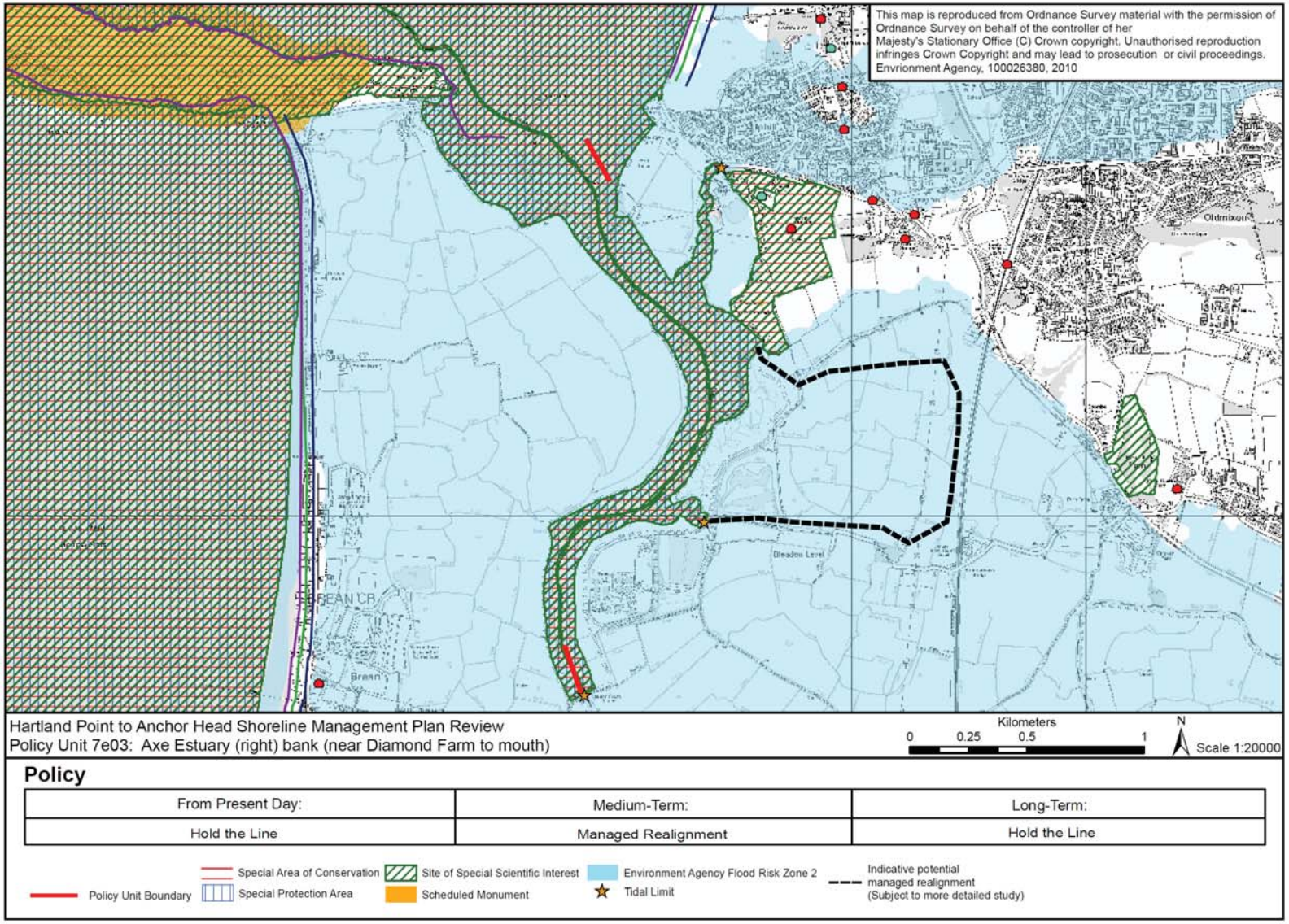

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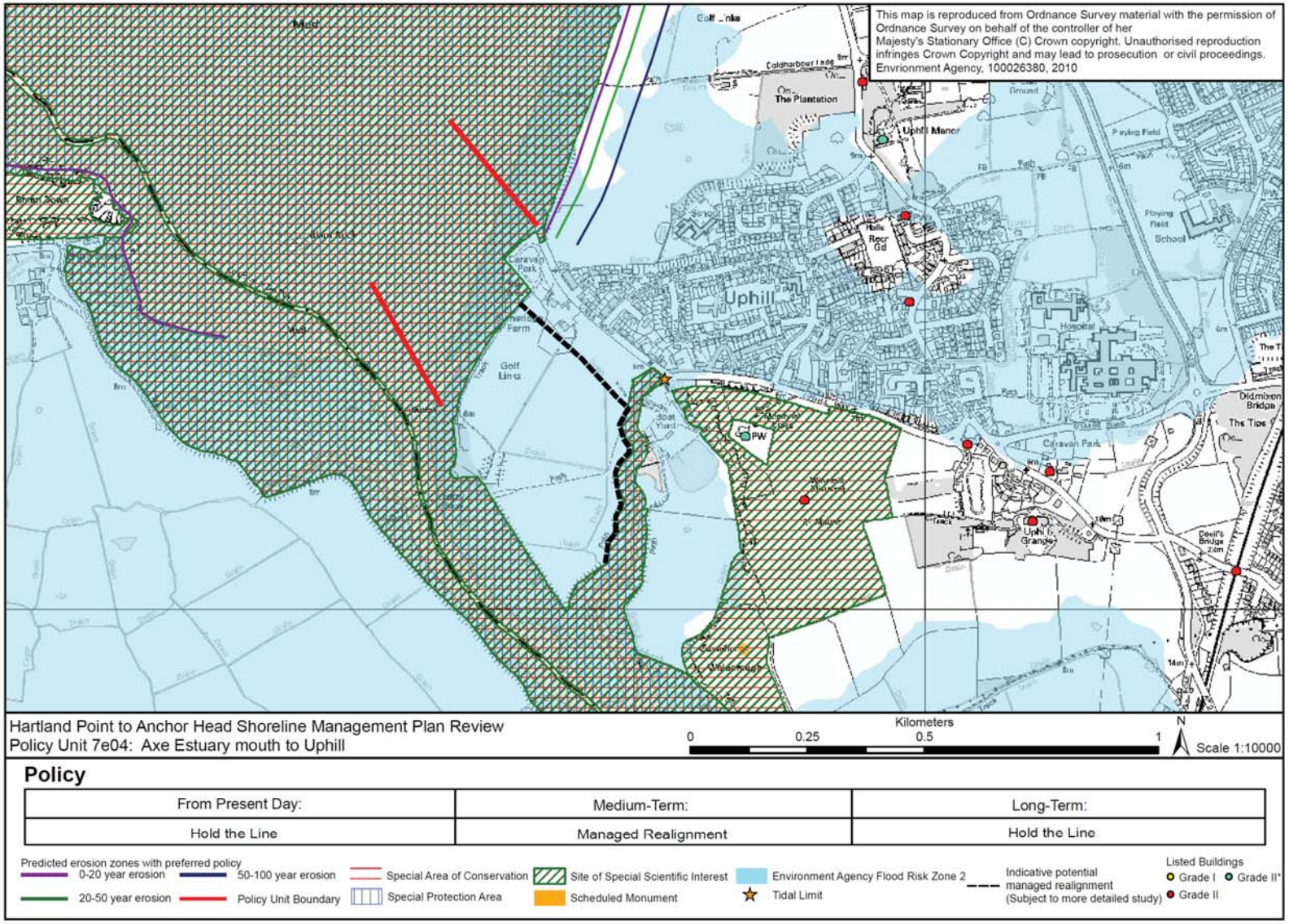

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Location reference:	**Uphill to Weston-super-Mare (Anchor Head)**
Policy unit reference:	**7e05 and 7e06**

Summary of preferred plan recommendations and justification

Plan:

The significant socio-economic assets along this frontage justify a long term plan to continue to minimise the risk of flooding and erosion to Weston-super-Mare, Uphill and the wider area of the Somerset Levels. The beach and dunes are important to tourism value in this area and are also important natural defences at Uphill.

The plan will involve the appropriate management of the existing dune system at Uphill. Between Uphill and Weston-super-Mare the dunes may become unsustainable as a defence, therefore set-back defence may be required to minimise flood risk to people and property.

Through beach and dune management, as well as maintenance of sea walls at Weston-super-Mare, there will be continued protection against flood risk for a significant number of homes and businesses in Weston-super-Mare and Uphill, as well as key infrastructure including the A370 and M5, the mainline railway and associated facilities.

Beach width is likely to reduce over time as sea levels rise, with potential for habitat loss due to narrowing of the shoreline where hard defences are present. Loss of intertidal habitats could impact upon the Severn Estuary Special Area of Conservation, Special Protection Area for Birds and Ramsar site as well as the amenity value of the area.

Preferred policies to implement plan:

From present day (short term):	Flood and erosion risk along the Weston-super-Mare frontage will be minimised through a **hold the line** policy. This will involve maintaining the recently improved defences. Along the undefended dunes between Uphill and Weston-super-Mare, the policy is to allow the dunes to function as naturally as possible, with dune management if necessary to support the defence function of the dunes through **managed realignment**. Implementation of policy will include ongoing monitoring of the effectiveness of the dunes as a defence. Based on this it may be necessary to investigate and construct a secondary defence line. A detailed study is required to assess the long term sustainable management requirements along the whole frontage, including consideration of how beach management along the Weston-super-Mare frontage influences the evolution of the dunes between Weston-super-Mare and Uphill and sediment circulation within Weston Bay as a whole.
Medium term:	In the medium term the policy is to continue to **hold the line** at Weston-super-Mare. Implementation will involve maintaining the existing defences to ensure continued protection to a significant number of homes and businesses in Weston-super-Mare and Uphill, as well as historic environment features, key infrastructure and associated facilities. Beach width will reduce over time, with intertidal habitat loss and narrowing of the shoreline where defences are held. Intertidal habitat loss could adversely affect the Severn Estuary Special Area of Conservation, Special Protection Area and Ramsar site as well as the amenity value of the area. Along the undefended dunes between Uphill and Weston-super-Mare, the policy is for allow the dunes to function as naturally as possible, although dune management could be undertaken to support the defence function of the dunes through continuation of **managed realignment**. The dunes should remain an effective defence during this period, providing protection to the settlement at Uphill and other assets behind. However, the risk of a breach

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	will increase, therefore monitoring should be undertaken to assess this risk. Plans should be put in place for future management of this frontage, including the need for constructing a secondary defence line, if it not already implemented in the short term.
Longer term:	The long term policy is to continue defending the frontage of Weston-super-Mare through a **hold the line** policy. Improvements may be required to the standard of defences, due to the impact of rising sea levels. This will require greater investment, but the significant assets along this shoreline mean this should be economically justified. Along the undefended dunes between Uphill and Weston-super-Mare, the policy of **managed realignment** will continue to allow the dunes to function as naturally as possible, with dune management if necessary to support the defence function of the dunes. Should monitoring indicate a high risk of breach a secondary defence embankment may need to be constructed landwards of the dunes if not already built, to minimise flood risk to people and property.

Summary of specific policies

Policy unit		Preferred policies		
		Short term	**Medium term**	**Long term**
7e05	**Uphill to Weston-super-Mare (south)**	Allow natural coastal evolution to continue as far as possible but undertake dune monitoring and management if required to support the defence function of the dunes through **managed realignment**. If monitoring identifies that the dunes are at risk of breaching, then construct a secondary defence embankment this policy.	Allow natural coastal evolution to continue as far as possible but undertake dune monitoring and management if required to support the defence function of the dunes through **managed realignment**. If monitoring identifies that the dunes are at risk of breaching, then construct a secondary defence embankment this policy.	Allow natural coastal evolution to continue as far as possible but undertake dune monitoring and management if required to support the defence function of the dunes through **managed realignment**. If monitoring identifies that the dunes are at risk of breaching, then construct a secondary defence embankment this policy.
7e06	**Weston-super-Mare**	Minimise risk of flooding and erosion to Weston-super-Mare by maintaining the existing defences, through a **hold the line** policy.	Minimise risk of flooding and erosion to Weston-super-Mare by maintaining the existing defences, through a **hold the line** policy.	Minimise risk of flooding and erosion to Weston-super-Mare by maintaining, or upgrading, the existing defences, through a **hold the line** policy.

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Location reference:	Uphill to Weston-super-Mare (Anchor Head)
Policy unit reference:	7e05 and 7e06

Implications of the preferred plan for this location

Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
2005 to 2025	No management activities between Uphill and Weston-super-Mare. Continue to maintain defences at Weston-super-Mare.	Protection of residential and commercial properties in Weston-super-Mare from flooding. The development opportunities planned for Weston-super-Mare are potentially at risk from flooding depending on their locations.	Protection of tourist related infrastructure, roads (A370), mainline railway between the South West and Midlands (and associated facilities) and infrastructure from flooding. Protection of the substations at Weston-super-Mare from flooding. Potential loss of some parts of the West Mendip Way from flooding and erosion along the Golf Course at Uphill. Low grade agricultural land at risk from flooding.	Protection of the Conservation Area at Uphill and Weston-super-Mare from flooding. Protection of Listed Buildings at Weston-super-Mare. Scheduled Monuments are not at risk from flooding in Weston-super Mare.	Minor changes in landscape at Weston super Mare due to larger defences or more structures being required to maintain an acceptable standard of flood and erosion protection, thus potentially resulting in a change of views and a change in landscape character.	Reduction in beach width at the southern end of Weston Bay due to erosion	No impact on water quality, in compliance with Water Framework Directive.	Maintaining the defences at Weston super Mare will cause coastal squeeze leading to a net decrease in intertidal habitat which are key features of the Bridgwater Bay SSSI and NNR Severn Estuary Ramsar, SPA and SAC. This policy is considered further within the Habitats Regulations Assessment (Appendix J) The Walborough SSSI and local nature reserve is at risk from flooding. Net reduction in the dune area due to erosion and coastal squeeze against coastal defence at the Uphill golf course resulting in adverse impact on CWS.
2025 to 2055	No management activities between Uphill and Weston-super-Mare. Continue to maintain defences at Weston-super-Mare.	Protection of commercial properties in Weston-super-Mare from erosion and flooding.	As above.	As above.	As above.	As above.	No known impact on water.	As above.
2055 to 2105	No management activities between Uphill and Weston-super-Mare, unless monitoring concludes there is a risk of breaching the dunes. Continue to maintain and upgrade defences at Weston-super-Mare.	Protection of commercial properties in Weston-super-Mare from erosion and flooding.	Protection of the pier to Birnbeck Island from erosion and maintenance of the spatial extent of the dune field. Protection of residential and commercial properties, tourist related infrastructure, roads (A370), Mainline Railway (and associated facilities) and infrastructure from flooding. Potential loss of some parts of the West Mendip Way from flooding and erosion along the Golf Course at Uphill. Protection of the substations at Weston-super-Mare from flooding.	As above.	As above.	As above.	Works in areas selected for managed realignment should be implemented so as to not adversely impact on the water quality status of the coastal waters or compromise the achievement of WFD water quality targets.	As above.

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Location reference:	Uphill to Weston-super-Mare (Anchor Head)							
Policy unit reference:	7e05 and 7e06							
Implications of the preferred plan for this location								
Time period	Management activities	Human Health, Property and Population	Land use, infrastructure and material assets	Historic Environment	Landscape character and Visual Amenity	Geology and Soils	Water	Biodiversity, flora and fauna
			Low grade agricultural land at risk from flooding.					

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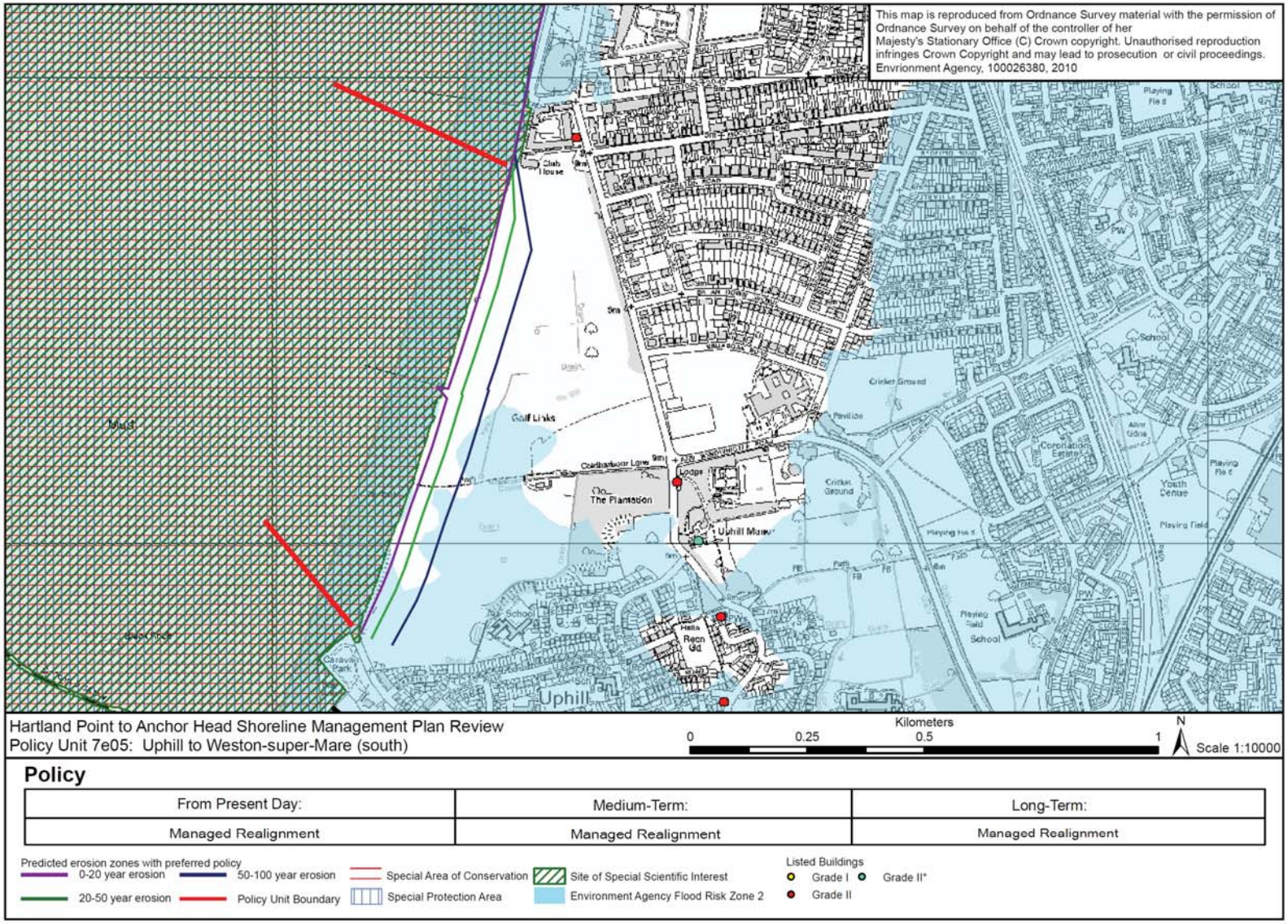

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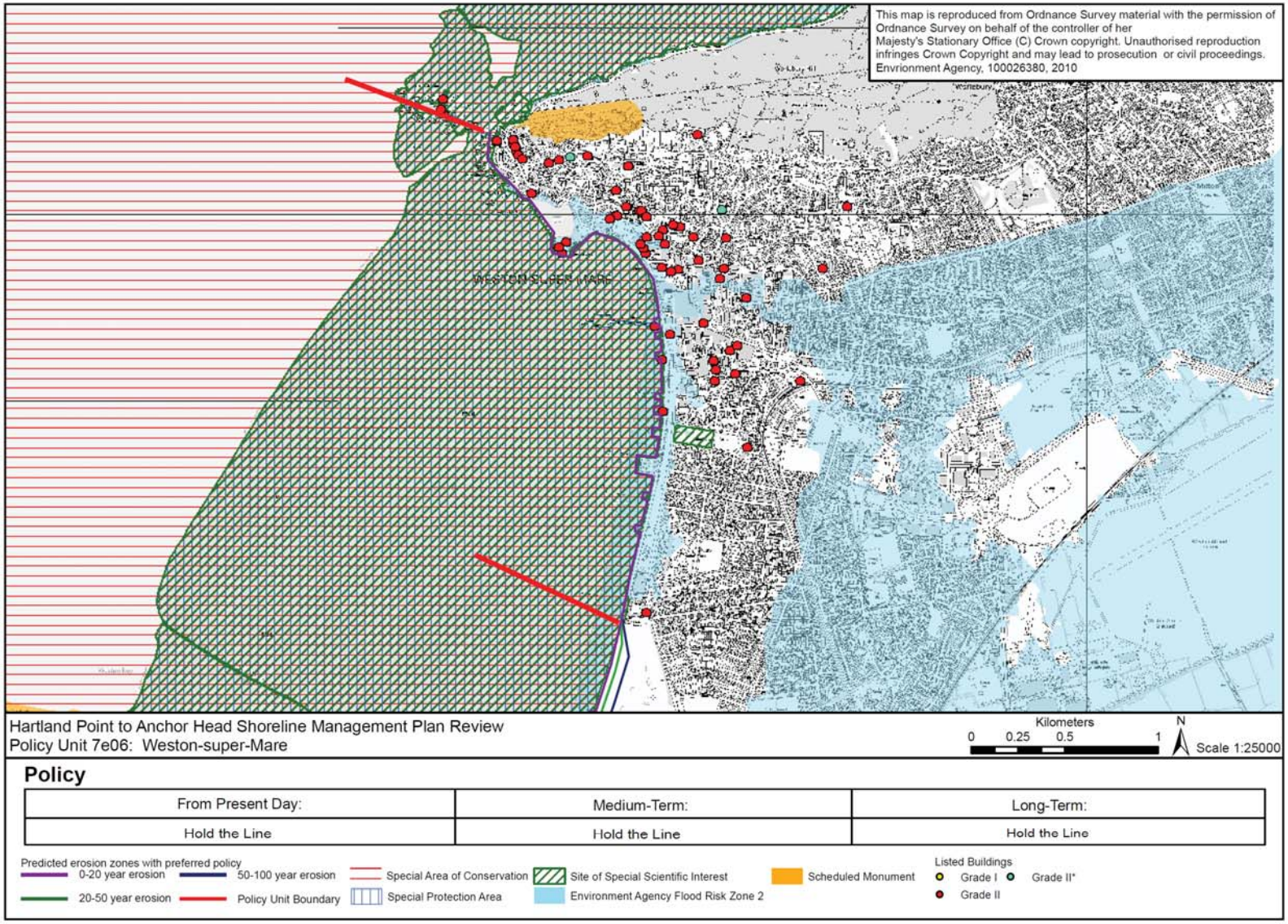

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