

HAYLING ISLAND BEACH MANAGEMENT PLAN

Non-Technical Summary

Working together - protecting our coastline

Revision 1.0
March 2017

Havant
BOROUGH COUNCIL



EASTERN
SOLENT | COASTAL
PARTNERSHIP

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Working together - protecting our coastline

1. INTRODUCTION

This document provides a Non-Technical Summary (NTS) of the Environmental Statement (ES) that has been produced to support Planning and Marine Licence Applications for the proposed Beach Management Plan (BMP) on the South Coast of Hayling Island. This application supports the revised BMP 2017-2022 that supersedes the existing fully consented BMP, which ran successfully from 2012 to 2017.

The spatial extent of the revised BMP has increased, and it now covers the entire sediment cell for the South Coast of Hayling Island and into the estuary mouth of both Chichester and Langstone Harbours (**Figure 1.1** red line). This application also requests amendments to the historic planning conditions to ensure they are better suited to the needs of the plan, our community and the natural environment following experience from our historic works. The revised BMP also includes for the recharge and recycling of a number of sources of beach material, which are clarified within this application.

The open coast on the south coast of Hayling Island is subjected to the impacts of large storm events, and as a result is a very dynamic environment. There are many forces moving the beach sediments at Hayling (i.e. across or along the beach via long-shore-drift, or offshore losses of sediment into deeper waters). Historically and into the future, BMP activities take place to ensure beach levels and the beach profile are maintained at or above design levels, to provide the required level of coastal flood protection to our community within Eastoke. The BMP is designed to reduce the flood risk to South Hayling Island to a 1 in 200 year standard of protection (SoP). This means there would only be a 0.5% annual probability of flooding along this coastline.

There has been severe flooding in the past at Eastoke. The Beach acting as the defence is designed to protect 1,555 properties from coastal flooding. In order to

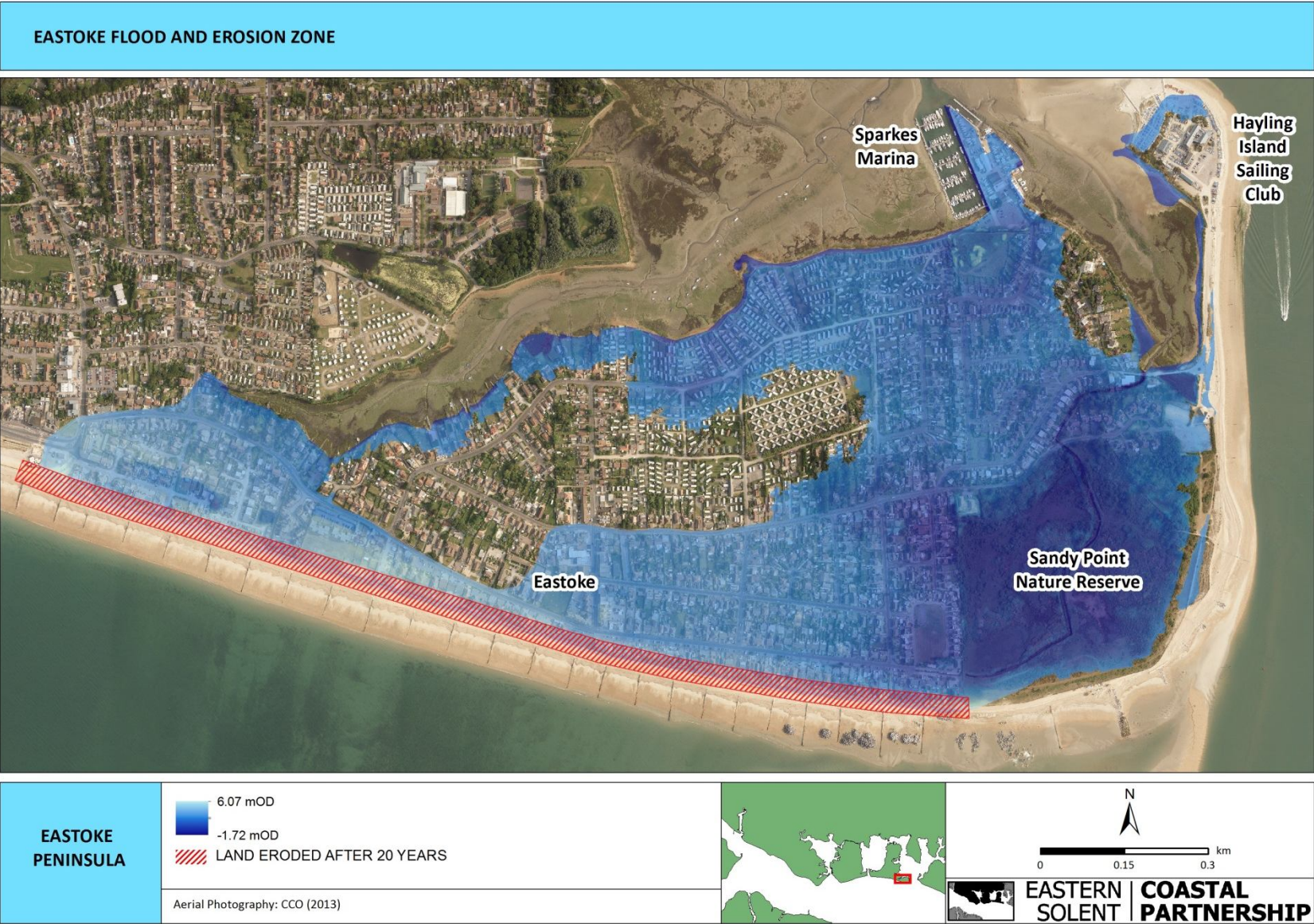
keep the beach at the designed height and profile, beach management activities need to continue. Eastoke is an area of erosion and the beach material moves both east and west from this point. The beach management activities essentially move it back again and occasionally top it back up, due to offshore losses that are no longer accessible. **Figure 1.2** illustrates the flood risk to Eastoke.

The overall coastal defence policy for this frontage was established in 1996 in the East Solent Shoreline Management Plan and reconfirmed during the North Solent SMP in 2010 as “Hold the Line”. Then in 2006 the Eastoke Sectoral Strategy was developed in two stages. Stage 1 was the Eastoke Sectoral Strategy study in 2006, Stage 2 was the Eastoke Point Coastal Defence Study in 2009, which assessed many possible options for providing the flood defence at this location. The preferred option for the South Hayling coast (in particular Eastoke) was rock revetment with groynes, recharge and recycling. Therefore the Beach Management plan was developed to manage the process of recharge and recycling. The aim of the BMP is to manage the movement of beach sediment from where it has built up (accreted), generally to the west of South Hayling Island beach, back to areas where the sediment has eroded away, generally to the east, in the area known as Eastoke. Beach management is a soft form of flood and coastal erosion risk management, working with natural coastal processes.

Figure 1.1: Location Plan and Spatial Extent of the proposed Hayling Island BMP (also illustrating Management Units).



Figure 1.2: The 1 in 200 year flood risk zone and 20 year erosion zone under a ‘Do Nothing’ scenario.



2. THE EASTERN SOLENT COASTAL PARTNERSHIP [ESCP]

The Eastern Solent Coastal Partnership (ESCP) was formed in 2012 to provide a comprehensive coastal management service on behalf of the four partner authorities: Portsmouth City Council, Havant Borough Council, Fareham Borough Council and Gosport Borough Council.

The ESCP's Vision is:

'To reduce the risk of coastal flooding and erosion to people, the developed and natural environment by encouraging the provision of technically, environmentally and economically sustainable coastal defence and protection measures'.

The ESCP is a team of specialist coastal officers and engineers that manages coastal erosion and flood risk management across the partner authorities' coastline, some 162km in total. All members of the ESCP team are employed directly by the partner authorities.

This Environmental Statement has been prepared by the ESCP on behalf of Havant Borough Council as the Applicant.

For further information, please contact either:

Sam Cope Coastal Project Engineer Project Manager Eastern Solent Coastal Partnership, c/o Havant Borough Council, Southmoor Depot, 2 Penner Road, Havant, PO9 1QH sam.cope@havant.gov.uk 02392 446381	Lucy Sheffield Coastal Environmental Project Engineer Environmental Lead Eastern Solent Coastal Partnership, c/o Havant Borough Council, Southmoor Depot, 2 Penner Road, Havant, PO9 1QH lucy.sheffield@havant.gov.uk 07702 516 425
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For more information on the ESCP, including our upcoming and ongoing Flood and Coastal Erosion Risk Management works, please visit our website:

www.escp.org.uk

3. STRATEGIC APPROACH

Havant Borough council [HBC] is the 'Risk Management Authority' [RMA] and will undertake works using its powers under Section 14 of the Land Drainage Act 1991 to manage the flood risk to this exposed open coastline from tidal surges and wave conditions.

The Eastern Solent Coastal Partnership (ESCP) provides a shared service for Havant Borough Council, Portsmouth City Council, Gosport Borough Council and Fareham Borough Council and is taking the lead on this project. Delivery of Flood and Coastal Erosion Risk Management (FCERM) measures, proposed by this project, will contribute towards the Environment Agency's objectives for their National flood and coastal erosion risk management strategy (NFCERMS).

The North Solent Shoreline Management Plan which was approved in 2010, recommends a policy of 'Hold the Line' for the whole of the South Hayling Island coastline. The Eastoke Sectoral Strategy, which covers the whole of the Eastoke Peninsula was approved and adopted in 2006, recommending 'Hold the Line' to a 1 in 200 year (0.5% annual) Standard of Protection (SoP) through Beach Management along the main southern frontage. HBC have undertaken Beach Management Activities and Beach Management Plans at South Hayling Island since the original re-nourishment scheme in 1985.

The Eastoke peninsula is low lying and vulnerable to local storm events and cycles of destructive tidal/weather phenomenon. It is essential that beach levels are maintained along the Eastoke frontage, to protect the urban community from flooding.

The current Beach Management Plan (BMP) funding expires in March 2017. The next BMP has been developed to maintain the existing 1:200 year (0.5% annual) SoP along the Eastoke managed frontage as recommended by the Strategy. Therefore the agreed approach to managing both the flood risk and erosion risk along this stretch of coast is through a mix of rock revetments with groynes, and

Beach Management via recharge and recycling of sediments from area of accretion to areas of erosion. The rock revetments and groynes have already been constructed.

The high-level objectives for the scheme are as follows:

- Reduce the risk of coastal flooding to 1,555 residential properties and 170 commercial over the next 5 years
- Maintain the 1:200 year (0.5% annual) Standard of Protection along the nourished frontage
- Include efficiencies during the life of the Beach Management Plan (through the use of locally sourced beach material)

4. PLANNING APPROACH

Beach Management activities have been taking place in one form or another since 1985 along the South Hayling Island coastline. We have now come to the end of the existing approved Beach Management Plan (BMP (ESCP, 2012)), which ran from 2012 to 2017. We have therefore updated our BMP, to reflect future beach management needs and to take account of the recent capital Flood and Coastal Erosion Risk Management (FCERM) works at Eastoke Point (new rock groynes and revetment). We are also proposing to extend the area of the planning permission and Marine Licence to incorporate the whole sediment cell, as delineated in Figure 1.1. We propose that future beach management operations continue under this new planning permission and marine licence, due to the updated needs of the BMP, as summarised below:

- This application seeks to extend the current planning application (expires 2019) to a 100 year time frame to fall in line with the Shoreline Management Plan. There will be a number of safeguards in place to ensure that if any impacts that are not currently envisaged are identified in the future that management of the scheme is future-proofed and can adapt to future needs.
- A new Marine Licence is being applied for from the Marine Management Organisation, which will cover the importation of any material. The recycling is already exempt from marine licencing and once approved the import of material from within the sediment cell will also become exempt as it will be considered a maintenance operation.
- The ESCP have been undertaking extensive consultation to ensure that there are a number of safe guards in place to ensure that the activities of the BMP will be monitored on an annual basis and reviewed periodically. This will ensure that adaptive management can be undertaken to ensure that there is no detrimental impact to local residents or the environment.

- This application includes the beneficial re-use of material dredged from the Chichester Harbour Approach channel, which is within the same sediment cell. This application does not cover the dredge itself, as this is undertaken by Chichester Harbour Conservancy. It only applies to the placement of dredged material onto the South Hayling Island beach, through a technique called rainbowing and subsequent re-profiling.
- This application includes the provision for additional recharge of shingle from offshore sources. Additional shingle may need to be brought into the sediment cell following offshore losses. This additional beach recharge may be deposited directly on the beach through rainbowing, or via a local aggregates wharf and then transported in by road.
- There are also a number of suggested conditions / safeguards that have been developed with stakeholders, following discussions as part of the EIA development process. These suggest differing conditions to those within the existing BMP that better suit the BMP works and the environment. A summary of all the proposed conditions and safeguards is included in **Section 8**, and it is requested that any planning and marine licence conditions are based on these.
- Additional Reports have also been completed to support this Environmental Statement; these include a Water Framework Directive Assessment and Information for a Habitat Regulations Assessment, which are included as appendices to the Environmental Statement.

The fully proposed BMP activities to which this application relates is included as Section 4 of the Environmental Statement.

5. THE EXISTING ENVIRONMENT

The South Coast of Hayling Island is an area of interesting and noteworthy ecological importance. There are a number of internationally, nationally and locally significant habitats and species which have gained International, European and National environmental designation status. The areas protected by these environmental designations are illustrated in **Figures 5.1 and 5.2**.

The Area to the South of the Island is designated as a Special Area of Conservation (SAC). Both Chichester and Langstone Harbours are designated as Special Protection Areas (SPA) and Ramsar sites. The full Hayling Island open coastline forms part of the proposed Solent and Dorset SPA for the three species of tern breeding locally.

There are also a number of Sites of Special Scientific Interest (SSSIs), Local Nature Reserves (LNR) and also Sites of Importance for Nature Conservation (SINCs).

Chichester Harbour itself is also designated as an Area of Outstanding Natural Beauty (AONB) which is a national designation to conserve and enhance natural beauty.

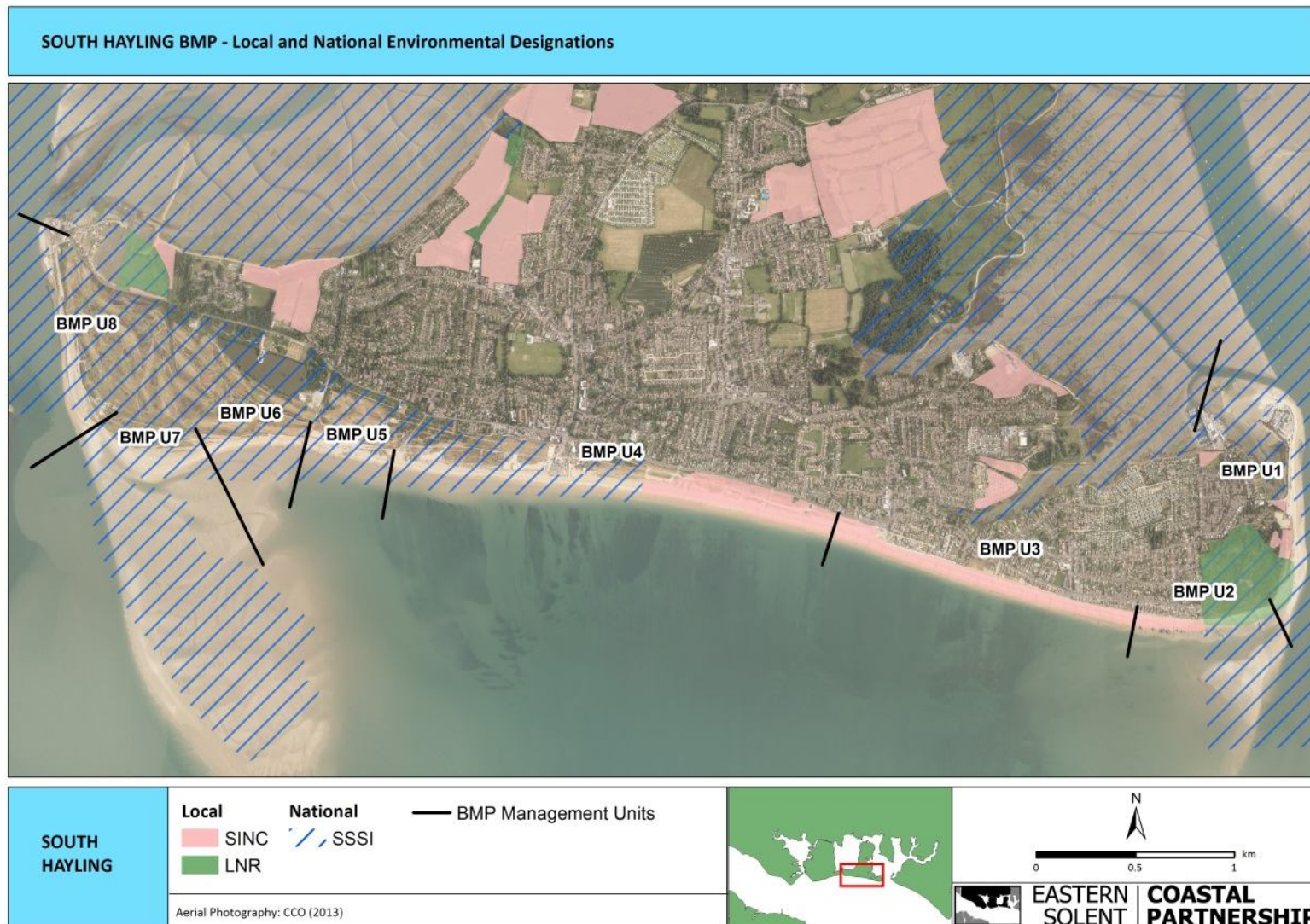


Figure 5.1 Local and National Environmental Designations



Figure 5.2 International and European Environmental Designation

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6. PROPOSED BEACH MANAGEMENT ACTIVITIES

The South Hayling Island beach frontage is an exposed and dynamic environment. The strategically adopted approach for maintaining the defences along this coastline is through beach recycling and nourishment guided by a Beach Management Plan (BMP). The BMP sets critical beach levels to guide maintenance activities.

There are a number of methods for maintaining critical beach levels along the South Hayling Island coastline:

Recycling Shingle within the same sediment cell

Recycling involves mechanically moving the material from areas of accretion back to areas of erosion. To maintain the design height and structural integrity of the beach and therefore the flood defence.

There are six areas of potential for recycling shingle within the same sediment cell; these are (**Figure 6.1**);

1. The Ness
2. Coastguard Revetment
3. The Open Beach
4. West Beach
5. Gunner Point
6. Chichester Harbour Approach Channel – Beneficial use of dredged material

Ideally, recycling would provide enough material to maintain the required beach levels at Eastoke; however there are losses of beach material from the local system, in particular material being lost into deep water. Therefore there is a requirement to bring additional material in from outside of the sediment cell. This is called Recharge

Recharging Shingle from outside the sediment cell

Recharging shingle onto the beach from outside of the sediment cell, involves bringing material in from offshore licenced aggregate sites. This can be done directly using a hopper barge, or indirectly where the material is transported to a local aggregates wharf, the material is then brought to the beach by road.

Mechanisms for Depositing the material onto the beach

There are two mechanisms for moving and then depositing the material onto the beach within the deposition area

Mechanical movement of Shingle

- 1a) Excavating material from the areas of accretion, transporting the shingle in dumper trucks back to the areas of erosion. The material is then deposited on the beach and the beach re-profiled using bulldozers.
- 1b) Recharge material is transported onto site by road, deposited in the Eastoke carpark and then moved to the areas of erosion in the same way as a) above.

Rainbowing

- 2) The other mechanism for moving the shingle directly from the Marine Environment (both recycling or recharge) is carried out through a technique called Rainbowing. With this technique the sediment is pumped ashore directly from the dredging hopper barge. To allow the barge to get close enough to the shore this operation must take place at high tide (1 to 2 hours either side of high tide).

In the past the Beach Management works have been carried out as emergency works when the beach levels at Eastoke fell below critical levels posing a flooding risk. For example, in 2014 we extracted material from Gunner Point with Natural England's emergency assent. Also, over time a number of aspects of the work have changed, for example the opportunity arose to use the arisings from the Chichester Harbour dredge but this has never formally been incorporated into the planning application.

The current planning application is coming up for renewal and there are a number of conditions in the old planning application that are unworkable. Other conditions have also been questioned as to how effective they are in actually protecting the designated interest of the site. So this new application aims to pull together all the

possible activities that could be required to maintain the shingle beach, so that the management of the area can be adaptive to the changing environment.

The fully proposed South Hayling Island BMP activities are included in **Section 4** of the environmental statement. This refers heavily to the technical BMP report itself. We are seeking permissions for all activities set out in Section 4 of the ES, encompassing Units 1 to 8 of the coastline.

The most cost effective means of maintaining the beach levels and profile at Eastoke is by utilising a combination of the above sources of shingle in any one year. In any one year an assessment will be completed to highlight which sources of sediment are:

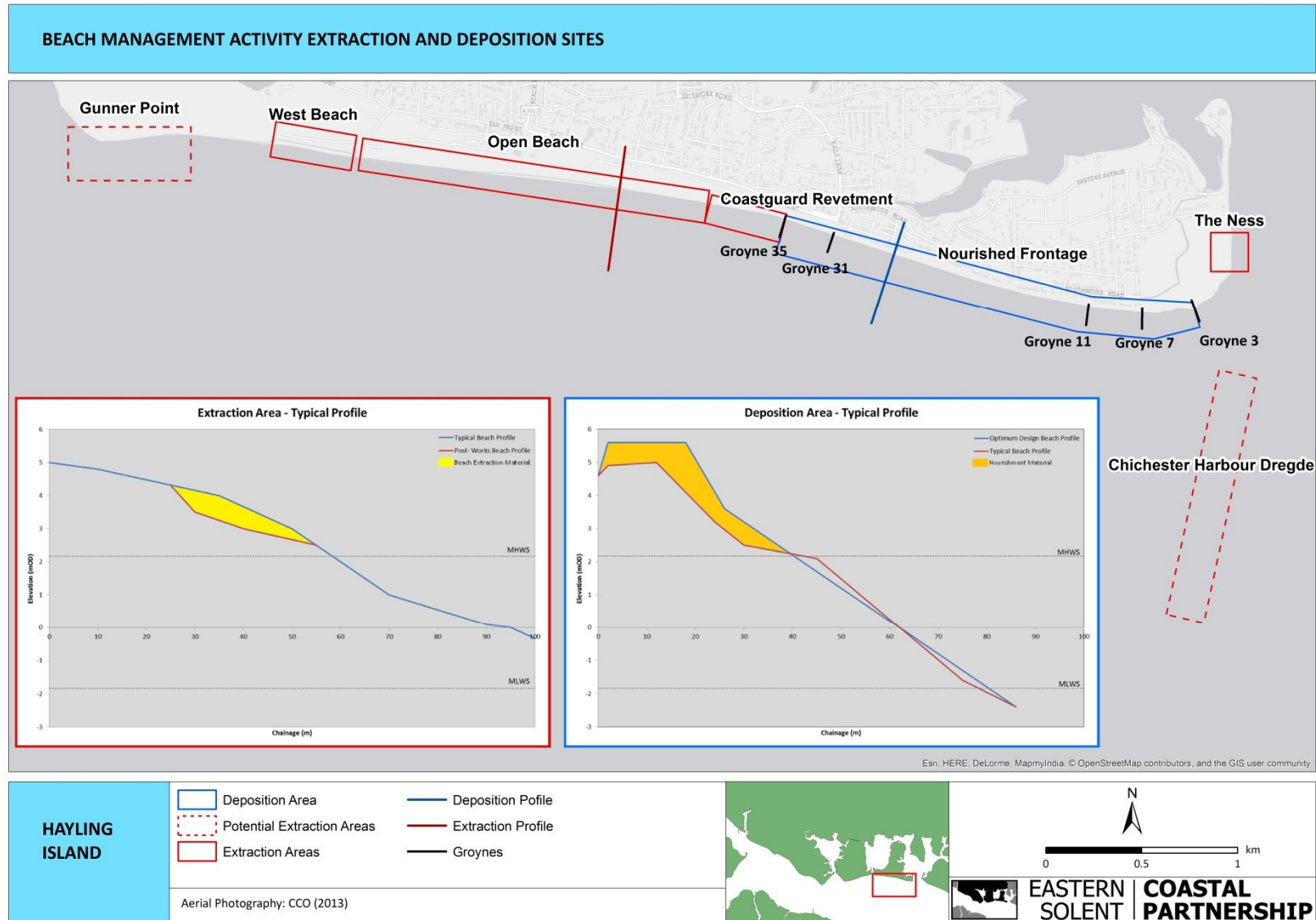
- available
- environmentally sustainable (available but will not impact the environment at the time it's required).
- financially sustainable at the time.

Currently a condition prevents works on the beach over the wintering bird period. This is an issue for the following reasons;

- 1) Ideally works would normally take place in March and/or September, however in some circumstances works need to take place over the winter, when storms can reduce beach levels, requiring emergency works to replace the material before further storm events. Emergency assent from statutory bodies has been sought in the past but this is both time consuming and places undue pressure on all statutory consultees. This application has assessed the impact of these works and how the ESCP can work without having an impact on priority habitats and species in the winter period (see proposed mitigation in Section 7).
- 2) This over wintering bird condition has also been questioned as to its effectiveness in protecting the SPA birds using the site. The bird usage along the open coast during the winter is fairly minimal mainly due to the level of human disturbance and the exposed nature of the site. The ESCP has, and will continue to carry out bird surveys along the shore to monitor and refine our approach. The ESCP has worked very closely with Natural England to agree a number of safeguards that will protect sensitive areas of the beach until such a time that we have the evidence to determine if the restrictions can be relaxed or if they need to remain in force (see **Section 7**).

- 3) Vegetated shingle / annual vegetation of drift lines are priority habitats found on the South Hayling Beach. Vegetated shingle is found on the South Hayling Beach. (**Figure 7.1** illustrates spread in 2016). This habitat will be protected through annual monitoring and mapping to determine the exact location of the habitat, this will then be demarcated on the beach to ensure that the machinery does not impact this habitat. Environmental Statement mitigation measures have been developed in order to protect the vegetated shingle and the future evolution of the vegetated shingle communities (see **Section 7**). These communities benefit from sediment management and our historic works have enabled the development of stable beaches for construction.
- 4) The final issue is developing a mechanism to protect the nesting ringed Plover, which have attempted to nest at both Gunner point and between the Ness and Black point. Again a mitigation measure has been proposed that will protect any nesting Ringed Plover, set out in **Section 7**.

Figure 6.1 BMP extraction and deposition sites for recycling material



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7. POTENTIAL IMPACTS OF PREFERRED OPTION AND PROPOSED MITIGATION

The key environmental impacts of the proposed BMP activities are considered within this section. **Table 7.1** summarises potential impacts that we have identified through our EIA work, including development of the Environmental Statement, Habitat Regulations Assessment and Water Framework Directive Assessment. It promotes mitigation to avoid / reduce the impact and then concludes whether this is acceptable. Figure 7.1 spatially illustrates timing restrictions. It is requested that the conditions of the Planning and Marine Licence applications are based on these.

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Table 7.1 Environmental Mitigation Plan

Impact no.	Impact category	Impact	Mitigation	Resultant Impact
1.	HRA	Damage and disturbance to breeding and ground nesting birds, and visual / auditory disturbance to roosting birds from open beach recycling. Damage to vegetated shingle and drift line habitats through tracking machinery. Applies to the full Hayling Island Coastline (BMP Units 1-8).	- To avoid damage and disturbance to breeding and ground nesting birds: ecological walkover immediately prior to works in nesting season only BMP units 1 to 5 (March to August inclusive). Provide exclusion area if nesting birds discovered (minimum of 5 metre buffer distance). Additional surveys will be carried out if required to ensure that birds have not nested in the meantime. No works to take place in BMP units 6 to 8 between March and August inclusive, as a known nesting site. - To avoid disturbance to roosting birds: Undertake activity outside of overwintering bird period where possible. If recycling undertaken between October and March inclusive, stop works 1.5 hours before and 1 hour after high tide along eastern Eastoke and Gunner Point frontages only (BMP Units 1, 2 (eastern half), 6, 7 and 8). Extraction and stockpiling may still occur during high tide, outside of the sensitive bird areas. This tidal restriction will not apply between April and September inclusive, noting that BMP units 6 to 8 will not be worked on at all between March and August. - To avoid impacts on vegetated shingle / drift line habitats: Undertake vegetation surveys in late July / August to guide works. Plan haulage routes to avoid vegetated areas. Measures will be deployed to prevent impacts to vegetated shingle communities, which will be recorded in a CEMP. The CEMP will also set out the best practice techniques to ensure no pollution is caused. - To avoid disturbance to breeding terns: Terns feed offshore at all states of the tide (April to September inclusive), however they breed over 4km away within Chichester and Langstone Harbours. It is not considered that the open beach recycling activities will impact terns in any way, especially as works will rarely take place in the summer months when they are foraging within the wider Solent. Recycling activities are unlikely to cause increases in suspended sediments, and will therefore not impact foraging behaviour. This is because materials are coarse, and activities take place on the beach, not directly within the waterbody itself.	Due to the avoidance measures identified, no resultant impact expected. Ongoing bird surveys will be undertaken to ensure a complete understanding of the use of this area by birds, which may lead to refinement of the tidal restrictions at Eastoke and Gunner Point (BMP Units 1, 2, 6, 7 and 8).
2.	HRA	Damage and disturbance to breeding and ground nesting birds, and visual / auditory disturbance to roosting birds	To avoid damage and disturbance to breeding and ground nesting birds: ecological walkover immediately prior to works in nesting season (March to August inclusive). Provide exclusion	Due to the avoidance measures identified, no resultant impact expected.

Impact no.	Impact category	Impact	Mitigation	Resultant Impact
		from rainbowing marine dredged shingle ashore at Eastoke via barge (BMP unit 3 only).	area if nesting birds discovered (minimum of 5 metre buffer distance). Additional surveys will be carried out if required to ensure that birds have not nested in the meantime. - To avoid disturbance to roosting birds: Rainbowing can only be undertaken at high tide guided by ship availability. Employ watching brief if activity occurs between October and March inclusive (matching existing planning conditions / work pattern at this location). Stop works if significant impacts are observed in consultation with Natural England. Works to be stopped during extreme weather events (frozen ground conditions for more than 1 week). The curtailing the work will prevent any significant effect on the SPA birds which will be under additional feeding pressure from said environmental conditions. Due to the nature of the works, they will only impact one to two groyne bays for two to four hours during each high tide period, therefore the rest of the South Hayling Island Open coastline remains disturbance free. - To avoid disturbance to breeding terns: Terns feed offshore at all states of the tide (April to September inclusive), however they breed over 4km away within Chichester and Langstone Harbours. It is not considered that rainbowing activities will impact terns in any way, especially as works will rarely take place in the summer months when they are foraging within the wider Solent. Rainbowing activities are unlikely to cause increases in suspended sediments, and will therefore not impact foraging behaviour. This is because materials are coarse, and material is pumped up onto the beach, not directly within the waterbody itself. As the works only take place within one or two groyne bays at any one time, the potential for impacts is further reduced. Note: Marine sourced materials will only be sourced from licensed dredge sites / permitted navigational activities that would provide this beneficial material for reuse. This ES relates to placement only.	Initial studies and advice from local experts has indicated that where rainbowing has historically taken place at Eastoke, roosting waders (principally Sanderling) appear to be largely unaffected by this very localised and short term operation. Large numbers of gulls / terns are attracted to the benthos of the supplied sediment as a source of food. Watching briefs will continue during future rainbowing campaigns, to fully confirm bird behaviour in relation to this activity. See HRA (Appendix C) for details observations from historic watching briefs of rainbowing shingle ashore at this location.
3.	- HRA - ES Coastal processes	Damage and disturbance to breeding and ground nesting birds, and visual / auditory disturbance to roosting birds / terns from extraction of shingle from Gunner Point (BMP Units 6 and 7). Damage to vegetated shingle and drift line habitats / interruption to natural	- To avoid damage and disturbance to breeding and ground nesting birds, including terns: No extraction of shingle from Gunner Point during the bird breeding season (March to August inclusive). - To avoid disturbance to roosting birds, including terns: Works will only take place here between September and mid March to avoid wider impacts. September is the preferable month for	Due to avoidance measures identified, no resultant impact expected. The appropriateness of the mitigation has been agreed with Natural England during preparation of this HRA. Liaison with Natural England will continue going

Impact no.	Impact category	Impact	Mitigation	Resultant Impact
		coastal processes.	extraction to avoid the overwintering bird period. If extraction takes place between Oct and mid March inclusive, work will stop for 1.5 hours before, and 1 hour after high tide. No works will take place during extreme cold periods (frozen ground conditions for more than 1 week). - To avoid impacts on vegetated shingle / drift line habitats: Undertake vegetation surveys in late July / August to guide works. Plan haulage routes to avoid vegetated shingle areas. Measures will be deployed to prevent impacts to vegetated shingle communities, which will be recorded in a CEMP. The CEMP will also set out the best practice techniques to ensure no pollution is caused. A drift line habitat / vegetated shingle survey was undertaken in 2016 (see Figure 21.1). From 2017, extraction of beach material will be seaward of the drift line habitat boundary. Volumes of material to be extracted from Gunner Point will be agreed with Natural England and the landowner prior to each campaign, advised by vegetation surveys and details of accretion. - To avoid impacts on natural coastal processes: There will be on-going detailed monitoring of beach levels to guide operations. We are working with natural coastal processes for the benefit of this frontage. Recycling from this point will maintain a flow of material to Gunner Point. This is a benefit, as lack of recycling and beach management would eventually lead to erosion at Gunner Point, and loss of vegetated shingle / drift line habitats.	forward.
4.	- HRA - WFD	Impacts of recycling and recharge activities on Water Quality i.e. increased suspended solids in the waterbody. Potential impact on foraging visibility for terns.	- To avoid impacts on the water quality: BMP works have been taking place for a number of years and suspended sediments have never increased enough to cause impacts on protected species and habitats. Background levels on this exposed stretch of coast in storm conditions are expected to be relatively high so ecology of the area is well adapted to fluctuating levels of disturbance in suspended solids. - The sediment being recycled and recharged on the open coast is large and therefore the material settles out quickly in the water body. The works are extremely localised and do not take place within the waterbody itself. Also, as they occur along the open coastline, the dilution factor is major, with any suspended sediments rapidly dispersed. Works are generally undertaken outside of tern breeding season, and are over 4km away from the nearest breeding colonies within the harbours.	Due to the avoidance measures identified, no resultant impact expected.

Impact no.	Impact category	Impact	Mitigation	Resultant Impact
5.	- HRA - ES Coastal Processes	Damage and disturbance to breeding and ground nesting birds, and visual / auditory disturbance to roosting birds / terns from extraction of sand from around the Hayling Island Sailing Club slipway (BMP Unit 1). Damage to vegetated shingle and drift line habitats and impacts on intertidal / subtidal sandflats.	- To avoid damage and disturbance to breeding and ground nesting birds, including terns: ecological walkover immediately prior to works in nesting season (March to August inclusive). Provide exclusion area if nesting birds discovered (minimum of 5 metre buffer distance). Additional surveys will be carried out if required to ensure that birds have not nested in the meantime. - To avoid disturbance to roosting birds, including terns: Undertake activity outside of overwintering bird period where possible. If recycling undertaken between October and March inclusive, stop works 1.5 hours before and 1 hour after high. This tidal restriction will not apply between April and September. Works to be stopped during extreme weather events (frozen ground conditions for more than 1 week). The curtailing the work will prevent any significant effect on the SPA birds which will be under additional feeding pressure from said environmental conditions. - To avoid impacts on vegetated shingle: Undertake vegetation surveys in late July / August to guide works. Plan haulage routes to avoid vegetated shingle areas. Measures will be deployed to prevent impacts to vegetated shingle communities, which will be recorded in a CEMP. The CEMP will also set out the best practice techniques to ensure no pollution is caused. - A drift line habitat / vegetated shingle survey was undertaken in 2016 (see Figure 21.1). During the 2016 survey, no drift line habitats were present. Locations and volumes of sand to be extracted in the vicinity of the Hayling Island slipway will be agreed with Natural England prior to each campaign, advised by vegetation surveys and details of accretion. - To avoid impacts on intertidal / subtidal sandflats: Any sand to be extracted in this area is intertidal sand and will remain as intertidal sand. Material will only be removed in order to keep the Hayling Island Sailing Club pontoon usable. Any material removed will be placed back into the same intertidal sediment system at Eastoke, so the material will find its way back. These minimal extractions will not cut off any sediment supply to Black Point. Therefore there is no loss of intertidal sandflat, just some minor working of it. There will be no change in subtidal habitat, as material will not be removed from the subtidal area. As discussed above, each campaign will first be agreed with Natural England to ensure no LSE on this feature.	Due to the avoidance measures identified, no resultant impact expected. The appropriateness of the mitigation has been agreed with Natural England during preparation of this HRA. Liaison with Natural England will continue going forward.

Impact no.	Impact category	Impact	Mitigation	Resultant Impact
			To avoid impacts on natural coastal processes: There will be on-going detailed monitoring of beach levels to guide operations. We are working with natural coastal processes.	
6.	- HRA; - ES Coastal processes.	Damage and disturbance to breeding and ground nesting birds, and visual / auditory disturbance to roosting birds / terns from gentle beach reprofiling at Langstone Harbour entrance (BMP unit 8). Damage to vegetated shingle and drift line habitats through tracking machinery.	- To avoid damage and disturbance to breeding and ground nesting birds: No works to be undertaken along this frontage during the bird nesting season (March to August inclusive). - To avoid disturbance to roosting birds: Undertake activity outside of overwintering bird period where possible. If recycling undertaken between October and March inclusive, stop works 1.5 hours before and 1 hour after high tide. This tidal restriction will not apply in September. Works to be stopped during extreme weather events (frozen ground conditions for more than 1 week). The curtailing the work will prevent any significant effect on the SPA birds which will be under additional feeding pressure from said environmental conditions. - To avoid impacts on vegetated shingle / drift line habitats: Undertake vegetation surveys in late July / August to guide works. Plan haulage routes to avoid vegetated areas. Measures will be deployed to prevent impacts to vegetated shingle communities, which will be recorded in a CEMP. A drift line habitat / vegetated shingle survey was undertaken in 2016 (see Figure 21.1). No works along this frontage between March and August to protect drift line habitat development. - To avoid impacts on natural coastal processes: Only very minor reprofiling works are being promoted here to avoid localised erosion of the car park and impacts on the navigation channel. We are not proposing to move any material away from this frontage. As the annual activity will vary, we will submit a CEMP in advance of each operation. To avoid damage and disturbance to breeding and ground nesting birds: No works to be undertaken along this frontage during the bird nesting season (March to August inclusive).	Due to the avoidance measures identified, no resultant impact expected. The appropriateness of the mitigation has been agreed with Natural England during preparation of this HRA. Liaison with Natural England will continue going forward.
7.	- HRA; - ES Coastal processes.	Benefits of BMP activities on the wide South Hayling Island open coastline	- Beach management and working with natural coastal processes is widely considered as a better FCERM alternative to the construction of hard structures to protect against flooding and erosion, where there is the ability to sustainably do so. - The process of recycling and recharging beaches in line with a nationally approved BMP ensures that there are no areas within the sediment cell that will be starved of sediment, which is a	Due to the avoidance measures identified, it is believed that the delivery of the BMP will have likely significant benefits to the South Hayling Island coastline.

Impact no.	Impact category	Impact	Mitigation	Resultant Impact
			major benefit for the full South Hayling Island open coastline. Utilising material accreting on the beach will reduce the need for importing additional sediment from outside the sediment cell, which is our preferred beach management option, both environmentally and financially. However there will at times be a need to renourish the beach with materials imported into the system that match the resident shingle. This maintains healthy and stable beaches, allowing the establishment of vegetated shingle communities and active drift lines of vegetation. (Such as the communities that have been building up at Gunner Point as a result of our historic BMP works). This also maintains the areas of beach utilised by roosting birds.	
8.	- HRA; - WFD; - ES In combination impacts.	In-combination impacts from other activities within / adjacent to the European designated sites.	As discussed in Chapter 20 of the ES, the HRA and WFD, other potential activities that could affect European sites have been identified. If there is the potential that an 'in-combination' effect could arise, programming of works would require reconsideration, until the activity that causes the in-combination' effect has ceased. Due to the extensive mitigation built into the delivery of this BMP, as set out within this table, we are avoiding the likelihood of 'in-combination' impacts.	Due to the avoidance measures identified, no resultant impact expected.
9.	- ES Coastal processes - HRA	Change in beach profile causing issues on the open coastline. Impacts on the natural evolution of Gunner Point	The BMP has been carefully developed based on historic research and clear understanding of the way in which coastal processes operate along this coastline. This mitigation plan includes control measures that will be implemented to protect important habitats (Gunner Point – BMP Units 6 & 7) including: - Vegetated shingle / annual vegetation drift lines will be demarcated. Machinery will be prohibited to cross the line - Machinery will track along the beach below MHWS at Gunner Point to protect vegetated shingle	Due to the avoidance measures identified, no resultant impact expected.
10.	ES Coastal processes	Tracking on the beach and moving material along it. Compaction of shingle on crest, impacting future free movement of shingle	- The beach is naturally a very dynamic environment, so compaction of material is unlikely - The Construction Environmental Management Plan will include measures to ensure tracking along the beach has minimal impact on coastal processes i.e. minimising the width of the haul route as much as possible so the smallest possible area is impacted.	Due to the avoidance measures identified, no resultant impact expected.
11.	- WFD; - HRA; - ES Fish and Shellfish;	Increased suspended sediments in the water body during construction	Material is coarse with low levels of fines present. Effects of turbidity are low risk and any fines present are expected to settle quickly out of the water column. Recycling works will take place outside of the water body, therefore minimal impacts expected.	Due to the avoidance measures identified, no resultant impact expected.

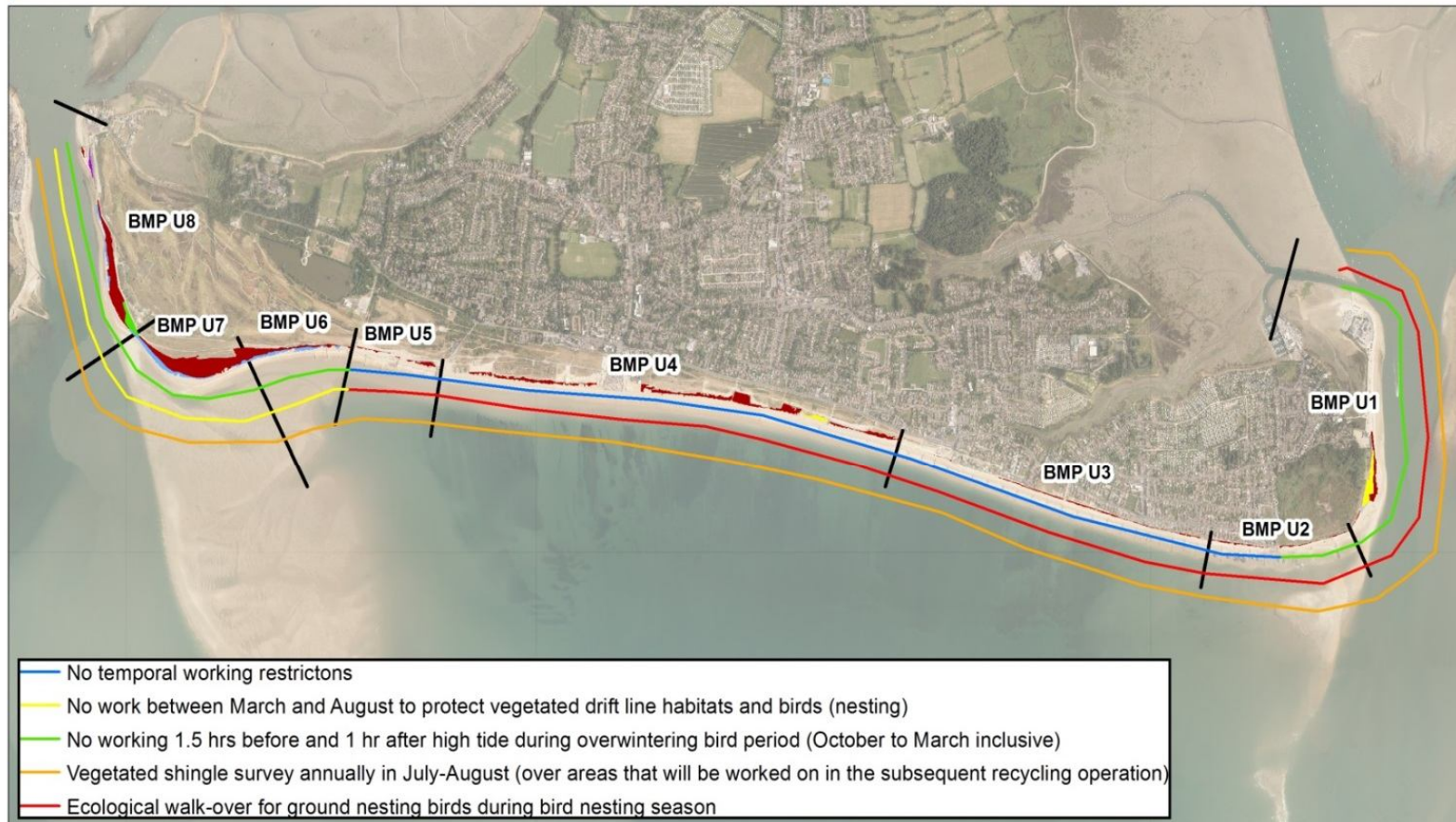
Impact no.	Impact category	Impact	Mitigation	Resultant Impact
	ES Coastal Processes.		Material rainbowed ashore (BMP Unit 3 only) will be deposited on the upper levels of the beach, outside of the water body. Material will be rainbowed ashore at high tide; therefore any fines present will be transported away from sensitive habitat areas on the ebb tide.	
12.	- WFD; - HRA - ES Fish and Shellfish.	Impacts on water quality due to pollution incidents from construction machinery.	- A Construction and Environmental Management Plan will be developed prior to each campaign, which will be a legally binding document to ensure best practice working; - All plant to use biologically degradable hydraulic oils; - All plant to be equipped with suitable spill kits and operatives trained in use; - All refuelling and fuel storage to be undertaken within the compound area (Southwood Road), away from the beach; - These avoidance measures are confirmed within the WFD assessment (Appendix D).	Due to the avoidance measures and best practice working adopted, no resultant impact expected.
13.	ES Landscape and Visual Impact	Impact on visual amenity for the duration of the works: - Plant machinery on site - Mounds of material on the beach immediately prior to re-profiling	- Works are short term and temporary in nature; - A tidy site policy will be employed by the contractor; - Works will not be undertaken at weekends, recognised bank holidays or during the main holiday season (except in an emergency).	Due to the avoidance measures identified, no resultant impact expected.
14.	ES Archaeology and Heritage	Unearthing archaeological interest features.	- The likelihood of unearthing archaeological features is extremely low as only the active beach material will be worked; however the precautionary approach will be taken. - Machines will be operated in such manner to avoid penetration and risking impact to potential buried artefacts by rutting, digging or scraping into the lower levels of beach material. Only material within in the active layers of the beach will be worked. - Should any archaeological artefacts be discovered, works will be stopped and Havant Borough Councils Archaeologist will be contacted who will determine if: - The finds are of sufficient merit to take further action; - If finds are of sufficient merit, they may need to be recorded and left in situ - the finds are of sufficient merit to be recorded and excavated, to be preserved in an alternative location. - Machinery working on site will avoid beach defence structures and other military structures if they are on the line of tracking. No artefacts will be needlessly or thoughtlessly impacted.	Due to the avoidance measures identified, no resultant impact expected.

Impact no.	Impact category	Impact	Mitigation	Resultant Impact
15.	- ES Noise and Vibration; - HRA	Elevated noise and vibration levels causing disturbance to residents and birds in the vicinity of the works.	- Working hours restricted to minimise disturbance to residential and commercial receptors. - Delivery of shingle to site by road and tracking on the foreshore with machinery: 6am to 10pm Monday to Friday (unless there is an emergency response required which could require 24 hour working). - Delivery of machinery to undertake beach management: unrestricted due to logistics. Machinery only being brought to site at the beginning of each beach management campaign, and removed at end, with machinery left on site for the duration of each campaign. - Rainbowing Shingle ashore: unrestricted, as pumping ashore can only occur at high tide, for 2 – 4 hours per discharge. When barge in area, need to make use of every consecutive high tide period, for recharging to be financially viable. - Works will not be undertaken at weekends, recognised Public Holidays or within the main tourist season, unless in an emergency. - Plant stored within the compound (situated along Southwood Road) will be stored at the southern end of the compound area away from adjacent houses. - Construction vehicles will be restricted to a 10mph speed limit - Restrict drop height to a minimum when loading the dump truck hopper from an excavator bucket (or conveyor). This would also reduce noise levels from initial filling of steel dump truck hopper with coarse aggregate. - The local community (local residents, commercial and property owners) will be kept fully informed about the nature and timing of construction activities prior to each campaign. This consists of letter drops, posters and newspaper adverts. - Should works be required during the overwintering bird period (October to March inclusive), no recycling operations will be undertaken 1.5 hrs before and 1hr after high tide (BMP Units 1, 2 (easetrn half), 6, 7 & 8). - An ecological walkover will be undertaken immediately prior to works in nesting season (March to August inclusive). Provide exclusion area if nesting birds discovered (minimum of 5 meter buffer distance). Additional surveys will be carried out if required to ensure that birds have not nested in the meantime. No noise	Due to the avoidance measures identified, no resultant impact expected.

Impact no.	Impact category	Impact	Mitigation	Resultant Impact
			and vibration impacts expected. In units 6 to 8, no works will be undertaken between March and August inclusive as birds are known to nest in these areas.	
16.	ES Traffic and Transport	Impacts to the highway network	Working hours will be restricted in the following way: - Delivery of shingle to site by road and tracking on the foreshore with machinery: 6am to 10pm Monday to Friday (unless there is an emergency response required which could require 24 hour working). - Delivery of machinery to undertake beach management: unrestricted due to logistics. Machinery only being brought to site at the beginning of each beach management campaign, and removed at end, with machinery left on site for the duration of each campaign. - Rainbowing Shingle ashore: unrestricted, as pumping ashore can only occur at high tide, for 2 – 4 hours per discharge. When barge in area, need to make use of every consecutive high tide period, for recharging to be financially viable.	Due to the avoidance measures identified, no resultant impacts expected. Works are of a short duration, limiting potential impacts.
17.	ES Traffic and Transport	Reduced pedestrian access to the beach	Access along the beach will be maintained. Works are relatively short term and will be carried out at a time of year outside the main holiday periods, except in an emergency.	Due to the avoidance measures identified, no resultant impacts expected.
18.	ES Traffic and Transport	Rainbowing of material from dredging impacting navigation	Chichester Harbour Conservancy and Chichester Harbour Master will issue notices to mariners and also directly to local Fisherman to minimise the impact to all Harbour users.	Due to the avoidance measures identified, no resultant impact expected.
19.	ES Traffic and Transport	Disturbance to residents	Moderate Adverse impacts from the works; however the works are a key benefit to residents. Works are short term and temporary. Residents will be notified prior to any works taking place.	Works are short term and temporary in nature, no resultant impact expected.
20.	ES Amenity and Recreation	Temporary effect on amenity and recreational access to the beach for the duration of the works	Length of construction works will be limited to as short a time as possible (2- 4 weeks per campaign). The works will not take place over the weekend or on public holidays or during the main tourist season limiting the impacts on visitors to the area, except in an emergency situation. A tidy site policy would be employed by the contractor and consequently there would be no significant residual impacts.	Due to the avoidance measures identified, no resultant impact expected.
21.	ES Navigation and Commercial Fishers	Disruption to navigation	- Navigation safety plan will be included as part of the CEMP - A notice to mariners will be issued when necessary	Due to the avoidance measures identified, no resultant impact expected.
22.	ES Navigation and	Direct / indirect effects on fishing	Engagement with stakeholder maintained to ensure they are	Due to the avoidance measures

Impact no.	Impact category	Impact	Mitigation	Resultant Impact
	Commercial Fisheries	activity	aware of planned beach management activity	identified, no resultant impact expected.

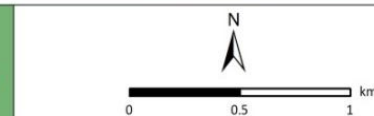
SOUTH HAYLING BMP - Shingle Habitats and Environmental Restrictions



SOUTH HAYLING

- | | |
|----------------------------------|----------------|
| Annual Vegetation of Drift Lines | Salt Marsh |
| Vegetated Shingle/Dune Grassland | Bare Shingle |
| Vegetated Shingle | Dune Grassland |

Aerial Photography: CCO (2013)



EASTERN SOLENT COASTAL PARTNERSHIP

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8. KEY ASSUMPTIONS

- The beach management works have been taking place in one form or other since 1985
- The works will generally take place in March and or September in any one year.
- The Duration of the works is 2 – 4 weeks per campaign.
- The aim of the works is to keep the beach height and profile at Eastoke as agreed in order to protect 1,555 properties.
- If this level drops in the intervening time, works will need to take place at other times of year to bring the beach level up to the required level and therefore maintain the standard of defence. These works would be considered to be emergency works but as the impacts have been considered within this report no additional permissions would be sought for carrying out these works.
- It is impossible to determine how much sediment will need to be recycled / recharged in any one year as it is dependent on how much material has moved from Eastoke and where it has moved to along the coast. This is why it is so important to monitor the beach and the sediment movement, etc. Another current issue is that since the completion of the capital works at Eastoke the system is in a state of flux and will be for a number of years. This has added a degree of unpredictability to the system. It is therefore important to allow for adaptive management of the beach whilst still protecting the people and environment, which is why there are the number of safeguards in place.
- The process of rainbowing has to take place at high tide so that the ship can get access to as close to the shore as possible, this operation usually takes 1 to 2 hours, to deposit the material on the shore. This operation will take place at high tide whenever high-tide falls, day or night.
- To access the two extremities of the site at Gunner Point and Black Point, machinery may need to access areas within the intertidal areas, which will

only take place at low tide. The exact location of the haul route will be determined on an annual basis after the accretion and vegetation monitoring has taken place, and set out in a Construction and Environmental Management Plan per campaign.

- Each year a Management and Monitoring Plan (MMP) covering a number of recorded criteria will assess the scheme to ensure that there are no trends developing that could be considered to be having any negative effects on any aspects covered in the Environmental Statement. Initially reporting is proposed to be in years 2 and 5, before adopting a five yearly reporting cycle for the remaining duration of the plan. Reports will be submitted to Natural England and the Planning Authority to report on monitoring findings and demonstrate adherence to agreed safeguards and restrictions and propose any changes to procedures and working practices if necessary. This document will form the mechanism for modifying working practice rather than the planning permission or the marine licence consent conditions. This is set out in more detail in the BMP Technical Report (included as Appendix A of the Environmental Statement).
- The current planning application expires in 2019. This application will ideally be granted by summer 2017 and continue until 2110 in line with the SMP policy timescales.

9. CONCLUSIONS

The Beach management works have been taking place in one form or other since 1985, without any significant negative impacts to the residents or the environment on the South Hayling peninsula. In fact there have been a number of benefits to both the community and the environment, including:

Community Benefits:

- Flood and Erosion protection to 1,555 properties and protection of numerous business;
- Protection of the transport network onto the peninsula;
- A large amenity beach attracting visitors to Hayling Island, which has a positive impact on the local economy.

Environmental Benefits:

- Continued use of soft engineering techniques instead of hard defences
- Increased sediment supply to the area, from both re-nourishments from marine sourced material transported in by road and also utilising the dredged material from the Chichester Harbour approach channel dredge, which would have been lost from the sediment transport system.
- Gunner Point has evolved into a large vegetated shingle habitat – this is in part due to the additional sediment that has been introduced at Eastoke.

Although this planning permission and MMO licence is being sought for a 100 year time frame to fit in with the Shoreline Management Plan policy timescales, there is a series of safeguards within the system delivered through the Monitoring and Management Plan (MMP) that will be formally reviewed on a five yearly basis to ensure that the beach management works remain fit for purpose. It is proposed that the Management and Monitoring Plan along with the Construction and

Environmental Management Plan (CEMP) will be conditioned under the planning Application, to allow for flexibility in managing this dynamic environment.