

Fishery Lane

Ecological Assessment Report

April 2011
Southern Water

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Southern Water

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Executive Summary

Overview

An Ecological Assessment was undertaken which comprised a desk study, Phase 1 Habitat Survey and a walkover to assess the potential for protected species and map habitat types at Fishery Lane, Hayling Island (National Grid Reference SZ737987). This assessment is required in support of a Planning Application, Harbour Works License and Marine Construction Licences.

The proposed Scheme would involve the construction of a new outfall structure and replacement of the existing outfall pipe within the position of the existing outfall. As the existing pipe has become buried over time, the new outfall will be positioned at a slightly higher level.

Ecological Features

The pipe and outfall structure is located within the intertidal zone of Chichester Harbour which is dominated by shingle. This is adjacent to areas of amenity grassland within the caravan park, a large fishing lake and a linear belt of semi-mature ash trees.

The site is also within the Chichester and Langstone Harbour Ramsar, Special Protection Area (SPA), Site of Special Scientific Interest (SSSI) and Solent Maritime Special Area of Conservation (SAC) which is designated for over wintering birds, breeding birds and marine habitats.

Further Recommendations

Due to the presence of the European designations, a Stage 1 Appropriate Assessment – Test of Likely Significance should be undertaken to determine the potential effects the Scheme may have on these designations. The outcome of this report will be used to formally request a response from Natural England under the Habitats Regulations (2010).

Natural England must be consulted regarding the need for CRoW Assent as the works are also located within Chichester Harbour SSSI.

Impacts and Mitigation

The works should be timed to be undertaken in September and completed by the end of October at the latest to minimise any potential disturbance to the bird species. Further mitigation such as noise control measures will further reduce any impacts upon these potential species if present.

With mitigation measures in place, it is anticipated that the works would not have a significant impact on the qualifying features of the designated sites and therefore would not affect the site's integrity to function. Therefore, no long term significant impacts are anticipated.

1. Introduction

1.1 Background

Mott MacDonald Ltd has been commissioned by Southern Water to undertake an Ecological Assessment of the land off Fishery Lane (Grid reference: SZ 737987), which is located within South Hayling. The proposed site is situated within Chichester Harbour and bordered by a caravan park. The Ecological Assessment is in support of the proposed Planning Application to construct a new outfall structure and replace the existing outfall pipe, all to be located within the position of the existing outfall but at a higher level. The existing outfall has become buried over time due to gradual rising beach levels.

1.2 Development Design and Construction Programme

The new outfall structure will be in the same position as the existing with a 1.1m high wall, 1.2m base in front of the end of the outfall pipe, metal grill over the end of the pipe, gabion mattress in front as scour protection and gabion baskets to the sides. The proposed outfall pipe (approximately 30m) is a 400mm diameter ductile iron pipe with a 150mm thick concrete surround and a concrete slab to support the pipe work. The outfall pipe is to run between the existing manhole (SZ73986702) and the existing outfall. The current Scheme design can be found within Appendix A.

The proposals include:

- Install sheet piling around the proposed works and ensure site is water tight;
- Mark out working areas and install tracks to allow vehicle access to site;
- Excavate and expose existing outfall pipe. Stockpile excavated material. Backfill trench base with type 1 granular fill;
- Set up temporary over pump from existing manhole SZ73986702 to the channel of the existing outfall;
- Remove existing outfall structure and construct new outfall headwall structure with new invert level 150mm higher than existing outlet. Marker to be installed at new headwall;
- Remove existing outlet pipe from manhole SZ73986702 and install new 400mm diameter outfall pipe by coring out wall of existing manhole chamber. New outfall pipe invert level to be 150mm higher than existing pipe;
- Fill in the position of the old outfall pipe in the manhole wall and provide benching to bring the base of the existing manhole to the invert level of the new outfall pipe;
- Remove the existing outfall pipe and replace with new 400mm diameter outfall pipe between manhole. SZ73986702 and new outfall structure. New pipe to have 150mm concrete surround;
- Reinstall excavated material to match existing ground conditions; and,
- Remove sheet piling.

Southern Water will be seeking the following licences:

- Harbour Works License through Chichester Harbour Conservancy; and,
- FEPA and CPA licences through Marine Management Organisation.

1.3 Scope of Report

The aim of this study is to provide a description of the existing habitat types on site, determine the existence and location of any ecologically valuable habitats with the potential to support protected species

within the proposed site and the potential Zone of Influence (Zoi). The report therefore identifies ecological constraints and any potential mitigation measures, where required, which could offset the adverse impacts associated with the Scheme. This assessment has been undertaken with reference to the Guidelines for Ecological Impact Assessment in the United Kingdom (IEEM, 2006).

1.4 Study Area and Zone of Influence

An Extended Phase 1 Habitat survey of the entire site was undertaken in March 2011.

The Zoi is defined as the areas/resources that may be affected by the biophysical changes caused by activities associated with the project (IEEM, 2006). Once the value of the ecological receptors on site was defined, the Zoi of the development was determined through review of the baseline conditions in comparison with the Scheme design, consideration of the proposed activities (in construction and operation) and the presence of valuable habitats in the local area. Therefore, due to the presence of Statutory Designated Sites of high nature conservation value (e.g. Chichester and Langstone Harbour Ramsar, SPA, SSSI and Solent Maritime SAC) and important habitats in the local area, the potential Zoi for the Scheme has been defined as the site and a 1km radius around the site.

1.5 Key Legislation, Policy and Guidance

The construction and operational activities for the proposed works must comply with International, European and UK legislation, and with national and local biodiversity policies. The two main pieces of legislation on nature conservation are the Wildlife and Countryside Act 1981 (WCA 1981) and the Conservation of Habitats and Species Regulations 2010. The relevant nature conservation legislation is summarised in Appendix B.

The key national policies which influence the ecology and nature conservation assessments are the:

- Planning Policy Statement 9 (PPS9) - *Biodiversity and Geological Conservation* (ODPM, 2005 & 2006);
- Working with the grain of nature - *A biodiversity strategy for England* (Defra 2002 & 2006); and,
- UK Biodiversity Action Plan (UKBAP). The relevant local biodiversity plan is the Hampshire Biodiversity Action Plan (LBAP) and is also presented in Appendix C.

The PPS9 guidance on Planning for Biodiversity and Geological Conservation sets out the Government's national planning policy on the protection of biodiversity (ODPM, 2006). PPS9 clearly states that development should be sustainable, have minimal impact on biodiversity and encourages enhancement.

Legislation and policies specific to individual species likely to be present on site are referred to in the relevant section within this report.

2. Methodology

2.1 Overall Approach

A detailed desk study was undertaken prior to the site survey. The desk based study considered biological records and biodiversity policies within a 1km radius of the proposed Scheme and up to 10km for sites designated with bats as the qualifying feature. The site survey concentrated on the proposed Scheme footprint and adjacent Zol.

By combining the desk study and site survey, the ecological value of the habitats and potential for protected species have been identified and evaluated.

2.2 Desk Study

A review of records on protected and notable species for the site and 1km around the site was undertaken utilising information obtained from the National Biodiversity Network (NBN). These records are summarised in Section 3.4. The UK and Hampshire Biodiversity Action Plans were also reviewed as part of the desk study.

In addition, online databases including Multi Agency Geographic Information for the Countryside (MAGIC) and the Joint Nature Conservation Committee (JNCC) were consulted to identify the location of statutory designated sites within a 1km radius of the site.

2.3 Ecological Survey

2.3.1 Extended Phase 1 Habitat Survey

The ecological features within the Zol were initially surveyed by undertaking an Extended Phase 1 Ecological Assessment, which included:

- A site based Phase 1 Habitat survey to identify and map the broad habitat type, in compliance with the Handbook for Phase 1 Habitat Survey: *a Technique for Environmental Audit* (JNCC, 2010). The dominant plant species were recorded and habitats classified according to their vegetation types. Target notes (TNs) were made for species and habitats of conservation interest (please refer to Appendix D for both the Phase 1 Habitat Map and Target Notes), and;
- A walkover of the survey area to identify the presence or potential of the habitats for protected and notable species.

2.3.2 Assessment Constrains

March is not considered to be an optimal month to survey vegetation as recommended by the Phase 1 Habitat survey guidelines (JNCC, 2010). However, broad habitat types could still be identified and the assessment is considered to be robust for the objectives identified for this ecological assessment.

2.4 Assessing Biodiversity Value and Scheme Impacts

The conservation importance was assessed for each of the main ecological features (designated sites, habitats and protected species) that occur within the zone of influence. The following frame of reference

was used in this assessment: international, national, regional, local (parish) and within the survey area only (IEEM, 2006).

The following are some of the criteria which are used in the assessment of the conservation importance: designation of the site; rarity of the species or habitats; presence of Red Data Book (RDB) or endemic species; presence of diverse plant communities; plant communities typical of natural/semi-natural habitats; habitat diversity and connectivity; presence of UK BAP and LBAP species and habitats (IEEM, 2006).

The conservation value and magnitude of impacts was assessed using criteria shown in Tables 2.1 and 2.2 below. Table 2.3 shows the overall appraisal categories used in the impact assessment.

Table 2.1: Criteria for Determining Conservation Value

Conservation value	Criteria	Examples
Very high	High importance and rarity, international scale and limited potential for substitution	Internationally designated sites
High	High importance and rarity, national scale, or regional scale with limited potential for substitution	Nationally designated sites Regionally important sites with limited potential for substitution Species protected by European Legislation.
Medium	High or medium importance and rarity, local or regional scale, and limited potential for substitution	Regionally important sites with potential for substitution Locally designated sites Species protected by National Legislation.
Low	Low or medium importance and rarity, local scale	Undesignated sites of some local biodiversity and earth heritage interest
Negligible	Very low importance and rarity, local scale	Other sites with little or no local biodiversity and earth heritage interest

Table 2.2: Criteria for Determining the Magnitude of Impacts

Magnitude	Criteria
Major negative/positive	The proposal would affect the integrity of the site, habitat or species population, in terms of the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, the complex of habitats and/or the population levels of species of interest.
Moderate negative/positive	The proposal would not affect the integrity of the site, habitat or species, but would affect the ecological objectives for the site or species. However if, in the light of full information, it cannot be clearly demonstrated that the proposal will not have an effect on integrity, then the impact should be assessed as major.
Minor negative/positive	Some minor impact is evident with changes in the habitat or species population. However, ecological objectives for the site or species would not be affected.
Negligible	The habitats or species on the site are being affected or changed, but there is no observable impact in either direction.
No impact (neutral)	The site, habitat or species is either outside the zone of influence, or if inside the zone of influence, is not in any way altered by the works.

Table 2.3: Overall Appraisal Category

	Conservation Importance				
Magnitude of Impacts	Very High	High	Medium	Low	Negligible
Major negative	Very large adverse	Very large to large adverse	Moderate adverse	Moderate to slight adverse	Negligible
Intermediate negative	Large adverse	Moderate to large adverse	Moderate adverse	Slight adverse	Negligible
Minor negative	Moderate to slight adverse	Slight adverse	Slight adverse	Slight adverse	Negligible
Neutral	Negligible	Negligible	Negligible	Negligible	Neutral

3. Baseline Conditions of Ecological Features

The following statutory and non-statutory designations were identified within 2km of the proposed Scheme. The citations detailing the characteristics of these features can be found in Appendix E and the designations depicted in the constraints plan provided in Appendix F.

3.1 Statutory Designated Sites

Table 3.1: Summary of Statutory Designated Sites

Site Name	Designation	Distance from Site	Level of Importance
Chichester and Langstone Harbours	Special Protection Area (SPA)	Works are within the site	International
Chichester and Langstone Harbours	Ramsar	Works are within the site	International
Solent Maritime	Special Area of Conservation	Works are within the site	International
Chichester Harbour	Site of Special Scientific Interest	Works are within the site	National
Chichester Harbour	Area of Outstanding Natural Beauty	Approximately 250m to the east of the site.	National
Sandy Point	Local Nature Reserve	Approximately 1000m to the south east of the site	Regional

Source: www.magic.gov.uk

It should be noted that there were no Special Areas of Conservation (SAC) that are recognised as being important bat roosts within a 10km radius of the proposed Scheme.

3.1.1 Chichester and Langstone Harbours SPA and Ramsar

Chichester and Langstone Harbours are large, sheltered estuarine basins comprising extensive mud and sand flats exposed at low tide. The site is of particular significance for over-wintering and breeding wildfowl and waders and also a wide range of coastal and transitional habitats supporting important plant and animal communities.

3.1.2 Solent Maritime SAC

The Solent Maritime SAC comprises various habitats such as coastal lagoons, perennial vegetation of stony banks, shifting dunes along the shoreline and Desmoulin's whorl snail *Vertigo moulinsiana*.

3.1.3 Chichester Harbour SSSI

Chichester Harbour is a large estuarine basin in which at low water extensive mud and sandflats are exposed, drained by channels which unite to make a common exit to the sea. The site is of particular significance for wintering wildfowl and waders and also breeding birds both within the Harbour and in the surrounding permanent pasture fields and woodlands. There is a wide range of habitats which have important plant communities.

3.1.4 Chichester Harbour AONB

In this flat landscape, the vertical elements of church spires and old mills are an important part of its character, as are the colour-washed, red-roofed villages. Its rich diversity is enhanced by the patterns of sea and land changing with the tides and the seasons. The AONB's extensive stretch of tidal flats and saltings are of outstanding ecological significance. Very large populations of wildfowl and waders use the mudflats feeding on the rich plant life and the huge populations of intertidal invertebrates. More than 9,000 Brent geese overwinter on the intertidal mud-land and adjacent farmland.

3.1.5 Sandy Point LNR

The Nature Reserve is a sensitive area of rare maritime heathland, sand dunes and grassland grazed in summer by cattle. Some plants found here occur nowhere else in Hampshire and much of the ground is covered in fragile lichens.

3.2 Non-Statutory Designated Sites

There is one Site of Importance for Nature Conservation (SINC) which is located within 1 km to the north of the Scheme. No further information is available.

3.3 Habitats

The main habitat types found in the survey area are presented in this section. A description of specific habitat types, dominant plant species and notes on the presence of protected species is given in the Phase 1 Target Notes provided in Appendix D.

3.3.1 Intertidal

The proposed pipe is to be located within the intertidal area which comprises shingle substrate and pockets of sea purslane *Atriplex portulacoides* (TN 5).

3.3.2 Amenity Grassland

Adjacent to the works area are large areas of amenity grassland which dominates the caravan site (TN 6). This type of grassland is considered to be of low conservation value.

3.3.3 Linear Belt of Trees

Separating the caravan site and the fishing lake is a linear belt of semi-mature ash trees (TN 1).

3.3.4 Open Water

There is a large fishing lake located approximately 30m from the Scheme. The lake is approximately 245m in length and 60m in width. Small patches of bramble *Rubus fruticosus*, tall ruderal vegetation and pampas grass *Cortaderia selloana* line the periphery of the lake.

3.4 Protected Species

3.4.1 Desk Study Information

The National Biodiversity Network was searched for protected species records within 1km of the proposed Scheme. Only records for common lizards *Lacerta vivipara* were identified and these are located 300m to the east and recorded in 2005.

The information presented in this section below has been compiled from information obtained from direct observations of the species or suitable habitat identified during the site walkover.

3.4.2 Breeding Birds

The trees scattered around the caravan site provide suitable habitat for breeding birds. Numerous species of ducks and swans were also seen in the adjacent fishing lake (TN 2).

Chichester Harbour is designated for over wintering wader species which may utilise the intertidal area where the works are to be located (TN 4).

3.4.3 Bats

The habitat is considered to be of low suitability for bats due to the lack of feeding resources and suitable habitat for roosting. One tree did have a split limb which would be a suitable roost site for bats, however it was evident that bats were not using it due to the presence of cobwebs and lack of staining around the entrance (TN 3).

3.4.4 Badgers

The habitat surrounding the Scheme is not considered to be suitable for badgers due to the lack of vegetation used for sett construction and poor feeding resources available.

3.4.5 Dormice

Due to the lack of woodland or hedgerows, the habitat is not deemed suitable for dormice.

3.4.6 Reptiles

The adjacent fishing lake does provide some areas for reptiles to bask and forage within, however it is heavily disturbed by fisherman. Therefore, the habitat is deemed of low suitability for reptiles.

3.4.7 Great Crested Newts

No suitable breeding ponds were identified within 500m of the proposed Scheme. The terrestrial habitat where the works are to be located is also of low suitability for GCN.

3.4.8 Marine Invertebrates

The intertidal areas where the works are proposed may be suitable for marine invertebrates which in turn may provide a feeding resource for the bird species (waders) which use the harbour over the winter.

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4. Further Recommendations

4.1 Statutory Consultation

4.1.1 Habitats Regulations Assessment

As the proposed Scheme is situated within the Chichester and Langstone Harbour Ramsar, SPA and Solent Maritime SAC, a Stage 1 Appropriate Assessment – Test of Likely Significance should be undertaken due to the proximity to these designations and the potential effects the Scheme may have upon them. Natural England will be consulted on the outcome of the initial screening assessment and will determine if a full Appropriate Assessment is required.

4.1.2 Countryside and Rights of Way Act Assent

As the proposed Scheme is within the Chichester Harbour SSSI, the works may involve activities recognised as potentially damaging operations (PDOs). Therefore Natural England need to be consulted to seek their assent, if applicable, in accordance with the requirements of the Wildlife and Countryside Act (as amended).

5. Mitigation Strategy

Owing to the potential presence of migratory and breeding birds for which Chichester harbour is designated for, the following mitigation measures are recommended to minimise any impact upon these species.

Works should avoid the period between November to mid-March inclusive when the migratory species will be present. The breeding season should also be avoided which is between Mid-March to end of August inclusive. Therefore the optimum time to undertake the works would be September and October.

Mitigation measures to control noise must be implemented at all times to minimise noise disturbance to birds which may be present within the Harbour area.

Such measures will involve:

- Avoid unnecessary revving of engines and switch off equipment when not required;
- Ensure plant and vehicles are properly maintained to meet the manufacturers' noise rating levels. Any silencers or bearings which become defective would be replaced as soon as possible;
- Use of reverse warning systems incorporating broadband noise;
- Vehicles would reverse in a direction away from the SPA/Ramsar and wherever possible manoeuvre in a circular manner to avoid the use of reversing alarms;
- Keep all haul routes well maintained to avoid unwanted rattle and "body slap" from vehicles;
- Use enclosures for noisy plant such as pumps or generators;
- Use rubber linings in, for example, chutes and dumpers to reduce impact noise;
- Minimise drop height of materials;
- Limit the use of particularly noisy plant or vehicles;
- Ensure that plant and vehicles are operated with noise control hoods closed; and,
- Keep lorry tailgates closed where possible.

5.1 Good Practice

The following good practice mitigation measures should be undertaken:

- Construction method statements should be produced for each of the key ecological issues on the site.
- Prior to the start of construction works on site, all Contractors working on the site should attend a toolbox talk. The toolbox talk will include information on the presence of protected species, the working restrictions associated with those protected species and the location of the designated site.
- All construction works should be undertaken within the pre-defined working areas, and any changes to the construction methodology or changes in the area of works should be discussed with the qualified Ecologist prior to any such changes.
- An Ecologist / inducted site personnel should maintain a watching brief to check for protected species / signs during works as required.

6. Assessment of Impacts

6.1 Potential Ecological Impacts Specific to Construction

6.1.1 Designated Sites

The works involve the replacement of an existing outfall pipe and construction of a new outfall structure, which lies within the Chichester and Langstone Harbour Ramsar, SPA, SSSI and Solent Maritime SAC. The works will require ground disturbance to facilitate the removal of the existing pipe and installation of the new pipe will require the use of sheet piling to ensure the works area is water tight. The area to be affected is approximately 30m in length with a working area 3m either side. Therefore, the area to be disturbed is small compared to the wider habitats and is not anticipated to affect the site's integrity. The effect upon the designated sites has been assessed as Slight Adverse.

6.1.2 Habitats

The site office and facilities are to be located on an area of amenity grassland within the caravan park. This type of habitat is of low conservation value. As the site office will be temporarily located here for the duration of the works (approximately 30 days), the effect upon this habitat has been assessed as Negligible.

The proposed outfall pipe and outfall structure is located within the intertidal shingle habitat. This habitat type is considered to be of medium conservation value and is also listed within the Hampshire Biodiversity Action Plan as a priority habitat. The construction works will require the temporary disturbance and excavation of this habitat type to remove the existing pipe and construct the new pipe. Therefore, the effect upon this habitat type has been assessed as Slight Adverse due to the small scale and temporary nature of the works.

6.1.3 Protected Species

The habitats adjacent to the proposed works are considered to be of low ecological value for protected species. However, the works are located within an area designated for over wintering and breeding birds and the construction activities have the potential to disturb these birds if present. With mitigation such as sensitive timing of works to avoid both the breeding season and over wintering period and methods to minimise noise disturbance, the effect upon these birds is anticipated to be Slight Adverse.

6.2 Potential Ecological Impacts Specific to Operation

6.2.1 Designated Sites

As there will also be no change to the type of discharge or volume output, it is anticipated that the works will not affect the site's integrity to function and so the long term effect is considered to be Negligible.

6.2.2 Habitats

Once the outfall pipe has been replaced and the shingle habitat has been reinstated around the new pipe, it is not anticipated that there will be any long term impacts to this type of habitat and a Negligible effect is anticipated.

6.2.3 Protected Species

Once the pipe and outfall structure is operational, it is not anticipated that there will be any significant impact upon the birds which may utilise this area as the pipe will not cause an increase in discharge and consequently there will be no change to the surrounding habitats. Therefore, it is anticipated that the long term effect once the pipe is operational will be Negligible.

7. Conclusion

The proposed Scheme would involve the construction of a new outfall structure and replacement of the existing outfall pipe within the position of the existing outfall. As the existing pipe has become buried over time, the new outfall will be positioned at a slightly higher level.

The pipe and outfall structure is located within the intertidal zone of Chichester Harbour which is dominated by shingle. This is adjacent to areas of amenity grassland within the caravan park, a large fishing lake and a linear belt of semi-mature ash trees. The Ecological Assessment has identified that these adjacent habitats are unlikely to support protected species. However, the pipe and outfall structure is located within various European and Nationally designated sites for which over wintering birds, breeding birds and marine habitats are the qualifying features.

The works must be timed to be undertaken in September and completed by the end of October at the latest to minimise any potential disturbance to the bird species. Further mitigation such as noise control measures will further reduce any impacts to these potential species if present.

Consultation must also be undertaken with Natural England regarding the necessity for CRoW Assent and the requirement for an Appropriate Assessment.

With mitigation measures in place, it is anticipated that the works would not have a significant impact upon the qualifying features of the designated sites and therefore would not affect the site's integrity to function. Therefore, no long term significant impacts are anticipated.

8. References

Joint Nature Conservation Council (1993) Handbook for Phase 1 Habitat Survey – *a Technique for Environmental Audit*, JNCC Publications, Peterborough.

Joint Nature Conservation Council (www.jncc.gov.uk).

UK Biodiversity Action Plan (www.ukbap.org.uk).

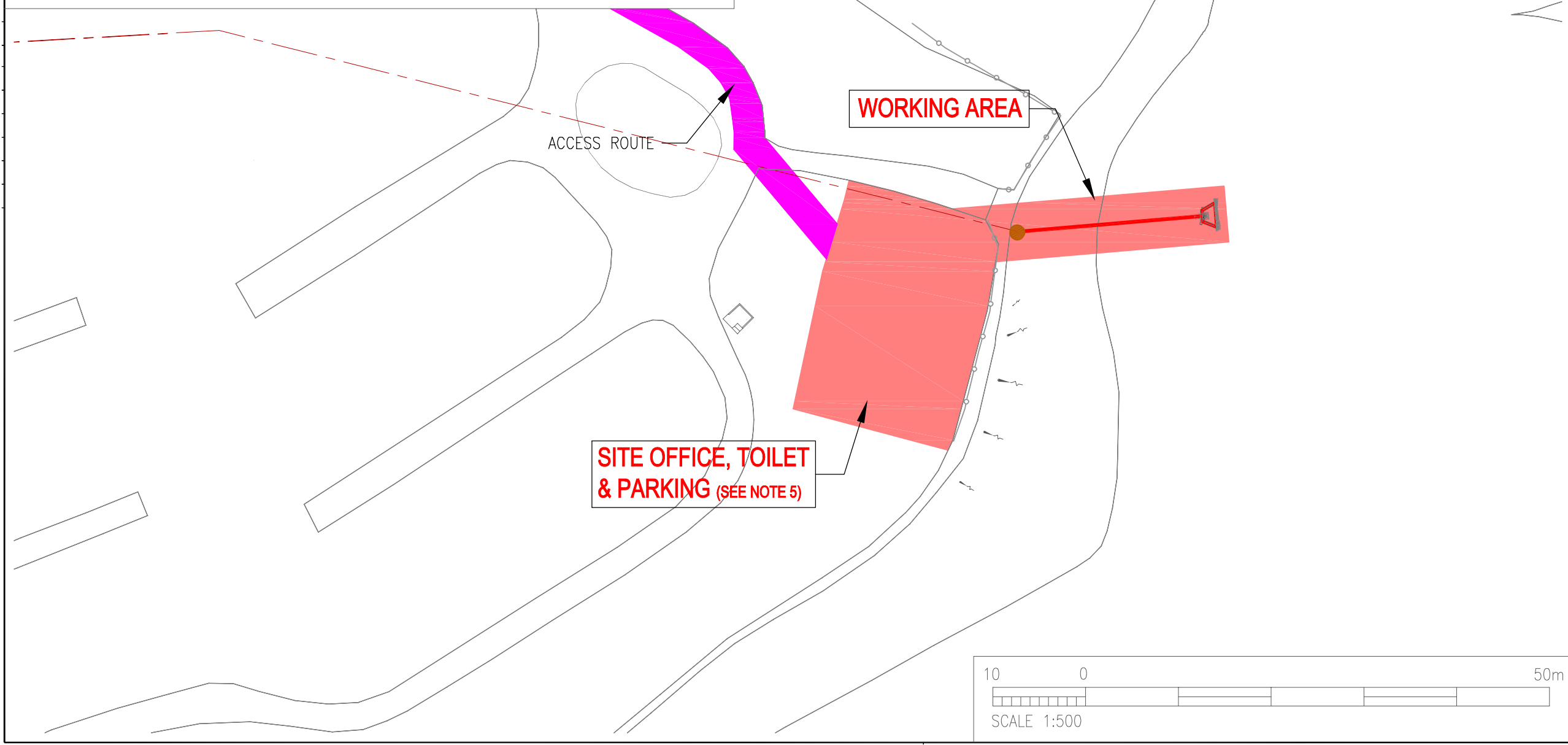
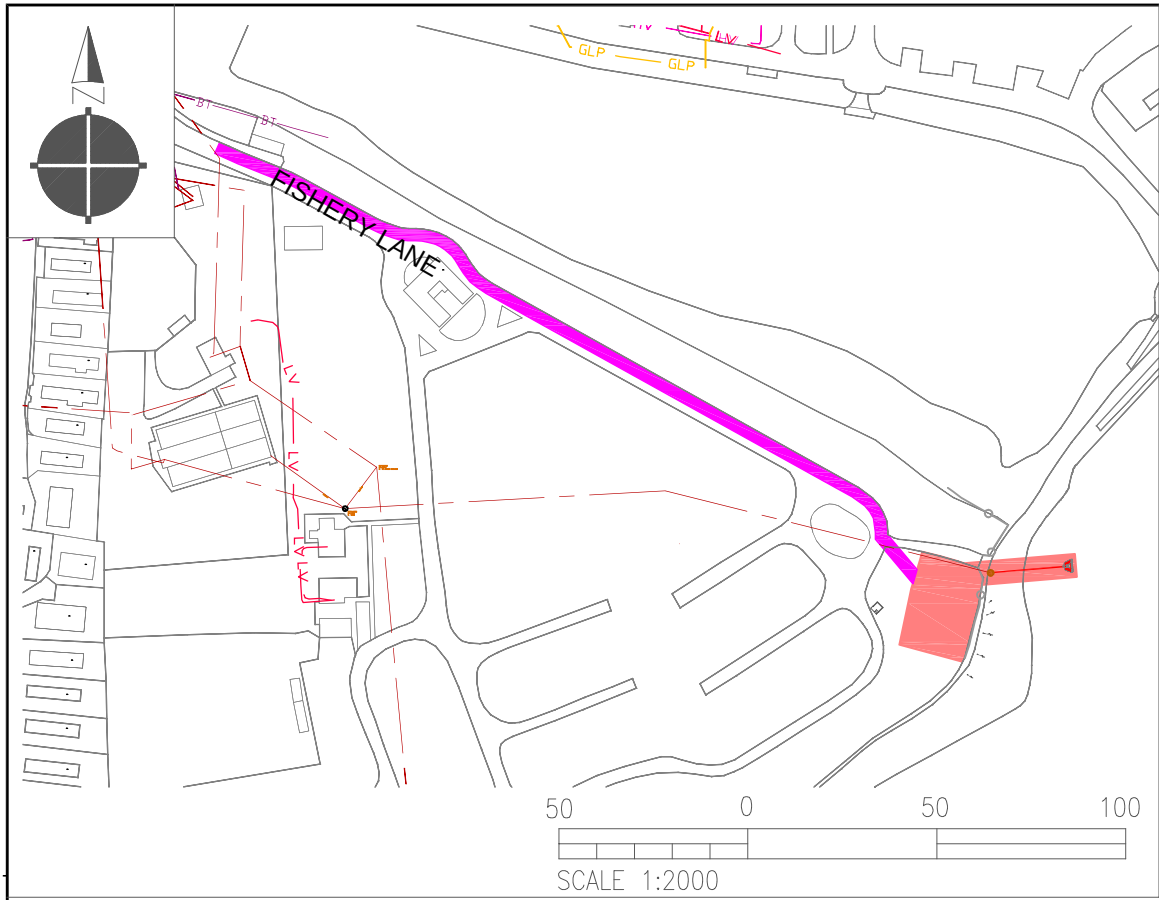
Multi-Agency Geographic Information Centre (www.magic.gov.uk).

Havant Borough Council (www.havant.gov.uk)

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Appendix A. Scheme Design



S.W. DRAWING NO.

REVISION

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL LEVELS ARE IN METERS UNLESS OTHERWISE STATED.

2. ALL WORK SHALL COMPLY WITH ALL RELEVANT BRITISH STANDARD, CODES OF PRACTICE, SUPPLY AUTHORITIES REGULATIONS AND THE CURRENT BUILDING REGULATIONS INCLUDING ALL AMENDMENTS AND SHALL BE CARRIED OUT IN A PROPER WORKMAN LIKE MANNER TO THE SATISFACTION OF THE SUPERVISION OFFICER AND THE BUILDING CONTROL OFFICER.

3. ANY DISCREPANCIES MUST BE REPORTED TO THE DESIGNER IMMEDIATELY.

4. NORMAL WORKING WIDTH IS 6.00m.

5. SITE OFFICE LOCATION IS INDICATIVE.

6. ALIGNMENT OF SEWER NETWORK IS SHOWN AS PER SURVEY DATA.

LEGEND

PROPOSED FOUL SEWER LINE

EXISTING MANHOLE

CURRENT ISSUE INFORMATION

DATE	DRWN	CHKD	REVD	ISSUE
10.12.2010	HR	DB	DP	

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S.W. DRAWING NO.

SAI-5001/37/05

ISSUE

PROJECT TITLE

FISHERY LANE
HAYLING ISLAND

DRAWING TITLE

LOCATION PLAN _WORKING AREA

SITE UNIT MEMORIC

SITE UNIT NO.

PRN NO.

SCALE

MASTER SIZE

S.W. DRAWING NO.

REVISION

Appendix B. Legislative and Policy Framework

B.1. International Legislation

The following EC Directives and international conventions are relevant to the ecological assessment on the proposed site:

- EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitat Directive 1992) as amended (92/43/EEC);
- Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979);
- Ramsar Convention on Wetlands 1971; and,
- The Convention on Biological Diversity (1992).

B.2. National Legislation, Policy and Guidance

The following legislation at national level has been considered in this ecological assessment:

- The Wildlife and Countryside Act 1981 (as amended): The key UK piece of legislation is the Wildlife and Countryside Act 1981 (WCA 1981) which consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain. For most species, protection is provided through inclusion in Schedules within this Act;
- The Conservation (Natural Habitats, & c.) Regulations 2010: The Conservation (Natural Habitats, & c.) Regulations 2010 transpose the Habitats Directive into national law. The Regulations provide for the designation and protection of 'European sites', and the protection of 'European Protected Species' such as bats and dormice;
- The Natural Environment and Rural Communities (NERC) Act 2006: Section 40 of this Act calls for the implementation of biodiversity enhancement measures within development schemes;
- Planning Policy Statement 9 (PPS9): Biodiversity and Geological Conservation (2005): PPS9 provides guidance on how the land use planning system should reflect Government policies for the protection of biodiversity. It underlines the Government's commitment to sustainable development, to conserve, enhance and restore the diversity of our wildlife and geology, and to contribute to rural renewal and urban renaissance, particularly through ensuring that developments take account of the role and value of biodiversity; and,
- UK Biodiversity Action Plan (UKBAP): A BAP is a plan, programme or strategy for the conservation and sustainable use of biological diversity. The UK BAP is the Government's response to the Convention on Biological Diversity 1992 and describes the UK's biological resources. This plan consists of detailed Species Action Plans (SAPs) and Habitat Action Plans (HAPs) to help protect these resources.

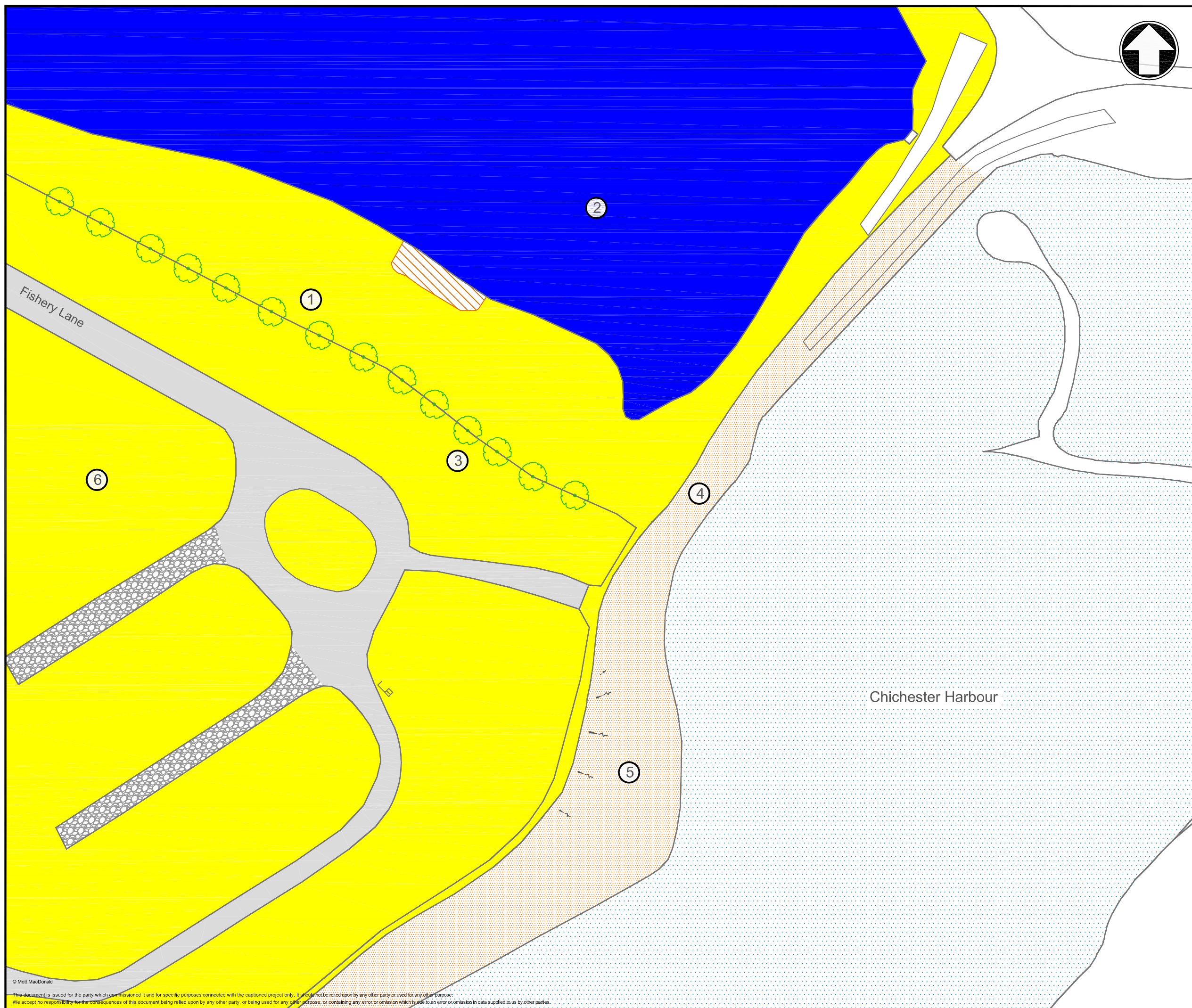
Appendix C. Hampshire Biodiversity Action Plan

LBAPs identify local priorities, which often reflect regional and national priorities and prescribe actions to be undertaken in order to maintain, restore and create habitats and conserve species. The species and habitat plans of relevance to the site and its immediate surrounds are:

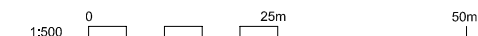
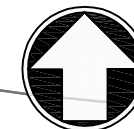
- Dark Bellied Brent Goose;
- Open standing water;
- Shingle;
- Salt marsh;
- Sand dunes;
- Mudflats; and,
- Marine.

Appendix D. Phase 1 Habitat Survey

D.1. Phase 1 Habitat Map



Notes



Key to symbols

- | | |
|---|---------------------|
|  | Open standing water |
|  | Intertidal |
|  | Tall ruderal |
|  | Amenity Grassland |
|  | Gravel |
|  | Hard standing |
|  | Scattered trees |
|  | Target note |

P1	01/04/2011	DSL	Issued for information	VH	LH
Rev	Date	Drawn	Description	Ch'k'd	App'o



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	Title
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Fishery Lane Hayling Island

Phase 1 Habitat Map

Designed	V Hollands	VH	Eng check	G Hewson	
Drawn	D Lee	DSL	Coordination	V Hollands	
Dwg check	V Hollands	VH	Approved	L Huckstep	
Scale at A3	1:500	Status	PRE	Rev	P1

Drawing Number

MMD-264665-ENV-01

D.2. Phase 1 Target Notes

Target Note	Ecological Feature	Photograph
1	Row of semi-mature ash trees (6m height).	
2	Ducks and swans present on fishing lake.	

Target Note	Ecological Feature	Photograph
3	Ash tree with moderate bat potential (currently not in use).	
4	Intertidal area.	
5	Pockets of sea purslane.	

Target Note	Ecological Feature	Photograph
6	Caravan area with amenity grassland.	

Appendix E. Citations of Designated Sites

- E.1. Chichester and Langstone Harbour SPA**
- E.2. Chichester and Langstone Harbour Ramsar**
- E.3. Solent Maritime SAC**
- E.4. Chichester Harbour SSSI**

NATURA 2000

STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)
AND
FOR SPECIAL AREAS OF CONSERVATION (SAC)

1. Site identification:

1.1 Type 1.2 Site code

1.3 Compilation date 1.4 Update

1.5 Relationship with other Natura 2000 sites

☐	☐	☐	☐	☐	☐	☐	☐
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

1.6 Respondent(s)

1.7 Site name

1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	
date confirmed as SCI	
date site classified as SPA	198710
date site designated as SAC	

2. Site location:

2.1 Site centre location

longitude	latitude
00 55 12 W	50 48 23 N

2.2 Site area (ha) 2.3 Site length (km)

2.5 Administrative region

NUTS code	Region name	% cover
UK561	Hampshire	54.00%
UK533	West Sussex	46.00%

2.6 Biogeographic region

☐
Alpine

☒
Atlantic

☐
Boreal

☐
Continental

☐
Macaronesia

☐
Mediterranean

3. Ecological information:

3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment

3.2 Annex I birds and regularly occurring migratory birds not listed on Annex I

Population						Site assessment			
		Resident	Migratory						
Code	Species name		Breed	Winter	Stage	Population	Conservation	Isolation	Global
A054	<i>Anas acuta</i>			330 I		C		C	
A056	<i>Anas clypeata</i>			100 I		C		C	
A052	<i>Anas crecca</i>			1824 I		C		C	
A050	<i>Anas penelope</i>			2055 I		C		C	
A169	<i>Arenaria interpres</i>			430 I		C		C	
A046a	<i>Branta bernicla bernicla</i>			17119 I		A		C	
A144	<i>Calidris alba</i>			236 I		C		C	
A149	<i>Calidris alpina alpina</i>			44294 I		B		C	
A137	<i>Charadrius hiaticula</i>			846 I		B		C	
A157	<i>Limosa lapponica</i>			1692 I		B		C	
A069	<i>Mergus serrator</i>			297 I		B		C	
A160	<i>Numenius arquata</i>			1861 I		C		C	
A141	<i>Pluvialis squatarola</i>			3825 I		B		C	
A195	<i>Sterna albifrons</i>		100 P			B		C	
A193	<i>Sterna hirundo</i>		33 P			C		C	
A191	<i>Sterna sandvicensis</i>		31 P			C		C	
A048	<i>Tadorna tadorna</i>			2410 I		B		C	
A162	<i>Tringa totanus</i>			1788 I		C		C	

4. Site description:

4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	63.0
Salt marshes. Salt pastures. Salt steppes	21.5
Coastal sand dunes. Sand beaches. Machair	0.3
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	0.4
Bogs. Marshes. Water fringed vegetation. Fens	0.5
Heath. Scrub. Maquis and garrigue. Phygrana	0.1
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	1.7
Alpine and sub-alpine grassland	
Improved grassland	11.7
Other arable land	
Broad-leaved deciduous woodland	0.8
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	0.2
Total habitat cover	100%

4.1 Other site characteristics

Soil & geology:

Alluvium, Clay, Gravel, Mud, Neutral, Nutrient-rich, Sand, Sedimentary, Shingle

Geomorphology & landscape:

Coastal, Enclosed coast (including embayment), Estuary, Floodplain, Intertidal sediments (including sandflat/mudflat), Islands, Lagoon, Lowland, Pools, Shingle bar, Subtidal sediments (including sandbank/mudbank)

4.2 Quality and importance

ARTICLE 4.1 QUALIFICATION (79/409/EEC)

During the breeding season the area regularly supports:

<i>Sterna albifrons</i> (Eastern Atlantic - breeding)	4.2% of the GB breeding population 5 year mean, 1992-1996
--	--

<i>Sterna hirundo</i> (Northern/Eastern Europe - breeding)	0.3% of the GB breeding population 5 year mean, 1992-1996
---	--

<i>Sterna sandvicensis</i> (Western Europe/Western Africa)	0.2% of the GB breeding population 5 year mean, 1993-1997
---	--

Over winter the area regularly supports:

<i>Limosa lapponica</i> (Western Palearctic - wintering)	3.2% of the GB population 5 year peak mean 1991/92-1995/96
---	---

ARTICLE 4.2 QUALIFICATION (79/409/EEC)

Over winter the area regularly supports:

<i>Anas acuta</i> (North-western Europe)	1.2% of the population in Great Britain 5 year peak mean 1991/92-1995/96
---	---

<i>Anas clypeata</i> (North-western/Central Europe)	1% of the population in Great Britain 5 year peak mean 1991/92-1995/96
--	---

<i>Anas crecca</i> (North-western Europe)	0.5% of the population 5 year peak mean 1991/92-1995/96
--	--

<i>Anas penelope</i> (Western Siberia/North-western/North-eastern Europe)	0.7% of the population in Great Britain 5 year peak mean 1991/92-1995/96
--	---

<i>Arenaria interpres</i> (Western Palearctic - wintering)	0.7% of the population in Great Britain 5 year peak mean 1991/92-1995/96
---	---

<i>Branta bernicla bernicla</i> (Western Siberia/Western Europe)	5.7% of the population 5 year peak mean 1991/92-1995/96
---	--

<i>Calidris alba</i> (Eastern Atlantic/Western & Southern Africa - wintering)	0.2% of the population 5 year peak mean 1991/92-1995/96
--	--

<i>Calidris alpina alpina</i> (Northern Siberia/Europe/Western Africa)	3.2% of the population 5 year peak mean 1991/92-1995/96
---	--

<i>Charadrius hiaticula</i> (Europe/Northern Africa - wintering)	3% of the population in Great Britain 5 year peak mean 1991/92-1995/96
<i>Mergus serrator</i> (North-western/Central Europe)	3% of the population in Great Britain 5 year peak mean 1991/92-1995/96
<i>Numenius arquata</i> (Europe - breeding)	1.6% of the population in Great Britain 5 year peak mean 1991/92-1995/96
<i>Pluvialis squatarola</i> (Eastern Atlantic - wintering)	2.3% of the population 5 year peak mean 1991/92-1995/96
<i>Tadorna tadorna</i> (North-western Europe)	3.3% of the population in Great Britain 5 year peak mean 1991/92-1995/96
<i>Tringa totanus</i> (Eastern Atlantic - wintering)	1% of the population 5 year peak mean 1991/92-1995/96
ARTICLE 4.2 QUALIFICATION (79/409/EEC): AN INTERNATIONALLY IMPORTANT ASSEMBLAGE OF BIRDS	
Over winter the area regularly supports:	
93230 waterfowl (5 year peak mean 01/04/1998)	
Including:	
<i>Branta bernicla bernicla</i> , <i>Tadorna tadorna</i> , <i>Anas penelope</i> , <i>Anas crecca</i> , <i>Anas acuta</i> , <i>Anas clypeata</i> , <i>Mergus serrator</i> , <i>Charadrius hiaticula</i> , <i>Pluvialis squatarola</i> , <i>Calidris alba</i> , <i>Calidris alpina alpina</i> , <i>Limosa lapponica</i> , <i>Numenius arquata</i> , <i>Tringa totanus</i> , <i>Arenaria interpres</i> .	

4.3 Vulnerability

The SPA comprises two large, sheltered estuarine basins on the central south coast of England. Langstone Harbour is fringed by urban and industrial development, whereas Chichester is surrounded mainly by high grade farmland. The site is subjected to significant recreational pressures, especially during summer months. Effluent discharges and agricultural run-off can lead to localised eutrophication problems although recent studies carried out by the Environmental Agency have shown that elevated nutrient levels are maintained by inputs from coastal waters.

Sea-level rise and 'coastal squeeze' are significant threats to the long-term maintenance of habitat diversity and structural integrity. Incremental loss of fringing habitats and transitional communities is a threat as hard coastal defences are maintained by riparian land-owners. A strategy for managing sea defences, incorporating set-back, is currently being prepared by the Environment Agency (EA). Impact on the site from water abstraction is being investigated by the EA.

Both harbours are managed by statutory bodies whose remits include conservation of the natural environment. Conservation bodies have an advisory input to the management of the harbours, and play an active role in the management of numerous Local Authority and RSPB nature reserves around the site. Additional measures for safeguarding the nature conservation interests of the harbours including measures to address effects of recreational activity are expected to be applied via the Management Scheme for the Solent Maritime candidate SAC.

5. Site protection status and relation with CORINE biotopes:

5.1 Designation types at national and regional level

Code	% cover
UK04 (SSSI/ASSI)	100.0

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

Joint Nature Conservation Committee

Monkstone House

City Road

Peterborough

Cambridgeshire PE1 1JY

UK

Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948

Email: RIS@JNCC.gov.uk

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DD MM YY

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Designation date

--	--	--	--	--	--

Site Reference Number

2. Date this sheet was completed/updated:

Designated: 28 October 1987

3. Country:

UK (England)

4. Name of the Ramsar site:

Chichester and Langstone Harbours

5. Designation of new Ramsar site or update of existing site:

This RIS is for: Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area:

**** Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site included:

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) **hard copy** (required for inclusion of site in the Ramsar List): yes ✓ -or- no ☐;
- ii) **an electronic format** (e.g. a JPEG or ArcView image) Yes
- iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** yes ✓ -or- no ☐;

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

8. Geographical coordinates (latitude/longitude):

50 48 23 N 00 55 12 W

9. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Portsmouth

The site lies on the central south coast of mainland England, approximately 1 km east of Portsmouth.

Administrative region: Hampshire; West Sussex

10. Elevation (average and/or max. & min.) (metres): 11. Area (hectares): 5810.03

Min. -2

Max. 4

Mean 0

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Chichester and Langstone Harbours are large, sheltered estuarine basins comprising extensive mud and sand flats exposed at low tide. The site is of particular significance for over-wintering wildfowl and waders and also a wide range of coastal and transitional habitats supporting important plant and animal communities.

13. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1, 5, 6

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 1

Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes.

Ramsar criterion 5

Assemblages of international importance:

Species with peak counts in winter:

76480 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar criterion 6 – species/populations occurring at levels of international importance.

Qualifying Species/populations (as identified at designation):

Species with peak counts in spring/autumn:

Ringed plover , <i>Charadrius hiaticula</i> , Europe/Northwest Africa	853 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9-2002/3)
Black-tailed godwit , <i>Limosa limosa islandica</i> , Iceland/W Europe	906 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3)
Common redshank , <i>Tringa totanus totanus</i> ,	2577 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)

Species with peak counts in winter:

Dark-bellied brent goose, <i>Branta bernicla bernicla</i> ,	12987 individuals, representing an average of 6% of the population (5 year peak mean 1998/9-2002/3)
Common shelduck , <i>Tadorna tadorna</i> , NW Europe	1468 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3)
Grey plover , <i>Pluvialis squatarola</i> , E Atlantic/W Africa -wintering	3043 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3)
Dunlin , <i>Calidris alpina alpina</i> , W Siberia/W Europe	33436 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3)

Species/populations identified subsequent to designation for possible future consideration under criterion 6.

Species regularly supported during the breeding season:

Little tern , <i>Sterna albifrons albifrons</i> , W Europe	130 apparently occupied nests, representing an average of 1.1% of the breeding population (Seabird 2000 Census)
--	---

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See www.bto.org/survey/webs/webs-alerts-index.htm.

Details of bird species occurring at levels of National importance are given in Section 22

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Atlantic

b) biogeographic regionalisation scheme (include reference citation):

Council Directive 92/43/EEC

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	neutral, shingle, sand, mud, alluvium, nutrient-rich, sedimentary, clay, gravel
Geomorphology and landscape	lowland, coastal, floodplain, shingle bar, subtidal sediments (including sandbank/mudbank), intertidal sediments (including sandflat/mudflat), enclosed coast (including embayment), estuary, islands, lagoon, pools
Nutrient status	eutrophic, mesotrophic
pH	circumneutral
Salinity	brackish / mixosaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Bognor Regis, 1971–2000) (www.metoffice.com/climate/uk/averages/19712000/sites/bognor_regis.html) Max. daily temperature: 13.7° C Min. daily temperature: 7.7° C Days of air frost: 24.0 Rainfall: 717.4 mm Hrs. of sunshine: 1902.9

General description of the Physical Features:

Chichester and Langstone Harbours are large, sheltered estuarine basins comprising extensive sand- and mud-flats exposed at low tide. The two harbours are joined by a stretch of water that separates Hayling Island from the mainland. Tidal channels drain the basin and penetrate far inland. The basin contains a wide range of coastal habitats.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

Chichester and Langstone Harbours are large, sheltered estuarine basins comprising extensive sand- and mud-flats exposed at low tide. The two harbours are joined by a stretch of water that separates Hayling Island from the mainland. Tidal channels drain the basin and penetrate far inland.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping, Maintenance of water quality (removal of nutrients)

19. Wetland types:

Marine/coastal wetland

Code	Name	% Area
G	Tidal flats	46
H	Salt marshes	21.4
Other	Other	14.3
F	Estuarine waters	14.1
B	Marine beds (e.g. sea grass beds)	1.7
Ts	Freshwater marshes / pools: seasonal / intermittent	0.9
E	Sand / shingle shores (including dune systems)	0.8
Tp	Freshwater marshes / pools: permanent	0.4
Sp	Saline / brackish marshes: permanent	0.3
W	Shrub-dominated wetlands	0.07
M	Rivers / streams / creeks: permanent	0.02
J	Coastal brackish / saline lagoons	0.01

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The site comprises two large, interconnected sheltered estuarine basins providing extensive intertidal mud and sand flats with eelgrass *Zostera* spp. beds, large areas of mixed saltmarsh and extensive cord-grass *Spartina* spp. swards in an advanced state of degeneration. Fringing habitats include shingle spits, saline, brackish and freshwater lagoons, coastal grazing marsh and deciduous woodland. The site supports important overwintering populations of migratory waterfowl.

Ecosystem services

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

Nationally important species occurring on the site.

Higher plants.

Polypogon monspeliensis, *Zostera angustifolia*, *Zostera marina*, *Zostera noltei*

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.

Birds**Species currently occurring at levels of national importance:****Species regularly supported during the breeding season:**

Mediterranean gull , <i>Larus melanocephalus</i> , Europe	47 apparently occupied nests, representing an average of 43.5% of the GB population (Seabird 2000 Census)
Black-headed gull , <i>Larus ridibundus</i> , N & C Europe	3180 apparently occupied nests, representing an average of 2.4% of the GB population (Seabird 2000 Census)

Common tern , *Sterna hirundo hirundo*, N & E Europe

127 apparently occupied nests, representing an average of 1.2% of the GB population (Seabird 2000 Census)

Species with peak counts in spring/autumn:

Little egret , *Egretta garzetta*, West Mediterranean

224 individuals, representing an average of 13.5% of the GB population (5 year peak mean 1998/9-2002/3)

Eurasian oystercatcher , *Haematopus ostralegus ostralegus*, Europe & NW Africa -wintering

3403 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)

Whimbrel , *Numenius phaeopus*, Europe/Western Africa

192 individuals, representing an average of 6.4% of the GB population (5 year peak mean 1998/9-2002/3 - spring peak)

Eurasian curlew , *Numenius arquata arquata*, N. a. *arquata* Europe (breeding)

3108 individuals, representing an average of 2.1% of the GB population (5 year peak mean 1998/9-2002/3)

Spotted redshank , *Tringa erythropus*, Europe/W Africa

6 individuals, representing an average of 4.4% of the GB population (5 year peak mean 1998/9-2002/3)

Common greenshank , *Tringa nebularia*, Europe/W Africa

215 individuals, representing an average of 36% of the GB population (5 year peak mean 1998/9-2002/3)

Ruddy turnstone , *Arenaria interpres interpres*, NE Canada, Greenland/W Europe & NW Africa

569 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)

Species with peak counts in winter:

Little grebe , *Tachybaptus ruficollis ruficollis*, Europe to E Urals, NW Africa

131 individuals, representing an average of 1.6% of the GB population (5 year peak mean 1998/9-2002/3)

Black-necked grebe , *Podiceps nigricollis nigricollis*, Europe, N Africa

14 individuals, representing an average of 11.6% of the GB population (5 year peak mean 1998/9-2002/3)

Great bittern , *Botaurus stellaris stellaris*, W Europe, NW Africa

1 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)

Eurasian teal , *Anas crecca*, NW Europe

2226 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)

Red-breasted merganser , *Mergus serrator*, NW & C Europe

306 individuals, representing an average of 3.1% of the GB population (5 year peak mean 1998/9-2002/3)

Water rail , *Rallus aquaticus*, Europe

12 individuals, representing an average of 2.6% of the GB population (5 year peak mean 1998/9-2002/3)

Bar-tailed godwit , *Limosa lapponica lapponica*, W Palearctic

1189 individuals, representing an average of 1.9% of the GB population (5 year peak mean 1998/9-2002/3)

Species Information

17 British Red Data Book species and 84 nationally scarce species have been recorded from Chichester and Langstone Harbours Ramsar site.

23. Social and cultural values:

Describe if the site has any general social and/or cultural values e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

Aesthetic
 Aquatic vegetation (e.g. reeds, willows, seaweed)
 Archaeological/historical site
 Environmental education/ interpretation
 Fisheries production
 Livestock grazing
 Non-consumptive recreation
 Scientific research
 Sport fishing
 Sport hunting
 Subsistence fishing
 Tourism
 Traditional cultural
 Transportation/navigation

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? **No**

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	+
Local authority, municipality etc.	+	+
National/Crown Estate	+	+
Private	+	+
Public/communal	+	+

25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Current scientific research	+	

Cutting of vegetation (small-scale/subsistence)		+
Fishing: commercial	+	+
Fishing: recreational/sport	+	+
Marine/saltwater aquaculture	+	
Gathering of shellfish	+	
Bait collection	+	
Arable agriculture (unspecified)		+
Permanent arable agriculture		+
Livestock watering hole/pond	+	
Permanent pastoral agriculture	+	
Hay meadows	+	+
Hunting: recreational/sport	+	+
Industry	+	+
Sewage treatment/disposal	+	+
Harbour/port	+	+
Flood control	+	+
Irrigation (incl. agricultural water supply)		+
Mineral exploration (excl. hydrocarbons)		+
Transport route	+	+
Domestic water supply		+
Urban development		+
Non-urbanised settlements	+	+
Military activities	+	+
Horticulture (incl. market gardening)		+

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

Explanation of reporting category:

1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
Erosion	2		+		+
Eutrophication	1		+		+
Pollution – domestic sewage	1			+	

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?
Erosion - Coastal Defence Strategies, regulation of private coastal defences, shoreline management plans are in place or are being developed.

Some larger-scale saltmarsh re-creation projects, beneficial usage of maintenance dredgings and managed realignment scheme to offset losses to coastal squeeze have been proposed. CHaMPs identify potential areas suitable for managed realignment.

Is the site subject to adverse ecological change? YES

27. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	+
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	
Management agreement	+	+
Site management statement/plan implemented	+	
Area of Outstanding National Beauty (AONB)	+	+
Special Area of Conservation (SAC)	+	

b) Describe any other current management practices:

The management of Ramsar sites in the UK is determined by either a formal management plan or through other management planning processes, and is overseen by the relevant statutory conservation agency. Details of the precise management practises are given in these documents.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

29. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Contemporary.

Fauna.

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

Bird Ringing by Solent Shorebirds Study Group.

Environment.

Coastal Sediment (SCOPAC)

Water Quality/Eutrophication (EA/Southern Water).

Various research and educational establishments carry out ongoing research into a number of different aspects of the environment.

Flora.

Spartina survey (EN project).

Completed.

Environment.

Extensive research and survey into:

Tidal regimes.

Proposed:

Intertidal Habitat Monitoring (EN/EA project).

Sediment movement.

Flora and Fauna.

The distribution of all major plant and animal groups/communities.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Interpretation facilities and interpretative panels exist at strategic locations on the Harbour footpaths; all nature reserve areas are covered by warden and ranger services with an educational remit. An Education Officer is employed by the Chichester Harbour Conservancy to instruct both school parties and adults in the cultural and nature conservation aspects of the harbour.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Activities, Facilities provided and Seasonality.

Walking, including dog walking: all year.

Birdwatching: all year.

Angling and bait-digging: all year.

Swimming (in restricted areas) - mostly summer.

Sailing, windsurfing, canoeing, waterskiing.

Sept-Feb wildfowling.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,
European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol,
BS1 6EB

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,
Northminster Road, Peterborough, PE1 1UA, UK

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Site-relevant references

Barne, JH, Robson, CF, Kaznowska, SS, Doody, JP & Davidson, NC (eds.) (1998) *Coasts and seas of the United Kingdom. Region 9 Southern England: Hayling Island to Lyme Regis*. Joint Nature Conservation Committee, Peterborough. (Coastal Directories Series.)

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- Covey, R (1998) Chapter 7. Eastern Channel (Folkestone to Durlston Head) (MNCR Sector 7). In: *Benthic marine ecosystems of Great Britain and the north-east Atlantic*, ed. by K. Hiscock, 199-218. Joint Nature Conservation Committee, Peterborough. (Coasts and Seas of the United Kingdom. MNCR series)
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- Doody, JP, Johnston, C & Smith, B (1993) *Directory of the North Sea coastal margin*. Joint Nature Conservation Committee, Peterborough
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- Musgrove, AJ, Pollitt, MS, Hall, C, Hearn, RD, Holloway, SJ, Marshall, PE, Robinson, JA & Cranswick, PA (2001) *The Wetland Bird Survey 1999–2000: wildfowl and wader counts*. British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge. www.wwt.org.uk/publications/default.asp?PubID=14
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- Tubbs, CR & Tubbs, JM (1980) Wader and shelduck feeding distribution in Langstone Harbour, Hampshire. *Bird Study*, 27, 239-248

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NATURA 2000

STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)
AND
FOR SPECIAL AREAS OF CONSERVATION (SAC)

1. Site identification:**1.1 Type**

K

1.2 Site code

UK0030059

1.3 Compilation date

199810

1.4 Update

200103

1.5 Relationship with other Natura 2000 sites

U	K	9	0	1	1	0	6	1
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1.6 Respondent(s)

International Designations, JNCC, Peterborough

1.7 Site name

Solent Maritime

1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	199810
date confirmed as SCI	
date site classified as SPA	
date site designated as SAC	

2. Site location:**2.1 Site centre location****longitude****latitude**

00 55 40 W

50 47 47 N

2.2 Site area (ha)

11325.09

2.3 Site length (km)**2.5 Administrative region**

NUTS code	Region name	% cover
UK561	Hampshire	45.0%
UK562	Isle of Wight	5.0%
UK533	West Sussex	21.0%
0	Marine	29.0%

2.6 Biogeographic region☐

Alpine

☒

Atlantic

☐

Boreal

☐

Continental

☐

Macaronesia

☐

Mediterranean

3. Ecological information:

3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment
Sandbanks which are slightly covered by sea water all the time	32	C	C	C	C
Estuaries	59	A	B	B	B
Mudflats and sandflats not covered by seawater at low tide	45	A	C	B	C
Coastal lagoons	1.3	C	B	B	C
Annual vegetation of drift lines	1	C	A	B	C
Perennial vegetation of stony banks	1	C	B	B	C
<i>Salicornia</i> and other annuals colonising mud and sand	1.1	B	B	B	C
<i>Spartina</i> swards (<i>Spartinion maritimae</i>)	1	A	X	C	A
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	18	B	B	B	B
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	1	C	B	B	C
Fixed dunes with herbaceous vegetation ("grey dunes")	1	D			

3.2 Annex II species

Species name	Population				Site assessment			
	Resident	Migratory			Population	Conservation	Isolation	Global
		Breed	Winter	Stage				
<i>Vertigo moulinsiana</i>	Rare	-	-	-	B	B	B	C
<i>Lutra lutra</i>	Present	-	-	-	D			
<i>Phoca vitulina</i>	Present	-	-	-	D			

4. Site description

4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	14.0
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	59.0
Salt marshes. Salt pastures. Salt steppes	23.0
Coastal sand dunes. Sand beaches. Machair	0.5
Shingle. Sea cliffs. Islets	3.0
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	0.5
Coniferous woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
Total habitat cover	100%

4.1 Other site characteristics

Soil & geology:

Alluvium, Clay, Gravel, Limestone/chalk, Mud, Neutral, Nutrient-rich, Sand, Sandstone/mudstone, Sedimentary, Shingle

Geomorphology & landscape:

Coastal, Enclosed coast (including embayment), Estuary, Intertidal sediments (including sandflat/mudflat), Island, Islands, Lagoon, Lowland, Open coast (including bay), Shingle bar, Subtidal sediments (including sandbank/mudbank)

4.2 Quality and importance

Sandbanks which are slightly covered by sea water all the time

- for which the area is considered to support a significant presence.

Estuaries

- for which this is considered to be one of the best areas in the United Kingdom.

Mudflats and sandflats not covered by seawater at low tide

- for which the area is considered to support a significant presence.

Coastal lagoons

- for which the area is considered to support a significant presence.

Annual vegetation of drift lines

- which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 100 hectares.
- for which the area is considered to support a significant presence.

Perennial vegetation of stony banks

- for which the area is considered to support a significant presence.

Salicornia and other annuals colonising mud and sand

- for which the area is considered to support a significant presence.

Spartina swards (*Spartinion maritimae*)

- for which this is one of only two known outstanding localities in the United Kingdom.
- which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 100 hectares.

Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

- for which this is considered to be one of the best areas in the United Kingdom.

Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")

- for which the area is considered to support a significant presence.

Vertigo moulinsiana

- for which the area is considered to support a significant presence.

4.3 Vulnerability

The following factors affect or potentially threaten the Solent Maritime cSAC: -

- existing and proposed flood defence and coast protection works;
- coastal squeeze of intertidal habitats due to coastal erosion/ sea level rise and sea-walls/ development in the hinterland;
- developments pressures including ports, marinas, jetties etc. Proposals often involve capital/ maintenance dredging to provide/ improve deep water access, and land-claim of coastal habitats;
- potential accidental pollution from shipping, oil/chemical spills, heavy industrial activities, former waste disposal sites and waste-water discharge;
- introduction of non-native species e.g. from shipping activity.

These issues are being addressed through a number of mechanisms including the review of consents procedure under the Habitats Regulations, the Management Scheme for European Marine Sites, Biodiversity Action Plans, other coastal strategies, management plans and management agreements. All future developments will be assessed for adverse effects on integrity under the Habitats Regulations.

5. Site protection status and relation with CORINE biotopes:

5.1 Designation types at national and regional level

Code	% cover
UK01 (NNR)	4.5
UK04 (SSSI/ASSI)	71.4

COUNTY: WEST SUSSEX/HAMPSHIRE

SITE NAME: CHICHESTER HARBOUR

DISTRICT: CHICHESTER/HAVANT

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981.

Local Planning Authority: CHICHESTER DISTRICT COUNCIL; HAVANT BOROUGH COUNCIL

National Grid Ref: SU 760 000

Area: 2657 ha 6566.7 acres W Sussex
3695 ha 9130.3 acres Total

Ordnance Survey Sheet 1:50,000:197

1:10,000: SU 70 NW,NE,SW,SE, SU 80 NW, SW,SE, SZ 79
NW,NE, SZ 89 NW

Date Notified (Under 1949 Act): 1970

Date of Last Revision: 1980

Date Notified (Under 1981 Act): 1984 (Hants) 1985 (W Sussex)

Other Information: This site lies within the South Coast Plain. It includes Nutbourne Marshes Local Nature Reserve. The site is listed in 'A Nature Conservation Review' and is a Geological Conservation Review site.

Reasons for Notification:

Chichester Harbour is a large estuarine basin in which at low water extensive mud and sandflats are exposed, drained by channels which unite to make a common exit to the sea. The site is of particular significance for wintering wildfowl and waders and also breeding birds both within the Harbour and in the surrounding permanent pasture fields and woodlands. There is a wide range of habitats which have important plant communities.

The intertidal area is fragmented in the upper reaches of the harbour by intruding tongues of land giving a very long and varied coastline. The harbour exhibits a wide range of intertidal and associated terrestrial habitats and with the neighbouring Langstone and Portsmouth Harbours is unusual in providing a large volume of sheltered saline water fed by a few streams of only low volume. The extensive intertidal mudflats are the feeding grounds, at the relevant times of year for internationally important numbers of ringed plover, grey plover, redshank, black-tailed godwit, dunlin, sanderling, curlew and greenshank (the latter two in autumn particularly). Bar-tailed godwit numbers are of European importance. Amongst the wildfowl, shelduck, teal and dark-bellied brent goose numbers are of international importance with 5% of the world population of the latter. The unimproved permanent pasture behind the sea wall provides alternative feeding sites for the geese and major high tide wader roosts. Some of this pasture is floristically rich being a red fescue *Festuca rubra* sward with scarce species such as green-winged orchid *Orchis morio* and adder's tongue fern *Ophioglossum vulgatum*.

The lower saltmarsh habitat fringing the mud flats is dominated by cord grass *Spartina anglica* and in most places the upper saltmarsh is rather restricted by the sea wall but there are some pure stands of sea purslane *Halimione portulacoides* while in some areas there is also sea lavender *Limonium vulgare*, sea aster *Aster tripolium* and other saltmarsh species.

Shingle occurs as spits and islands and most are rather unstable permitting little vegetation to become established. This habitat forms the main breeding grounds in the harbour for ringed plover, blackheaded gull and three species of terns. The extensive sand dunes at East Head are dominated by marram grass *Ammophila arenaria* although the degree of ground cover varies from 90% to 10% on the more recently established dunes.

At the head of Fishbourne Channel saltmarsh grades through a reed *Phragmites australis* bed into fresh marsh

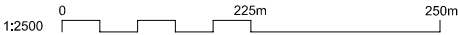
influenced by a chalk spring. Most of the other fresh marshes behind the sea wall are small but at Thorney Deep's reclaimed saltmarsh has given way to extensive fresh water marsh vegetation influenced by salt water intrusion; here the reed is fringed by extensive areas of rushes *Juncus* species and invasive willow *Salix* scrub. A number of small ponds occur one of which contains the rare annual beard grass *Polypogon monspeliensis*. Significant blocks of scrub, mainly hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa* occur which are important for breeding and roosting birds. Hedgerows of oak *Quercus robur* are common and in some places the oak roots are strongly influenced by salt water. Semi-natural broadleaved woodland associated with the Harbour is important for breeding birds and supports two heronries. Oak is the major tree species usually with hazel *Corylus avellana* coppice, as at Old Park Wood, although Tournerbury Wood has well spaced oaks with the occasional beech *Fagus sylvatica*, holly *Ilex aquifolium* and yew *Taxus baccata* with a fairly dense ground flora of bramble *Rubus fruticosus* and bracken *Pteridium aquilinum*.

Notable invertebrates include the long-winged conehead *Conocephalus discolor* and the moths, starwort shark *Cucullia asteris*, the sand dart *Agrotis ripae*, shore wainscot *Mythimna litoralis* and lunar hornet *Sphecia bemeciformis*.

Geology and Physiography

East of Langstone, at SU 725053, a low cliff line at high water mark exhibits a complex of Brickearth and Coombe Rock deposits and at East Head, SZ 769991 there is a sizeable sand dune and shingle system both of which are of geomorphological importance.

Appendix F. Constraints Plan



Key to symbols

- Ramsar sites
- Special Protection Areas
- Special Areas of Conservation
- Sites of Special Scientific interest
- Working area

P1	01/04/2011	DSL	Issued for information	VH	LH
Rev	Date	Drawn	Description	Ch'k'd	App'd



Stoneham Place
Stoneham Lane
Southampton, SO50 9NW
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T +44 (0)23 8062 8800
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W www.mottmac.com

Southern Water Services Ltd.
Southern House
Yeoman Road
Worthing, BN13 3NX
telephone (01903) 272448
fax (01903) 272047

Fishery Lane Hayling Island
Constraints Plan

Designed	V Hollands	VH	Eng check	G Hewson	
Drawn	D Lee	DSL	Coordination	V Hollands	
Dwg check	V Hollands	VH	Approved	L Huckstep	

Scale at A3 1:2500	Status PRE	Rev P1
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Drawing Number
MMD-264665-ENV-02