

habitat regulations assessment -
screening report
September 2010

development plan document
southend central area action plan

southend on sea borough council
local development framework

delivering regeneration and growth

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Section 1. Introduction

Purpose of the Report

- 1.1 Southend-on-Sea is currently developing the Southend Central Area Action Plan (SCAAP) and is undertaking a Habitats Regulations Assessment (HRA) in line with the requirements set by the Conservation (Natural Habitats) Regulations 1994 as amended by the Conservation of Habitats and Species Regulations 2010.
- 1.2 This HRA Screening report sets out any likely significant effect(s) on designated European Site(s) of implementing the policies of the SCAAP.
- 1.3 Habitats Regulations Assessment is also commonly referred to as an 'Appropriate Assessment' (AA) although the requirement for an AA is first determined by an initial 'screening' stage undertaken as part of the full HRA. This report addresses the Screening Phase of the HRA, which outlines the screening tasks and the key findings emerging from the assessment.

Local Development Framework

- 1.4 The Core Strategy DPD, adopted 2007, is the overarching document within the Southend-on-Sea LDF. It sets out the strategic spatial planning framework for the borough through its vision, strategic objectives and policies, including the scale and distribution of key types of development such as housing, employment and infrastructure. Due to the importance of Southend-on-Sea's Town Centre and Central Seafront as an economic, leisure and social focal point it is anticipated that these areas will be subject to significant change. As such the SCAAP is being produced in recognition of the pressing need to bring about and deliver regeneration in the Town Centre and the Central Seafront.
- 1.5 The Council considered the representations received on the Town Centre AAP and Seafront AAP Issues and Options Reports in 2007 and concluded that the Central Seafront area should be included in a broader Southend Central AAP where regeneration and change can be encouraged and integrated. Management of development along the remaining seafront area where major change is not envisaged will now be specifically included within the Development Management DPD.
- 1.6 The Core Strategy is being followed by seven further DPDs, including the SCAAP. These DPDs are listed below:
 - London Southend Airport & Environs Area Action Plan & Proposals Map;
 - Southend Central Area Action Plan (SCAPP) & Proposals Map;
 - Development Management DPD & Proposals Map;
 - Development Delivery DPD;
 - Shoebury Area Action Plan & Proposal Map;
 - Essex and Southend Joint Waste Core Strategy, Development Management Policies and Strategic Sites DPD;
 - Essex and Southend Joint Waste Site Non-Strategic Allocations DPD; and

- Site Allocation DPD & Proposals Map.

1.7 The following table sets out the production timetable and future consultation periods for the SCAAP.

Table 1: Southend Central Area Action Plan - Timetable

Production Stage	Key Dates
Consultation on Issues and Options (regulation 25)	January 2007
Issues and Options Consultation (regulation 25)	June - August 2010
Publication / Consultation on Development Plan Document	December 2010 / January 2011
Submission of Document to Secretary of State for Independent Examination	June 2011
Pre-examination Meeting	August 2011
Independent Examination Hearing Sessions	October 2011
Inspector's Final Report	December 2011
Adoption	February 2012

Background to Habitats Regulations Assessment

- 1.8 The European Directive (92/43/EEC) on the Conservation of Natural Habitats and Wild Flora and Fauna (the Habitats Directive) protects habitats and species of European nature conservation importance. The Habitats Directive establishes a network of internationally important sites designated for their ecological status. These are referred to as Natura 2000 sites or European Sites and comprise Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The main aim of the Habitats Directive is to promote the maintenance of biodiversity. An HRA is also required by Regulation 48 of the Conservation (Natural Habitats & c.) Regulations 1994 as amended (the Regulations) for all plans and projects which may have adverse effects on European sites.
- 1.9 The requirement for the Habitats Regulations Assessment (HRA) of plans or projects is outlined in Article(3) and (4) of the Habitats Directive as set out below:

Article 6(3) – “Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public”.

Article 6(4) – “If in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or

project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the member states shall take all compensatory measures necessary to ensure that overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or priority species, the only considerations which may be raised are those relating to human health or public safety, of beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest”

1.10 The purpose of HRA is to assess the impacts of a land-use plan, in combination with the effects of other plans and projects, against the conservation objectives of a European Site and to ascertain whether it would adversely affect the integrity of that site. Where significant negative effects are identified, alternative options or mitigation measures should be examined to avoid any potential damaging effects. The scope of the HRA is dependent on the location, size and significance of the proposed plan or project and the sensitivities and nature of the interest features of the European sites under consideration.

Consultation

1.11 It is a requirement of the Habitat Regulations to consult with the appropriate nature conservation statutory body (Natural England). The approach to this HRA screening and the information on European sites has taken account of advice provided by Natural England to previous Southend-on-Sea LDF consultations, including comments made to the Core Strategy’s AA. Consultation with other bodies and the public is at the discretion of the plan making authority and following good practice guidance the HRA information will be made publically available.

Structure of Report

1.12 Following this introductory section the document is organised into a further five sections:

- Section 2 outlines the method used for the Screening process.
- Section 3 summarises the relevant comments made by Natural England, the RSBP and Essex Wildlife Trust to the previous LDF consultations.
- Section 4 sets out the relevant comments made in the Sustainability Appraisal of the SCAAP.
- Section 5 details the results of the HRA screening;
- Section 6 outlines the conclusions and how the SCAPP should proceed with reference to the Habitats Regulations.

Section 2: Methodology

The Plan

- 2.1 The first step of the HRA process is to gather all available information regarding the SCAAP. This information is pivotal for the analysis of whether the DPD impacts on the European sites. A summary of the Plan and its contents is given in Section 5 as part of this report.

European Sites

- 2.2 The European Sites to be included within this assessment were established during previous LDF consultations and correspondence between the Council and Natural England. These include Benfleet and Southend Marshes SPA/Ramsar site, Thames Estuary & Marshes SPA/Ramsar site and Essex Estuaries SAC (including Foulness SPA / Ramsar site and Crouch and Roach Estuaries SPA/Ramsar site). Parts of each of these sites are also designated as European Marine Sites. The locations of these sites are contained in Appendix 2.
- 2.3 All these European sites were considered to have the potential to be influenced by the policies of the Core Strategy DPD. These sites will form the basis for HRA assessment in respect to the SCAAP as this document is linked to the strategic policies set out in the Core Strategy.
- 2.4 Specific information regarding the interest features, sensitivities, vulnerabilities, condition and conservation objectives of the identified European sites have been acquired¹. This baseline data has been interpreted in order to identify specific vulnerabilities and areas of concern for each of the European Sites that could be assessed directly against each policy issue in the SCAAP.
- 2.5 The objective of the screening process is to initially identify those plans or policies that clearly or self-evidently would have no significant effects upon European Sites so that they could be screened out of the assessment at an early stage.

Policy Screening

- 2.6 The methods and approach used for this screening are based on currently available and emerging practice, including *'Appropriate Assessment of Plans'* (Levett-Therivel, Treweek Environmental Consultants, Land Use Consultants, 2006), *'The Appropriate Assessment of Spatial Plans in England'* (Dodd A. M., Cleary B. E., Dawkins J.S., Byron H.J., Palframan L.J., and Williams G.M. (2007) and *'The Habitats Regulations Assessment of Local Development Documents'* (David Tyldesley & Associates for Natural England, February 2009). The Habitats Directive and Regulations does not specify how the assessment should be undertaken. The screening stage therefore also takes consideration of the DCLG guidance *'Planning for the Protection of European Sites: Appropriate Assessment'* (2006) and the European Commission document *'Assessment of plans and projects significantly affecting Natura 2000 sites'* (2001).

¹ Joint Nature Conservation Committee - <http://www.jncc.gov.uk/default.aspx?page=4>

2.7 Screening has to be approached on a precautionary basis and a recent European court judgement² helps interpret the concept of significant effect and has confirmed that a significant effect is triggered when:

- There is a probability or a risk of a plan or project having a significant effect on a European site.
- The plan is likely to undermine the site’s conservation objectives.
- A significant effect cannot be excluded on the basis of objective information.

2.8 In accordance with the official guidance and current practice, the screening stage for the HRA to the SCAAP follows the method outlined in the table below:

Table 2: HRA Screening

HRA Screening - Key Tasks	
Task 1: Identification of Natura 2000 sites & characterisation	Identification of European sites both within Southend-on-Sea and in close proximity to the borough. Information was obtained for each European site, based on publicly available information and previous LDF consultations with Natural England. This included information relating to the sites’ description, qualifying features; conservation objectives, conditions and vulnerabilities/ area of concern.
Task 2: Policy screening and identification of likely impacts	Screening of the suggested policy approaches and the identification of likely impacts.
Task 3: Consideration of other plans and programmes	In accordance with the Habitat Regulations there is a need to consider the potential for likely significant effects of the Plan ‘in combination’ with other projects and plans. This includes considering plans and projects of neighbouring local authorities to determine if there is a cumulative impact on these European Sites.
Task 4: Screening Assessment	Summary of screening

² In line with the European Court Waddenzee judgment, which states that *“The competent national authorities, taking account of the appropriate assessment ... are to authorise such an activity only if they have made certain that it will not adversely affect the integrity of that site. That is the case where no reasonable scientific doubt remains as to the absence of such effects.”*

Section 3: Recent LDF Consultations

Details of Recent LDF Consultations

- 3.1 Since 2004 Southend-on-Sea has been engaged in various stages of consultation associated with the production of its LDF documents. This historical engagement with stakeholders and the public provides good quality qualitative evidence of the issues facing the borough and has been used to inform the SCAAP.
- 3.2 The Council began work on its Core Strategy DPD document in 2004 with this document being adopted in December 2007. At the beginning of the process and in line with para 12(5) of the Environmental Assessment of Plans and Programmes Regulation 2004, the Council contacted the four 'consultation bodies' on the 8th November 2004 using a draft 'Scoping Report', prepared by Baker Associates, as a tool for inviting views and comments on the environmental issues that: each agency was concerned with; how significant these issues are in Southend-on-Sea; and how they might be affected by matters dealt with in the LDF. The comments received were used to decide the scope and level of the information that should be included in the Environmental Report and informed the various stages of production of the Core Strategy. At each stage of production of the Core Strategy an independent Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) was produced that was also subject to consultation with stakeholders and the public.
- 3.3 In early 2007 the Council undertook a 'Pre-Submission Issues and Options Consultation' for both the Seafront Area Action Plan and Town Centre Area Action Plan. Various issues identified within both these documents have been incorporated into the Development Management Issues and Options consultation document and the SCAAP Issues and Options document. The comments received in respect to these consultation documents were vital for informing the production of the SCAAP Issues and Options document. Comments made by Natural England, the RSBP and the Essex Wildlife Trust in respect to biodiversity, habitats and the protected International and European sites are summarised below.

Summary of Comments made by Natural England

- 3.4 On the 20th March 2007 Natural England submitted comments to the Seafront AAP and Town Centre AAP Issues and Options consultation. These comments are summarised below:

Comments to SA

- Clarification that DPDs need to be considered either along with or 'in-combination' with other plans and projects and that the Habitats Regulations refer to 'effects' rather than impacts which means both positive and negative effects should be considered.

- The Council should aspire to 'enhance' nature conservation along the Seafront to reduce impact of regeneration initiatives in the town centre and along the Seafront.
- There is a need to manage recreational pressure.
- An appropriate framework and timescales is required to avoid unsustainable flood defences.
- Proposals that reduce recreational pressure on Benfleet and Southend Marshes SPA/Ramsar site are supported by Natural England.
- A 'conserve and enhance' approach that respects environmental limits is suggested by Natural England.
- All new development should require an appropriate flood risk assessment.
- The Council should ensure that the capacity of Benfleet and Southend Marshes SPA, Ramsar site and SSSI are conserved and enhanced.
- The Council should monitor recreational pressures and ensure regeneration enables the significant nature conservation assets to be conserved and enhanced.
- Options and solutions for movement across Chalkwell should be worked up in consultation with the Environment Agency and Natural England.

Seafront Area Action Plan

- A detailed masterplan should be required for the Seafront.
- Natural England supports character zones but these areas should not constrain cross-cutting policies.
- In regard to flood risk 'holding the line' perpetuates coastal squeeze and this adversely affects the interest features of Natura 2000 and SSSI sites.
- Stabilising works to the cliffs can involve significant engineering operations which have the potential to effect nature conservation in the area.
- The Council should consider adding biodiversity features within engineering solutions. There is a need to consult Natural England in respect to any stabilising works.
- The interconnected nature of the coastline means that development outside the character zones has the potential to affect the integrity of the Natura 2000 sites.
- Recreational pressures need to be regulated within environmental limits.
- Visitor accommodation should respect environmental limits.
- Increasing dwelling provision along the Seafront increases recreational pressures on designated sites (Natura 2000).
- Any development should demonstrate how likely significant adverse effects can be avoided or mitigated etc.
- Piecemeal development over recent years has resulted in the loss of habitat quality and extent at Benfleet and Southend Marshes SPA, Ramsar site. Given the 'holding the line' policy in regard to rising sea levels, there is little capacity to offset habitat loss.
- Design codes are important to conserve character and landscape and also assist with constraining residential occupancy to acceptable levels. Increasing residential uses increases recreational pressure on sites.

- Strategic guidance is needed for the whole Seafront to demonstrate how it contributes to non-designated accessible greenspace.
- Need to safeguard sufficient greenspace within Seafront area.

Town Centre Area Action Plan

- Regeneration of the Town Centre has the potential to impact on nature conservation interests of the foreshore.
- Natural England would support proposals to create green space close to residential areas to ensure that recreational pressure on the Natura 2000 sites can be maintained at appropriate levels.
- For regeneration to be successful it is considered that: conserve significant biodiversity assets; provide adequate accessible natural greenspace; contribute to the environmental quality of the area in terms of air, water and local climate.
- Need to explore options that allow for: high density development to be an appropriate distance from the Natura 2000 sites (Seafront); ensure developments are accessible to natural greenspace.
- Open space needs to be functional and fit-for-purpose.
- Opportunities should be explored to design in measures for biodiversity.
- Natural England object to the promotion of a hovercraft facility.
- Natural England supports the rationalisation of car parking.
- Local air quality should be taken into consideration.

Summary of Comments made by RSPB

3.6 On the 22nd March 2007 the RSPB submitted comments to the Seafront AAP and Town Centre AAP Issues and Options consultation. The key points raised within their comments are summarised below:

- The RSPB seeks the protection of sites designated for their national and international conservation value, specifically Benfleet and Southend Marshes SSSI, SPA and Ramsar site and Foulness SSSI, SPA and Ramsar site and would like their conservation value mapped within the AAPs.
- Benfleet and Southend Marshes SSSI, SPA and Ramsar - The site qualifies under Article 4.2 of the birds Directive as a wetland of international importance with over 30,000 wintering waterfowl.
- Foulness SSSI, SPA and Ramsar Site – The site qualifies as an SPA under Article 4.1 of the Birds Directive by supporting nationally important breeding populations and nationally important wintering populations.
- The SA supports, in principle, improvements to walking and sustainable facilities and should encourage people to engage with and enjoy the natural environment. However the provision of these facilities should not compromise the European and designated sites. Sensitive parts of Southend are not appropriate for associated lighting.
- Supports the presumption against the loss of existing open space. Support is also given to the improving of these spaces and associated facilities, provided

that they do not impact upon the SPA through, for example, increases in disturbance, light or noise pollution.

- Infrastructure capacity should be considered in the phasing of new housing. Infrastructure should include green infrastructure, open space, water supply and sewage treatment capacity.
- Design principles in the Design SPD are supported but further policy needed on: use of energy efficient materials; reducing energy consumption; commitment to Eco Homes and BREEAM standards; reducing water consumption and wastage; use of SUDS; incorporation of vegetation into built structures.
- Southend should seek to promote 'quiet' activities such as walking and wildlife watching. Eco tourism should be promoted.
- Central Seafront Area – The RSPB objects to the inclusion of a proposed hovercraft route and associated landing facilities as it would have a significant impact upon Benfleet and Southend Marshes through disturbance to feeding, roosting waterfowl and disturbances to the water column and sediment beneath.
- RSPB support the consideration of nature conservation and biodiversity as a key issue for the Seafront.
- RSPB seeks the promotion of sustainable and appropriate flood risk management options.
- Sea defences can perpetuate the impacts of coastal squeeze upon the interests of Benfleet and Southend Marshes SSSI, SPA, Ramsar and Foulness SSSI, SPA and Ramsar Site. Sea defences should be termed as 'flood management'.
- RSPB seek an amendment to current policies G6 and G7 which seek to protect and conserve the status of nationally and international sites. The amendment is to add 'enhance' the status of nationally and international sites.
- RSPB believes that the overall public realm strategy should include the principle to ensure the protection of the European designated sites and the associated landscape.
- The overall approach should retain 'protection and enhancement of the natural environment'.
- Any development of the pier should seek to enhance the quality of and integrate both the human and natural environments by promoting opportunities for bird watching and providing wildlife information.

Summary of Comments made by Environment Agency (EA)

3.7 On the 22nd March 2007 the EA submitted comments to the Seafront AAP and Town Centre AAP Issues and Options consultation. The key points raised within their comments are summarised below:

- Nature conservation and biodiversity should be classed as having great importance on the control of development along the Seafront.
- Flood risk is an influencing factor for the Seafront and could pose a significant constraint on development.
- Redevelopment must not rely on the presence of existing defences and their ongoing maintenance. The standard of defences varies in quality and

adequacy and it cannot be guaranteed that development will be protected over the lifetime of the development. Adequate mitigation measures must be provided by new development.

- Continuing to maintain the sea defences in a way that brings about social and economic benefits now and in the future may be an appropriate way forward, subject to habitats regulations.
- The sequential approach should be undertaken in areas of flood risk.
- The key principles of policies G6 and G7 (Borough Local Plan Saved Policies) should be amalgamated into criteria based policies for proposals likely to impact on biodiversity and designated sites.
- The EA support the creation of a green corridor.
- The Seafront approach is to protect and enhance the natural environment.
- Additional beach huts and recreational facilities should not be encouraged south of the sea wall.
- Climate change considerations should be integrated into all spatial planning concerns.
- The Seafront AAP with the TE2100 project should be aligned.
- Water supply and water and energy efficient designs of new developments and land contamination are key environmental issues.
- All developments should be required to manage the surface water produced on site by the inclusion of SUDS.
- Flexibility required within policy to state 'appropriate flood risk management measures' rather than flood defences.
- The plan provides an opportunity to incorporate new open and green space along the seafront. Green spaces should be interlinked.
- Drought resistant plants/shrubs etc should be used to avoid overburden on water resources.

Summary of Comments made by Essex Wildlife Trust

3.8 On the 21st March 2007 the EA submitted comments to the Seafront AAP and Town Centre AAP Issues and Options consultation. The key points raised within their comments are summarised below:

- County Wildlife Sites (which includes SINC's) should be referenced as part of the evidence base. The SINC's should be included as part of the mapping. Essex Wildlife Trust request that further work is commissioned that re-evaluates these sites.
- The Essex Wildlife Trust supports the promotion of green corridors for non-motorised users.

Section 4: Sustainability Appraisal of the SCAAP

- 4.1 Sustainability Appraisal (SA) and Strategic Environmental Assessment of plans (SEA) are iterative processes and must be carried out at each stage of the plan preparation process. The HRA should run in parallel with these processes, utilising common stages such as environmental information gathering. The SA of the SCAAP Issues and Options consultation document was published in June 2010 and is subject to public and stakeholder consultation. The following paragraphs consider the key issues identified within this document and the recommendations it suggests. The main SA comments relating to the SCAAP are also set out in Appendix 3.
- 4.2 The SA notes that the Southend Central Area is under a high risk of flooding but the direct tidal inundation is largely mitigated for through sea flood defences. It is however noted that the tidal effects on the rivers in the borough may present a greater risk which may be increased by the effects of climate change. The SA references 'coastal squeeze'. If the sea rises, many coasts that are developed with infrastructure along or close to the shoreline will be unable to accommodate erosion and will experience 'coastal squeeze'. This occurs where the ecological or geo-morphological zones that would normally retreat landwards encounter solid structures and are squeezed out to unprotected areas. This process is likely to impact upon the habitats of international significance outside the borough boundary.
- 4.3 The SA states that vulnerable development should be avoided in areas of risk. The SA also notes that development will have to follow advice in Planning Policy Statement 25 on developing in flood risk areas and that this should be sufficient to prevent/manage flooding in this area.
- 4.4 The SA states that the nature conservation and biodiversity resources within the Southend-on-Sea built-up area are limited and as such every attempt should be made to conserve and enhance existing resources and wildlife corridors as well as create new ones.
- 4.5 It is also stated that South Essex and the wider East of England area will experience a shortage of potable water supply. As such it is suggested that all new development should make every attempt to include water efficient design into new development.
- 4.6 The SA places emphasis on considerations of climate change. Reference is given to the East of England publication '*Living with Climate Change in the East of England*' (2004) where it is stated that there will be increased summer temperatures and a reduction in rainfall which would only marginally be compensated by an increase of winter precipitation levels and increased storm events of intense rainfall and winds. It is also suggested that sea levels around Southend could rise by as much as 80cm by the 2080s. This will lead to issues such as:
- Water resource deficiencies, which may lead to serious issues in the area particularly with the levels of development set for the Thames Gateway.
 - Increased flood risk, including sea and river defence overtopping.
 - A risk of subsidence through changing soil moisture levels.

4.7 The SA highlighted the following key issues and comments that should be addressed in the SCAAP:

- New urban open space, including new green space, could be provided in the town centre;
- The area is currently experiencing high levels of deprivation that should be addressed through the AAP.
- The town centre is a focus of employment for the borough and this role needs to be maintained, while also ensuring a range of employment opportunities are maintained in a variety of employment sectors.
- Air quality of the town centre should be maintained.
- Every attempt should be made to bring biodiversity enhancements to the Town Centre, and also to ensure development in this area does not harm the nearby Natura 2000 sites.
- The AAP should set out strategies for the rationalisation of town centre parking in order to allow land to be released for other uses and create a higher quality urban environment.

Spatial Options

4.8 The following paragraphs outline the comments made by the SA to the spatial options presented in the SCAAP.

4.9 Option 1 seeks to strengthen the status quo of the central area. This option would see the High Street remain the focus for all retail development in the centre. The SA notes that this option does not take advantage of wider environmental improvements that could help raise the overall image of Southend to potential investors. The option therefore may be too limited to successfully attract new inward investment. It is stated that the overall scale of development may reduce impacts on natural resource use and on the natural environment.

4.10 Option 2 seeks to develop enhanced urban circuits. This option would widen the central Southend regeneration and will provide improvement to a larger area than Option 1. Chichester Road, London Road, Clifftown, Farringdon would all be the focus for specific regeneration proposals. This option also includes Seaway car park as a new linking feature at the south-east end of the High Street. The SA states that whilst this option may improve the attraction of Southend-on-Sea town centre as a retail destination it does not include residential proposals. The SA states that this option may risk not being bold enough in seeking the regeneration potential and therefore may miss out on opportunities to create a high quality town centre.

4.11 Option 3 seeks to create a 'City by the Sea'. This option would see the largest amount of redevelopment and therefore require the greatest use of natural resources. This option would require comprehensive redevelopment of the town centre over a wide area, although with specific uses for different zones. It has the potential to have a positive benefit for Southend as a whole, improving its image as a place to live, visit and do business. The SA suggests that the plan-makers should ensure the objective

for growth in central Southend does not adversely impact on the objectives for growth in other locations.

General Design Issues

- 4.12 The SCAAP includes the possibility of new tall buildings or other landmark buildings to be developed as part of the Town Centre regeneration. It is noted in the SA that there are potential adverse sustainability impacts on the built heritage for buildings. Any new large or tall buildings will need to be carefully designed to compliment the town centre.
- 4.13 The SA reveals that the AAP does not cover matters relating to protection and enhancement of the natural environment. The SA states that given that the AAP covers the seafront and foreshore areas it is essential the natural resource assets are addressed. This includes protection of the internationally designated nature conservation sites, water quality and trees and planting. It is noted that new development in Central Southend must not adversely impact on the internationally designated nature conservation sites.
- 4.14 With regard to sustainable construction, the SA states that the AAP should include an area wide energy strategy that also addresses resource minimisation. It is suggested that the AAP could include targets for carbon reduction from new development and sustainable construction standards that go beyond national policy. However, this will require additional evidence to demonstrate financial viability to ensure that this does not result in stalling delivery of development needed in the town centre. The SA states that policies for larger town centre development sites or whole 'Quarters' of the town centre could include the need to provide or contribute to district-wide low carbon energy. Schemes that include combined heat and power or renewable energy generation can achieve significant carbon dioxide reductions and protection of fossil fuels. District schemes can outperform national grid schemes and are more efficient and viable than many domestic or site specific renewable energy technologies. Wind power may be a good solution to energy needs in coastal locations.
- 4.15 The SA identifies the issues relating to the protection of the natural environmental that are absent from the AAP. The SA states that it is essential that new development does not harm the high quality, internationally designated, nature conservation sites that exist on the Southend foreshore and sandflats. The AAP will need to be able to demonstrate, through a Habitats Regulation Assessment how the potential for impacts has been assessed and how any impacts will be mitigated against. Possible impact routes include direct disturbance, storm water or waste water outfall, and coastal squeeze caused by sea defences.
- 4.16 The SA also states that the site specific proposals for the Quarters and Key Sites should set out how nature conservation will be integrated into development. The SA suggests that delivering parks could be a positive approach in helping secure more sustainable urban environments. The town centre currently has poor provision of public open space, with the exception of the Seafront. The SA notes that other ways the natural environment could be addressed through the AAP includes proposals or

policies for landscaping, new parks and new planting. This will not only have the sustainability benefits of enhancing the urban biodiversity, but also can help create shade within heavily developed areas essential in combating the urban heat impacts associated with global warming.

4.17 With regard to biodiversity and the greengrid, the SA states that the coastline of Southend has very high nature conservation value and that all new development in and around the town centre will need to ensure these assets are not harmed. The SA suggests including a specific policy criteria in the AAP to protect these sites and ensure a site specific 'appropriate assessment' is completed where needed. There is also a need to respect and enhance biodiversity wherever it is found, helping to 'green' Southend's town centre. The SA suggests that there is a risk that intensification of uses in Central Southend could be to the detriment of the natural environment quality, in an area that already suffers from poor access to open space. Therefore, the policy options for promoting open space and ecological improvements in the area are strongly supported in terms of sustainable development. Incorporating areas of green space within the urban context can have multiple sustainability benefits. This will include:

- Supporting wildlife;
- Providing open space for rest and relaxation of residents, workers and visitors to the town centre;
- Providing shading and reducing urban heat island effects caused by the sun reflecting off hard surfaces on hot days that make outdoor spaces uncomfortably hot;
- Views of trees and green spaces have been shown to have positive benefits for mental wellbeing; and
- Planting can make a valuable contribution to the quality of the built environment, such as tree lined avenues and pocket parks.

Section 5: HRA Screening

Task 1: Identification of Natura 2000 Sites and their Characteristics

- 5.1 The identification of impacts upon Natura 2000 sites requires the characterisation of the sites that will be potentially affected. This involves outlining the reasons for which a site has been designated, its conservation objectives and its potential vulnerabilities.
- 5.2 The Natura 2000 sites were selected following the HRA consultation with Natural England during the Core Strategy DPD production. The Natura 2000 Sites are listed below and their characteristics and conservation objectives are set out in Appendix 4.
- Benfleet and Southend Marshes (SPA and Ramsar Site);
 - Foulness (SPA and Ramsar Site);
 - Essex Estuaries (SAC and Ramsar Site);
 - Crouch and Roach Estuaries (SPA);
 - Essex Estuaries (SAC and Ramsar Site); and
 - Thames Estuary and Marshes SPA.
- 5.3 In the HRA Assessment to the Core Strategy the Council has also had regard to the vulnerability of a feature or sub feature, where a feature or sub-feature is considered vulnerable if it is both sensitive to, and likely to be exposed to, one or more of the human activities which may cause damage or disturbance. These vulnerabilities have been summarised below and set out in Appendix 4:
- (i) Direct physical loss - Sea-level rise exacerbated by coastal squeeze/coastal erosion and Smothering by sediments driven by storm tides and siltation.
 - (ii) Physical damage to habitats and prey species – caused by coastal squeeze, water abstraction and increased water and land recreational pressures.
 - (iii) Non-physical disturbance – caused by increases in noise, car movement and recreation.
 - (iv) Water quality deterioration – caused by toxic and non-toxic contamination.
 - (v) Biological disturbance – through the introduction of non-native species and selective fishing activities.
- 5.4 These identified areas of concern/vulnerabilities have been used as criteria against each policy and proposal, taking account of spatial considerations, in order to identify those policies and proposals that could result in an adverse effect on a European Site.
- 5.5 If additional significant impacts are identified as result of consultation responses which may affect sites not already identified, these additional sites may be added in for consideration at the next stage.

Task 2: Policy Screening and Identification of Likely Impacts

Management of the Natura 2000 Sites

- 5.6 The SCAAP is not directly connected to or necessary for the management of any Natura 2000 sites and has not been solely conceived for the conservation management of any site. The screening stage will examine the likely effect the SCAAP upon the Natura 2000 sites. The SCAAP will support the Core Strategy DPD by providing further policy detail for the Southend Central Area. This Issues and Options stage of the SCAAP is a statutory stage in its preparation and has been prepared for consultation with stakeholders. It is a spatial plan that will eventually form part of the statutory Local Development Framework for the Borough.

Description of the SCAAP Issues and Options Consultation document

- 5.7 In accordance with the Council's adopted Local Development Scheme and the Strategic Objectives and the policies within its Core Strategy DPD, the Council is preparing the SCAAP for the central area of the town. An Area Action Plan is a development plan document that forms part of the Local Development Framework for the Borough. Such Plans are used when there is a need to provide the planning framework for areas where significant change or conservation is needed and aims to.

- Deliver planned growth areas;
- Stimulate regeneration;
- Protect areas particularly sensitive to change;
- Resolve conflicting objectives in areas subject to development pressures; or
- Focus the delivery of area based regeneration initiatives.

- 5.8 This Issues and Options Consultation Document is a statutory stage in the preparation of the SCAAP. The Core Strategy DPD spatial strategy makes provision for a large share of the Borough's new growth and regeneration to be focussed in the central area of the borough. The purpose of this SCAAP is to give more detailed consideration to how and where employment-led regeneration and growth can sustainably be accommodated in the town centre, central seafront area and surrounding neighbourhoods.

- 5.9 At the submission stage the SCAAP will contain detailed policies and site specific proposals aimed at strengthening and transforming Southend Town Centre's sub-regional role as a successful retail and commercial destination, cultural hub and education centre of excellence, leisure and tourist attraction, and place to live. The intention is to seek to safeguard, conserve and enhance the significant biodiversity, green space and other environmental resources in the area and on the foreshore.

- 5.10 The Issues and Options Consultation Document builds on the foundations laid by the Pre-Submission Consultation Issues and Options Report published in January 2007. The Issues and Options Consultation Document also takes account of the Central Area Masterplan, prepared by Renaissance Southend Limited (RSL). The Council endorsed the principles of the Central Area Masterplan draft Development Framework

in November 2007. A year later in November 2008 the Council agreed to adopt the Central Area Masterplan prepared by RSL as a design brief and interim guidance.

Policy Screening

5.11 Each of the spatial options and proposals within the SCAAP Issues and Options Consultation Document has been screened and those options and proposals identified to have 'no effect' on any European Sites were screened out of the assessment. The results of the screening process are set out in Appendix 5. Table 3 below sets out the criteria used to identify the 'no effect' policies³.

Table 3: Policy Screening Criteria

Effects on European Site	Comments
<p>Non-development policies 1. The policy will not itself lead to development (e.g. it relates to design or other qualitative criteria for development, or it is not a land use planning policy)</p>	<p>'No Effect'</p>
<p>Unknown location of development policies 2. The policy makes provision for a quantum / type of development (and may or may not indicate one or more broad locations e.g. a county, or district, or sub-region) but the location of the development is to be selected following consideration of options in lower-tier plans (development plan documents).</p>	<p>'No Effect'</p>
<p>Over-arching development policies 3. No development could occur through this policy alone, because it is implemented through subordinate policies which are more detailed and therefore more appropriate to assess for their effects on European Site and associated sensitive areas.</p>	<p>'No Effect'</p>
<p>Urban development policies 4. Concentration of development in urban areas will not affect European Site and will help to steer development and land use change away from European Site and associated sensitive areas.</p>	<p>'No Effect'</p>
<p>Protective policies 5. The policy will help to steer development away from European Site and associated sensitive areas, e.g. not developing in areas of flood risk or areas otherwise likely to be affected by climate change.</p>	<p>'No Effect'</p>

³ SOURCE: Natural England (English Nature), January 2001

<p>Biodiversity policies</p> <p>6. The policy is intended to protect the natural environment, including biodiversity.</p>	'No Effect'
<p>Enhancement policies</p> <p>7. The policy is intended to conserve or enhance the natural, built or historic environment, and enhancement measures will not be likely to have any effect on a European Site.</p>	'No Effect'
<p>8. The LDD steers a quantum or type of development towards, or encourages development in, an area that includes a European Site or an area where development may indirectly affect a European Site.</p>	<p>Does the policy or explanatory text include a caveat or criterion that eliminates effects on the European site?</p> <p>Yes – transfer to 'no effects'</p> <p>No – transfer to policies 'likely to have significant effect' – and assess</p>
<p>9. The policy makes provision for a quantum, or kind of development that in the location(s) proposed would be likely to have a significant effect on a European Site. The proposal must be subject to appropriate assessment to establish, in light of the site's conservation objectives, whether it can be ascertained that the proposal would not adversely affect the integrity of the site.</p>	'likely to have significant effect'

5.12 Stage 2 - 'Potential effect' policies - Screening stage 2 took into account the following broad, judgement – based criteria:

- Proximity of policy area to a European Site;
- Scale of proposals;
- Likely associated adverse direct and indirect impacts, considering duration and magnitude and identified areas of concern/vulnerabilities

5.13 At this stage, if the policy or supporting text includes a caveat or criterion that excludes support for potentially damaging proposals on a European Site then this policy was also screened out.

Task 3: Other Plans and Programmes

5.14 Article 6(3) of the Habitats Directive requires that the effects of development plan documents be considered 'either individually or in combination with other plans or projects'. The Core Strategy DPD spatial strategy makes provision for a large share of

the Borough's new growth and regeneration to be focussed in the central area of the borough. The purpose of the SCAAP is, therefore, is to give more detailed consideration to how and where employment-led regeneration and growth can sustainably be accommodated in the town centre, central seafront area and surrounding neighbourhoods.

- 5.15 It is however still necessary to consider the SCAAP Issues and Options consultation document 'in-combination' with the Core Strategy DPD as this document will contain detailed policies and site specific proposals aimed at strengthening and transforming Southend Town Centre's sub-regional role as a successful retail and commercial destination, cultural hub and education centre of excellence, leisure and tourist attraction, and place to live. These site specific proposals may have the potential to impact European and international sites for nature conservation.
- 5.16 It is also essential to consider the various other pressures to which the site is exposed during the plan's lifetime. A list of each Other Plan and Programme (including the Core Strategy) is listed below. A summary of each of the Other Plans and Programmes and their respective HRAs are set out in Appendix 6.
- 5.17 When considering other plans, programmes & projects attention was focused on those aimed at delivering planned spatial growth with the most significant being those that seek to provide, housing, employment and infrastructure. The review considered the most relevant plans including:

Table 4: Other Plans and Programs

Other Plans and Programs Considered

1. Southend-on-Sea Core Strategy DPD (2007)
2. Southend-on-Sea Local Transport Plan 2006 – 2011
3. London Southend Airport Planning Application
4. Rochford Core Strategy: Submission (2010)
5. Castle Point Core Strategy: Submission (2010)
6. Essex County Council Local Transport 2006 – 2011
7. Essex County Council Minerals Development Document: Site Allocations Issues and Options Paper 2009
8. The Essex and Southend-on-Sea Waste Local Plan adopted September 2001

- 5.18 The following paragraphs summarises those plans that are considered to have an 'in-combination effect'. In addition, the Thames Estuary 2100 Project, Essex and South Suffolk Shoreline Management Plan consultation and Essex Catchment Flood Management Plan are considered.

Southend-on-Sea Core Strategy DPD (2007)

- 5.19 The policies contained in the Core Strategy have already been judged to have no significant impacts on Natura 2000 sites through an 'Appropriate Assessment'. All policies have also been subject to a Sustainability Appraisal to help identify the

policies for use in making decisions on planning applications. The requirement to ensure that the European and International sites for nature conservation are not adversely affected by development is embedded into the Southend-on-Sea Core Strategy. Paragraph 2.5 of the Core Strategy which provides the supporting text for Policy KP1 which sets out the Spatial Strategy references the Seafront states that biodiversity and other natural resources should be safeguarded and enhanced. It is also stated that European and international sites for nature conservation on the Southend foreshore should not be adversely affected by development. Regard will be given to interest features and particular sensitivities of a site in relation to:

- Direct physical loss;
- Physical damage to habitats and prey species;
- Non- physical disturbance;
- Water quality deterioration; and
- Biological disturbance.

- 5.20 It is reiterated in the Core Strategy DPD that the Seafront AAP (which has now been incorporated into the Development Management Issues and Options Consultation Document and SCAAP) will seek to safeguard, conserve and enhance the significant biodiversity, green space and other environmental resources of the area, particularly ensuring the European and international sites for nature conservation on the extensive foreshore are not adversely affected by any new development.
- 5.21 It is also noted that 'Appropriate Assessments' will be undertaken as an integral part of the Seafront AAP and the Criteria – Based Policies DPD to ensure that regard to the location of European and international sites for nature conservation covering much of the Southend Foreshore is considered.
- 5.22 Policy KP1 states that the Seafront's role as a successful leisure and tourist attraction and place to live will be enhanced, subject to the safeguarding of the biodiversity importance of the foreshore and in particular ensuring that European and international sites for nature conservation are not adversely affected by any new development.
- 5.23 Policy KP2 of the Core Strategy sets out the development principles. Part 4 of this policy states that development must respect, conserve and enhance and where necessary adequately mitigate effects on the natural environment, including the borough's biodiversity and green space resources and ensure that European and international sites for nature conservation are not adversely affected and contribute positively towards the 'Green Grid' in Southend.
- 5.24 Policy KP3 of the Core Strategy considers implementation and resources. Part 8 of the policy states that an 'Appropriate Assessment' will be required where development may adversely affect national, European and international nature conservation designations.
- 5.25 Policy CP7 of the Core Strategy considers sport, recreation and green space. This policy sets out a quantum of recreational space that is required to meet the demand

that will be generated by the additional dwelling provision over the period to 2021 whilst minimising recreational pressures on European and international sites for nature conservation.

- 5.26 When considered in combination with the proposed growth targets of the adjacent Boroughs (Castle Point Borough Council, Basildon District Council and Rochford District Council), the Core Strategy was found to be adequate. The policy suite within the Core Strategy provides a suitable strategic framework to ensure that significant risks of adverse effects to the interest features of European sites can be effectively minimised, designed-out and/or addressed. It is noted in the Appropriate Assessment to the Core Strategy that more detailed strategic direction within lower tier local development documents will need to be set within this strategic framework.

Castle Point Core Strategy: Submission

- 5.27 A number of amendments were made at the Preferred Options Stage of the Core Strategy with the aim of improving the submission version of this document in respect to its impact on the European Sites. These recommendations included the removal of locations that were more likely to have an impact on European Sites, the inclusion of policies on water efficiency and the inclusion of a policy on protecting environmental amenity.
- 5.28 The HRA to the Castle Point Core Strategy: Submission document identified a potential impact upon the Benfleet and Southend Marshes. In particular Policy SS1 which sets out the spatial strategy allows housing growth around Hadleigh and around South Benfleet. This may result in the Discharge Consents for the Benfleet Sewage works being exceeded. Benfleet Sewage works feeds into Benfleet Creek, which in turn flows into Benfleet and Southend Marshes SPA. This has the potential to affect the Benfleet and Southend Marshes and the Thames Estuary through a deterioration in water quality. It is also suggested in the HRA that growth of business activities to the South West of Canvey Island may have an impact on the Canvey Wick SSSI. As part of the wildlife network locally, this may ultimately impact on the Thames Estuary SPA and Benfleet and Southend Marshes SPA. Leisure and recreation growth associated with the TGSE Green Grid Strategy may also place additional pressures on the Benfleet and Southend Marshes SPA. The spatial strategy will also result in an increased number of residents that may result in increased use of Hadleigh Castle Country Park, Canvey Heights Country Park and Canvey Seafront. These uses may result in direct and indirect biological disturbance resulting in direct and indirect impacts on the Benfleet and Southend Marshes SPA particularly and less so the Thames Estuary and Marshes SPA. The Core Strategy states that the impacts identified by future development can be mitigated against by requiring an ecological assessment as proposals come forward.
- 5.29 With regard to Policy CP2 which relates to green infrastructure it was considered in the HRA that the Olympic Mountain Biking Event has the potential to cause harm to the Benfleet and Southend Marshes SPA. As with the Spatial Strategy it is considered that this can be prevented by requiring an ecological assessment of the Olympic proposals as they are developed.

5.30 Objective 16 considers flood defences. The objective related to the maintenance of sea defences in Castle Point has implications for the Benfleet and Southend Marshes SPA and could result in coastal squeeze. The objective can be made more appropriate with regard to its potential effects on European Sites by including reference to other sustainable flood management measures as well as sea defences in order to limit impact.

5.31 The in-combination effects can be summarised as:

- Disturbance - as a result of development near/ adjacent to European sites that could include increased: recreation; light pollution; and noise pollution
- Atmospheric Pollution - generated as a result of housing, employment and transport growth.
- Water Pollution - increased pressure on sewerage capacity and an increase in non-permeable surfaces.
- Water Abstraction - potential for reduced water levels.
- Modified Drainage - as a result of proposed development altering surface and groundwater flow.
- Land Take / Coastal Squeeze - as a result of proposed development.

Rochford Core Strategy: Submission

5.32 The HRA of the Rochford Core Strategy: Submission document found that this document had the potential for likely significant effects both alone and in-combination on European sites through; increased disturbance, increased atmospheric pollution and reduced water levels and quality. However it was considered that the Core Strategy contained sufficient policy mitigation and monitoring measures to avoid likely significant effects on European sites either alone or in-combination through increased atmospheric pollution.

5.33 The assessment could not conclude with certainty that the level of development proposed in the Core Strategy and surrounding areas will not have likely significant in-combination effects on European sites via reduced water quality and increased water resource demand.

5.34 The assessment makes a number of recommendations to address these uncertainties and mitigate the potential likely significant effects. The recommendations include the addition of two water quality indicators into the Monitoring Framework, which will allow the Council to determine if developments being implemented through the plan are having adverse effects on the biological and chemical water quality of the European sites. To address the issues identified in relation reduced water levels, the assessment recommends additional supporting text for Policy H1 to ensure that the water supply necessary for developments can be supplied sustainably, with no adverse effects on European sites.

5.35 The in-combination effects can be summarised as:

- Disturbance - as a result of development near/ adjacent to European sites that could include increased: recreation; light pollution; and noise pollution.
- Atmospheric Pollution - generated as a result of housing, employment and transport growth.
- Water Pollution - increased pressure on sewerage capacity and an increase in non-permeable surfaces.
- Water Abstraction - as a result of proposed development, potential for reduced water levels.
- Modified Drainage - as a result of proposed development altering surface and groundwater flow.

TE2100 Project

- 5.36 The Thames Estuary 2100 project (TE2100) was established in 2002 with the aim of developing a long-term tidal flood risk management plan for London and the Thames estuary. The project, lead by the Environment Agency, covers the Tidal Thames from West London through to Sheerness and Shoeburyness in Kent and Essex. This project seeks to develop an adaptable long term plan in the context of a changing estuary. It was acknowledged that the Thames was changing in relation to its climate, people and property in the floodplain and an underlying essential but ageing flood defence system.
- 5.37 The TE2100 project recognises the interconnectivity and dynamics within the Thames Estuary and acknowledges that the measures employed to manage coastal flood risk at a specific location have the capacity to affect upriver and downriver designated areas within the riparian districts of the Thames estuary. The TE2100 vision seeks improvements to the flood risk management system to provide amenity, recreation and environmental enhancement and be designed to minimise any adverse impacts on the frontage whilst supporting and enhancing the fishing industry activities.
- 5.38 The TE2100 Project highlights that the main sources of flooding in Southend-on-Sea come from: tidal flooding associated with the River Thames; fluvial flooding from Prittle Brook; and local drainage. The TE2100 Projects states that the recommended flood risk management policy for Leigh-on-Sea & Southend-on-Sea is to take further action to sustain the current level of flood risk into the future (responding to the potential increases in risk from urban development, land use change and climate change).
- 5.39 It is recognised by the TE2100 Project that is likely that the Southend-on-Sea frontage will continue to be developed and improved as it is an important leisure and recreation area. The intention of the TE2100 Plan would be to minimise visual impacts of flood defences on Leigh-on-Sea as much as possible by implementing further floodplain management measures. The TE2100 Project suggests that any new development in Southend-on-Sea should also be designed so that the potential flood impacts are minimised and a programme of public information is required to ensure that residents are aware of these floodplain management arrangements.

- 5.40 The TE2100 project requires LDFs to be more flexible to take account of the environmental trends of rising sea levels and the adverse effects of coastal squeeze. The TE2100 project recommends the use of the term ‘appropriate coastal flood risk management options’ rather than ‘coastal flood defences’, to ensure there is adequate flexibility at this strategic level to provide lower tier plans with sufficient scope to fully consider options that can avoid adverse affects on the integrity of the European Sites, either alone and/or in combination with other plans or projects.
- 5.41 The Project has split the Thames Estuary into 23 separate Policy Management Units (PMU) based upon the character of the local area and where the floodwaters would flow during a flood event. Each PMU offers different opportunities for managing flood risk, both at a local level and on an estuary-wide scale and has therefore been subject to a number of detailed studies and appraisals to assist TE2100 in identifying a flood risk management policy specific to the area. Table 5 summarises the preferred policy options for PMUs present within Southend-on-Sea BC.

Table 5: Policy Management Options from TE2100 for Southend-on-Sea BC

Policy Management Unit PMU	Recommended Preferred Option
Leigh-on-Sea and Southend-on-Sea (Action Zone 8)	<p>This PMU has a continuous sea frontage with beaches and very extensive (designated) intertidal areas and a pier. Whilst most of Southend-on-Sea is on high ground and not at risk from tidal flooding, much of the sea front is at risk of flooding and there is a flood defence along the entire frontage. There are five schools, six care homes and 21 electricity sub stations within the flood risk area. This is an important amenity and recreation area, with a parallel road and footpaths along much of the frontage. The two main areas of floodplain are to the east of the city centre.</p> <p>Policy P4 to take further action to sustain the current level of flood risk into the future (responding to the potential increases in risk from urban development, land use change and climate change).</p> <p>The number of properties at risk is relatively small but, as the standard of protection is lower than elsewhere on the estuary, the flood risk is relatively high at 0.5% (or 1:200) per annum or greater compared to the general standard of 0.1% (or 1:1,000) elsewhere in the estuary.</p> <p>Leigh-on-Sea has a narrow but historic frontage bounded by the railway line to the north. It has close links with the estuary with a strong fishing tradition, and floodplain management is practised to avoid creating a barrier between the village and the Estuary.</p> <p>This means that the defence level is low and properties have been built with raised thresholds and other resilience measures to protect against tidal flooding. There is evidence that more recent riverside users are unaware of this and stock for shops is stored in the floodable area.</p>

Policy Management Unit PMU	Recommended Preferred Option
	<p>Raised and new defences on the Southend-on-Sea frontage should be designed so that:</p> <ul style="list-style-type: none"> ▪ They do not encroach into the Estuary. ▪ The raised part of the defences could consist of a new defence on a new alignment behind the sea front where space permits (for example, park areas) so that the heights of walls on the sea front are limited. ▪ Walkways are raised to provide sea views, and access points are improved. ▪ Demountable defences and gated access points may be included in the designs in some areas providing that satisfactory arrangements can be made for security of closure. <p>The Southend-on-Sea frontage is subject to wave attack and overtopping. Beach recharge has been implemented both to improve the beach and reduce the impacts of waves. Improvements to this approach would reduce the need for defence raising.</p>
<p>Lower Estuary Marshes- Hadleigh Marshes and Two Tree Island (Action Zone 6)</p>	<p>The Hadleigh Marshes is identified in this unit as being an area of marshes open to grazing crossed by a railway line. It is identified in the TE2100 plan as policy P2. Two Tree Island is also included in this policy unit, part of the Island lies outside the borough boundary but it is owned by Southend-on-Sea BC.</p> <p>Policy P2 to reduce existing flood risk management actions (accepting that flood risk will increase over time).</p> <p>As part of the TE2100 consultation stage concerns were raised over the reduction of flood risk management for both Hadleigh Marshes and Two Tree Island with respect to contamination. The policy unit goes on to state:</p> <p>'Local issues and choices</p> <ul style="list-style-type: none"> ▪ There are flood defences on Two Tree Island adjacent to Hadleigh Marshes. Our Plan assumes that these will be abandoned. However further study is needed because there is a potential contamination issue on the island. ▪ Measures will be needed to manage fluvial flood risk from the marsh drainage system and watercourses that drain into the marshes. This would consist of improvements to channels and outfalls as the needs arise. <p>Floodplain management</p> <p>The need for floodplain management responses will be limited because the policy unit is largely undeveloped. There are no communities apart from</p>

Policy Management Unit PMU	Recommended Preferred Option
	<p>visitors to the marshes and Two Tree Island. However flood warning will be needed for the railway line (which continues through Leigh-on-Sea & Southend-on-Sea policy unit to the east and Bowers Marshes policy unit to the west). Choices for local flood risk management have not been designed or assessed in detail, and are included in our action plan for investigation, consultation and subsequent appraisal.'</p> <p>The assignment of Policy Unit P2 to this action zone suggests the risk of flooding in this area is likely to increase over time unless considerations of the contamination issues associated with the area are strong enough to justify a maintained defence line.</p>

Essex and South Suffolk Shoreline Management Plan consultation

- 5.42 Shoreline Management Plans identify the best ways to manage coastal flood and erosion risk to people and the developed, historical and natural environment. The objective of the Essex and South Suffolk Shoreline Management Plan (ES SMP) is to outline the intent of management for the coast and estuaries of Essex and South Suffolk. The plan aims to achieve the best possible balance for all the features that have been identified as valuable by partners and stakeholders around the coast. Another implication of focusing growth within coastal floodplains is the necessity to maintain adequate protection through suitable flood risk management options.
- 5.43 The current Shoreline Management Plan (Mouchel 1997) proposes maintenance of the 'hold the line' option within the Southend seafront and Shoeburyness area, which in practice requires maintaining hard coastal flood defences.
- 5.44 The following list sets out the some of the key coastal and estuary processes and pressures in the Essex and South Suffolk SMP area. These have played an important role in developing the plan.
- Intertidal areas – are typically wide, flat areas consisting of mud and silt that are sometimes dry, and sometimes under water. The intertidal area is important because it stops waves reaching flood and erosion defences and it is also a habitat for many rare plants and animals.
 - Coastal squeeze – The natural response of intertidal areas is to gradually move inland. The estuaries and coastline in the Essex and South Suffolk SMP area are constrained by high ground and by man-made flood defences. This means that the saltmarshes and mudflats cannot move in a landward direction: they do lose area from their seaward edge, but they don't gain area on their landward edge. This is called 'coastal squeeze'. It puts pressure on the flood defences, which become more difficult to maintain, and it leads to loss of important habitats.

- Open coast processes – these frontages experience the full force of waves from the North Sea with the strongest waves coming from the north-east. The wave energy moves sediment around the coast. Sediment tends to build up in certain areas where the wave and current energy is less. There can also be a loss of sediment where this energy is greater. This loss of sediment causes a loss of beaches, saltmarshes and mudflats and can result in undermining of coastal and flood defences.

5.45 The following sets out the management units identified by the ES SMP that relate specifically to Southend-on-Sea.

- Management Unit I (Foulness, Potton and Rushley Islands) - This Management Unit is an open coast frontage with tidal channels that form a group of islands, part of the Foulness area. These tidal channels are connected to the River Roach and to the open coast. The islands are all low-lying and are defended against flooding by earth embankments. On the south-east coast of Foulness Island, which is exposed to and under pressure from the sea, there is an extensive intertidal area known as Foulness Sands and Maplin Sands, the largest intertidal area in Britain. The overall intention for the islands is to sustain and support the viability of communities, tourism and commercial activities while creating new intertidal habitats and focusing flood risk management on frontages where it is most needed. The policy to achieve this intent is to maintain flood defence to Foulness and Potton Islands, including all dwellings and key infrastructure at risk of flooding, combined with a gradual increase of natural processes by realigning the defences of Rushley Island.
- Management Unit J (Southend-on-Sea) – This management unit covers the area from Shoeburyness to Leigh-on-Sea (Two Tree Island). The frontage is an open coast frontage with sea cliffs along half of the frontage and substantial low-lying sections in between. Mud and fine sand beaches characterise the entire frontage. The Southend-on-Sea frontage is eroding and is defended by concrete seawalls, promenades, wave return walls and beach control structures. These beach control structures tend to trap coarse sand between them. The overall intention for Southend-on-Sea is to sustain and support its viability as a seaside town and its communities, tourism and commercial activities. This means a continuation of the current management approach: holding the current alignment where there are defences. Although the defences are under pressure, holding the line is necessary to sustain the seafront which is essential to the viability of Southend-on-Sea as a seaside resort. All dwellings and infrastructure would remain protected. The footpaths on top of the existing sea banks will be maintained. Heritage assets and landscape will remain protected and largely unchanged. The SMP's policies are compatible with the policy proposed by the Thames Estuary 2100 strategy. This includes an intent to maintain the standard of protection, including compensation for climate change.

Essex Catchment Flood Management Plan (CFMP) December 2008

- 5.46 Catchment Flood Management Plans are high-level strategic planning documents that provide an overview of the main sources of flood risk and how these can be managed in a sustainable framework for the next 50 to 100 years. The Environment Agency engages stakeholders within the catchment to produce policies in terms of sustainable flood management solutions whilst also considering the land use changes and effects of climate change.
- 5.47 The South Essex CFMP provides information relating to the fluvial flood risk, as well as risk from surface water drainage systems and sewers across South Essex. The Plan highlights the main sources of flood risk to people, property and infrastructure in South Essex and recommends broad policies for the management of the present and future flood risk in the South Essex CFMP area.
- 5.48 This CFMP covers Southend-on-Sea BC and provides valuable records of historical flooding from fluvial systems, as well as surface, sewer and ground water flooding in the area. This information has been used to inform this Level 1 SFRA. The South Essex CFMP also presents preferred policy options for several Policy Units within Southend-on-Sea BC. These have been summarised in Table 6 below.

Table 6: Summary of Preferred Policies for Policy Units in Southend-on-Sea BC, South Essex CFMP, 2008

Policy Unity	Problem/ Risk	Recommended Preferred Option
2 Southend-on-Sea and Rayleigh	<p>This policy unit currently has a fluvial source of flooding from Prittle and Eastwood Brook. It also has a fluvial/tidal source of flooding in the downstream Prittle Brook from Pembroke House. Surface water flooding also occurs in localised areas of Rayleigh, Eastwood and Southend-on-Sea, due to impermeable surfaces.</p> <p>Channel improvements (including the deepening and straightening of the watercourse with a concrete bed) exist along 7.6km of Eastwood Brook and have a standard of protection that ranges along the reach from a 1 –20% AEP SoP. A natural earth flood embankment exists at the downstream end of Prittle Brook and protects to a 1% AEP SoP. The Prittle flood relief tunnel also exists on Eastwood Brook and protects to a 1% AEP SoP. This diverts flood flow into the River Thames.</p>	<p>Policy Option 5: Take further action to reduce flood risk now and in the future</p> <ul style="list-style-type: none"> ▪ Develop a Flood Risk Study for Southend-on-Sea to investigate the feasibility of building new defences along Prittle and Eastwood Brook. ▪ Develop a System Asset Management Plan (SAMP) to investigate how we can continue with the current level of flood risk management throughout all systems in this policy unit. ▪ Develop an Emergency Response Plans for the A roads and railway.

Policy Unity	Problem/ Risk	Recommended Preferred Option
	<p>The main areas at risk from the 1% AEP flood event are Southend-on-Sea and Eastwood, with a total of 950 people and 503 properties at risk respectively. In the future, this will increase by 142% and 130% for the 1% AEP flood event, with a total of 2,305 people and 1,157 properties at risk respectively.</p>	<ul style="list-style-type: none"> ▪ Develop an Emergency Response Plan to mitigate flood risk in Southend, Rayleigh and Eastwood from the risk of the defences failing. ▪ Flood Forecasting and Warning delivery plan to maintain the current level of flood forecasting/warning service. ▪ Develop an Integrated Urban Drainage Plan for Southend-on-Sea, and Eastwood. ▪ CFMP/SMP Compliance project to ensure that the policies selected in both plans are complementary; any issues of conflict need to be addressed.
<p>12 Thames Urban Tidal (Hadleigh Marshes)</p>	<p>This PU is low lying, generally below 5m AOD, covering the south western coastal areas of the CFMP area from Tilbury to Purfleet and Canvey Island and also includes the area of Hadleigh Marshes and Two Tree Island. The catchment is highly urbanised, responding quickly to rainfall.</p> <p>The PU is predominantly tidal but is protected by sea defence up to a 0.1% AEP SoP. Current flood risk management includes flood warning with our flood warnings direct as the main dissemination method. There are no raised defences within this policy unit, although and extensive array of arterial drains. There may be some informal/private defences.</p>	<p>Policy Option 4: to take further action to sustain the current level of flood risk into the future (responding to the potential increases in risk from urban development, land use change and climate change).</p> <p>Although the policy relates to the largely urban areas that make up this policy unit.</p>

Task 4: Screening Summary

- 5.49 In total thirty-two elements of the SCAAP Issues and Options document including the objectives, development management policies and area specific proposals, were screened to assess the likely impact upon the International, European and National sites.
- 5.50 Twenty-eight of the thirty-two elements will not lead directly to development as they relate to design and other qualitative criteria.
- 5.51 Four of the thirty-two elements are likely to have a significant impact upon the International, European and National sites or it is not clear what the impact may be. The potential impacts that could arise as a result of these policies include: increased disturbance; atmospheric pollution; water pollution and abstraction; and modified drainage. These policies are discussed in more detail below.

The Quarters and Key Sites: The High Street

- 5.52 The screening process in Appendix 3 found that is unclear as to whether the proposal in SCAAP will result a likely significant effect upon Benfleet and Southend Marshes. The southern boundary of this quarter is located adjacent approximately 200 metres from the Benfleet and Southend Marshes SPA and Ramsar Site. The actual size of the quarter is however relatively small.
- 5.53 The SCAAP seeks to strengthen the different Quarters east and west of the main retail route encouraging by cafes, bars, restaurants and creative enterprises day and night in addition to new residential provision along Tylers Avenue.
- 5.54 Co-ordinated street scene improvements will be used to emphasise the east-west links. Trees and other vertical interventions such as public art, kiosks, seating will be used to articulate the journey along the High Street.
- 5.55 The SCAAP seeks to transform the southern end of the High Street into 'Southend's Balcony', a public space with remodelled active frontages associated with The Royals, the refurbished historic Palace Hotel and the extension of the public realm to the St John's Quarter. The longer term vision is of a radical, landmark redevelopment which will connect the town to the Pier and Adventure Island by a series of multi-level indoor and outdoor destination spaces.
- 5.56 Due to the current level of detail provided within the SCAAP Issues and Options document it is not possible to define the impacts on the Benfleet and Southend Marshes SPA and Ramsar Site. However given that this proposal seeks a significant landmark development that links the pier with the High Street there is likely to a significant impact in terms of:
- Disturbance - as a result of development near/ adjacent to European sites, including: increased recreation; light pollution; and noise pollution.
 - Water Pollution - increase in non-permeable surfaces.

- Modified Drainage - as a result of proposed development altering surface and groundwater flow.

5.57 It is considered the impacts identified by future development can be mitigated against by requiring an ecological assessment as proposals come forward.

The Quarters and Key Sites: St John's Central Seafront and the Eastern Esplanade

5.58 The screening process in Appendix 3 found that the proposal in SCAAP may result in a significant effect upon Benfleet and Southend Marshes SPA and Ramsar Site and Foulness SPA and Ramsar Site. The southern boundary of this quarter is adjacent to the Benfleet and Southend Marshes SPA and Ramsar Site and 2.5miles from Foulness SPA and Ramsar Site.

5.59 The SCAAP seeks to promote retail and leisure uses within this area through new developments, including the entrance improvements to the pier and residential, food and drink and visitor accommodation as supporting uses.

5.60 Tylers Avenue could be at the heart of a new retail circuit, providing a high quality retail offer to complement the High Street. It is suggested that Seaways has the potential to become a new retail, residential and leisure mixed use hub, playing a key role in creating critical mass in the St Johns Quarter, and redefining the Central Seafront and Pier Hill area and the connection between Town Centre and Seafront. The Golden Mile could be further developed and enhanced as a leisure and tourism offer.

5.61 The Central Area Masterplan has informed the SCAAP. In respect to this quarter, the Central Area Masterplan sets out the key principles to guide change and development. These include:

- Key buildings should have a retail anchor tenancy with upper terrace level of food and beverage. The main retail blocks should have two trading floors.
- There is potential to create 'pavilion' extensions to The Royals shopping centre in order to increase the trading floor areas and to restore active frontages.
- Remodelling of the urban form to create a north-south axis that makes a clear sightline from Queensway to the sea.
- The creation of a new link designed around the 'Spanish Steps' concept of stepped public urban space providing not only a direct connection to the seafront, but also providing gathering spaces and a setting for an urban spectacle.
- Improve access and circulation into and around the area.

5.62 The proposals seek east-west connections between the new and old that is strengthened by tree planting and by marking junctions as recognisable nodes. A new open space is proposed around St Johns Church and including its churchyard to form the strategic hub of this Quarter, joining Tylers to the north to Seaways in the south-east. The proposal for Seaways also includes significant residential development and possible tall buildings to take advantage of the estuary views.

- 5.63 Due to the current level of detail provided within the SCAAP Issues and Options document it is not possible to define the impacts on the Benfleet and Southend Marshes SPA and Ramsar Site. However given that this proposal seeks a radical development that links the activities of the Town Centre with those of the Seafront, it is reasonable to assume at this stage that there maybe a significant impact upon the European Sites. This impact may be in terms of:
- Disturbance - as a result of development near/ adjacent to European sites, including: increased recreation; light pollution; and noise pollution.
 - Water Pollution - increase in non-permeable surfaces.
 - Modified Drainage - as a result of proposed development altering surface and groundwater flow.
 - Atmospheric pollution – caused by an increase in residents and businesses.
- 5.64 The pre-submission version of the SCAAP will need to include measures that will mitigate against the impact of development within this quarter. It is also considered that the potential impacts that may result from future development could be mitigated against by requiring an ecological assessment as proposals come forward.

The Quarters and Key Sites: The Western Esplanade

- 5.65 The screening process in Appendix 3 found that the proposal for this quarter in SCAAP may result in a significant effect upon Benfleet and Southend Marshes SPA and Ramsar Site. The southern boundary of this quarter is adjacent to the Benfleet and Southend Marshes SPA. The area comprises two distinctive parts, the Cliffs and the Western Esplanade.
- 5.66 Proposals for this quarter seek quiet leisure, seaside enjoyment, including sailing and cultural activities which will be supported by car parking, walking and cycling.
- 5.67 The remedial work to stabilise the Cliffs will, when commissioned, incorporate additional measures to provide development opportunities for a new museum. The legacy of Victorian structures and formal garden remnants could be retained and reinstated to their former splendour.
- 5.68 Due to the current level of detail provided within the SCAAP Issues and Options document it is not possible to define the impacts on the Benfleet and Southend Marshes SPA and Ramsar Site. The proposals may result in a significant impact in terms of disturbance as a result of development near or adjacent to European sites, including: increased recreation; light pollution; and noise pollution.
- 5.69 It is also considered that the potential impacts that may result from future development could be mitigated against by requiring an ecological assessment as proposals come forward.

The Quarters and Key Sites: Gateway Neighbourhoods

- 5.70 The screening process in Appendix 3 found that the proposal for this quarter in SCAAP may result in a significant effect upon Benfleet and Southend Marshes SPA and Ramsar Site and Foulness SPA and Ramsar Site. The main Neighbourhood Gateways have been identified as: Sutton Road/Grainger Road (including the Greyhound Retail area); North Road/Salisbury Avenue; and the Kursaal Estate and its environs. The later neighbourhood is located in close proximity to the Benfleet and Southend Marshes SPA and approximately 2.5 miles from Foulness SPA and Ramsar Site.
- 5.71 Due to the current level of detail provided within the SCAAP Issues and Options document it is not possible to define the impacts on the Benfleet and Southend Marshes SPA and Ramsar Site. However given that this proposal seeks to enhance the gateway environment by increasing residential uses and providing for new social care, recreation and community uses, it is possible that the following impacts may result:
- Disturbance - as a result of development near/ adjacent to European sites, including: increased recreation; light pollution; and noise pollution.
 - Water Pollution - increase in non-permeable surfaces.
 - Modified Drainage - as a result of proposed development altering surface and groundwater flow.
- 5.72 It is also considered that the potential impacts that may result from future development could be mitigated against by requiring an ecological assessment as proposals come forward.

Development Management

- 5.73 The screening process in Appendix 3 found that the Development Management Policies will have an impact on any European site 'in-combination' with the plans and strategies of other local authorities as the proposed policies will not themselves lead to development and they relate to design and other qualitative criteria for development and are not a land use planning policy. However further development of these policies will be reinforced by the findings and recommendations of this Section 6 of this HRA: Screening Report.

Section 6: Conclusions and Recommendations

- 6.1 This report outlines the methods used and the findings arising from the screening stage of the Habitats Regulations Assessment undertaken for the Southend Central Area Action Plan Issues and Options Consultation Document.
- 6.2 The HRA considered five European Sites located in close proximity to plan area and surrounding search area.
- 6.4 The AA will require more detailed information gathering to assess and where possible quantify, the potential impacts identified and determine the most effective mechanism for avoiding or mitigating those effects. This work will need to take place in consultation with the Natural England, the Environment Agency and other key stakeholders.
- 6.5 A full AA report will be presented alongside the Southend Central Area Action Plan Submission Document as part of the evidence base for examination where it serves to provide a record of how the plan is consistent with national and EU policy on biodiversity protection.

Recommendations

- 6.6 The most precautionary course of action for an local planning authority is to remove potentially harmful policies and proposals at the earliest stages of plan preparation or to adjust those policies and proposals so as to ensure that development flowing from or controlled by the development plan is not likely to have a significant effect on any internationally designated sites to which this procedure applies, either alone or in combination with other plans or projects. On the basis of the Screening Assessment set out in this document, the following recommendations are made for consideration in the Pre-submission draft of the SCAAP.
- 6.7 **Recommendation 1** - Include a policy on maximising opportunities for water efficiency in new buildings in order to ensure new developments do not put excessive levels of additional pressure on water resources. This policy could be at a generic level or included within the specific proposals for each of the relevant quarters.
- 6.8 **Recommendation 2** – Include a policy that protects the cliffs from movement which has led to instability problems by ensuring that no new development will be at risk from land instability or increase this risk to the site or other areas.
- 6.9 **Recommendation 3** - Insert within the policy wording a requirement to have regard to the capacity of drainage systems when identifying phasing new development projects. This policy could be at a generic level or included within the specific proposals for each of the relevant quarters.
- 6.10 **Recommendation 4** - Include a policy on ensuring environmental amenity when considering new development proposals, in order to ensure that new developments do not have an adverse impact on the natural environment, including European Sites.

This policy could be at a generic level or included within the specific proposals for each of the relevant quarters.

- 6.11 **Recommendation 5** - Include a policy that seeks the conservation and enhancement of biodiversity within the SCAAP area. Proposals for new developments within this area should demonstrate how nature conservation is integrated into the scheme. This policy could be at a generic level or included within the specific proposals for each of the relevant quarters.
- 6.12 **Recommendation 6** – Include a policy seeks to enhance the ‘Green Grid’ and provides a framework and implementation strategy for the linked network of functional green space.
- 6.13 **Recommendation 7** – Include a policy that requires new developments to demonstrate the efficient use of natural resources and sustainable construction techniques.
- 6.14 **Recommendation 8** - Insert an implementation framework that ensures the sustainable maintenance of flood defences and management systems and the management and control of sewage treatment facilities. This policy could be at a generic level or included within the specific proposals for each of the relevant quarters.
- 6.15 **Recommendation 9** – Insert policy wording that requires an ‘Ecology Assessment’ with all major planning application submissions in the SCAAP area to demonstrate that there is no harm caused by the proposed development upon the European Sites.

Appendix 1 – Glossary

Appropriate Assessment - the assessment that is required to be undertaken by a competent authority in respect of plans or projects which are likely to have a significant effect on a 'European site'.

Biodiversity - is the term applied to the variety of life on earth and is short for biological diversity. It includes all plants, animals and micro-organisms (species diversity), the places where they live (habitat diversity) and the genetic differences that drives adaptability and evolution (genetic diversity). It includes habitats influenced by human-kind.

EC Habitats Directive – European Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora. The main aim is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species. Member States are required to take account of economic, social and cultural requirements and regional and local characteristics.

Habitat - the place in which a particular plant or animal lives. Often used in the wider sense referring to major assemblages of plants and animals together or the place or type of site where an organism or population naturally occurs.

Mitigation - measures taken to avoid, cancel or reduce negative impacts.

Natura 2000 - A network of protected areas across the EU comprising of SPAs and SACs, designed to protect the most seriously threatened habitats and species across Europe.

Nature conservation - the preservation, protection, wise use, sustainable management, restoration and enhancement of flora, fauna and geological and physiographical features.

Precautionary principle - the application of the precautionary principle requires the taking of cost-effective measures to prevent a threat of serious or irreversible environmental damage, even though there is lack of full scientific certainty about the degree of harm or probability of risk. In the context of the Habitats Directive, it means ensuring that the effects of a plan or project are fully assessed, if there is doubt about their significance and not undertaking or permitting a plan or project unless it can be ascertained that there would be no adverse effects on the integrity of the site, unless there are no alternative solutions and there are imperative reasons of overriding public interest for proceeding with the plan or project

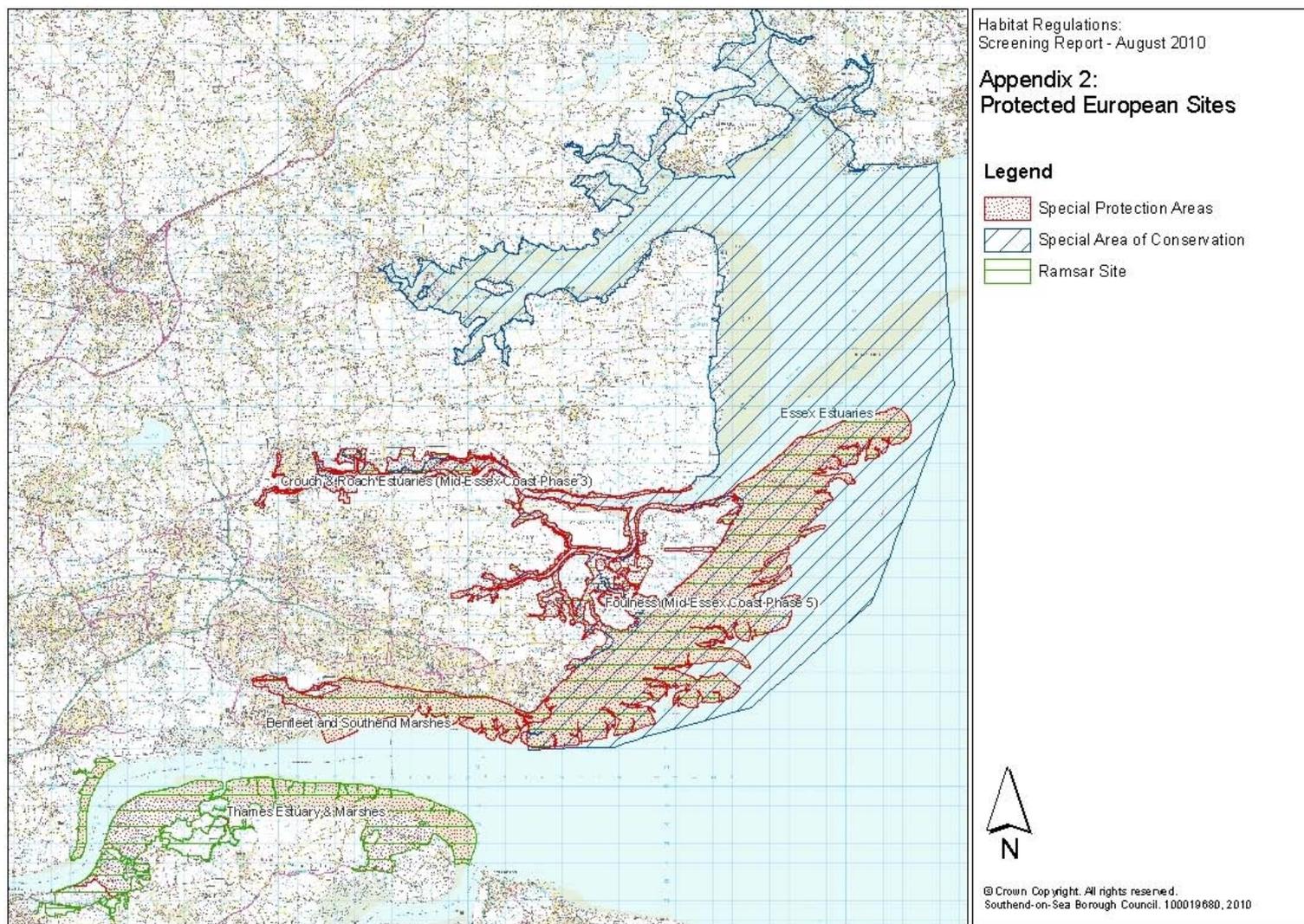
Ramsar - Wetland sites designated for conservation under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (the Ramsar Convention). Planning Policy Statement 9: Biodiversity and Geological Conservation requires the same policy protection for Ramsar sites as designated SPAs and SACs.

Special Areas of Conservation (SAC) - Sites which have been designated under the European Union's Habitats Directive (Council Directive 92/43/EEC) for wildlife protection. The aim of the designation is to conserve important or threatened species and habitats.

Special Protection Area (SPA) - These are sites which have been established to protect wild birds under the European Commission Directive on the Conservation of Wild Birds (79/409/EEC).

Screening - the process of identifying whether a project, plan or programme should be subject to strategic environmental assessment, environmental impact assessment, appropriate assessment or a Habitats Regulations Appraisal.

Appendix 2 - Protected European and National Site Maps



Appendix 3: Sustainability Assessment

The following table sets out the comments within the Sustainability Appraisal to the SCAAP Issues and Options document that are made in respect to biodiversity and habitats.

	Sustainability Appraisal Natural Environment and Biodiversity comment
Objectives	<p>The appraisal of the objectives finds that there is good coverage of sustainability issues related to improving the built environment and economic regeneration of the town centre.</p> <p>The objectives are not comprehensive in their coverage of sustainability issues. Matters relating to the protection of the natural environment are poorly covered. Despite the high quality biodiversity of the foreshore that is immediately adjacent to the centre, protecting this is not mentioned as an objective. Enhancing and creating new urban greenspaces and bringing nature into the town centre is also not addressed through objectives.</p> <p>The central area is at risk of flooding, minimising the risk and ensuring development does not exacerbate risks could be addressed as an objective.</p> <p>The natural environment: There is a high quality natural environment in Southend-on-Sea, particularly on the Seafront that is internationally designated for its nature conservation value. Development in the centre and throughout Southend has the potential to have adverse impacts on this foreshore protected area. Impacts could include pollution from water run-off and sewerage, direct disturbance and gradual beach erosion. The potential for impacts and the need to avoid harm to protected areas is not recognised in the AAP.</p>
Spatial Options	
Option 1: Strengthening the status quo	<p>This option would focus on the High Street and this focus of resources may help in better securing improvements in this area. However, this option does not take advantages of wider environmental improvements that could help raise the overall image of Southend-on-Sea to potential investors (local and national), with wider benefits for the town. The option therefore may be too limited to successfully attract new inward investment.</p> <p>The overall scale of development may reduce impacts on natural resource use and on the natural environment.</p>

	This option is unlikely to have any great benefit for the economic sustainability of the town, nor will help in meeting social sustainability objectives.
Option 2: Enhance urban circuits	n/a
Option 3: City by the Sea	This option would see the largest amount of redevelopment and therefore require the greatest use of natural resources. However, if new buildings use water and energy more efficiently than older ones it could have net benefits in the medium or longer term.
Quarters and Key Sites: - The Victorias - London Road - Queensway and Southchurch - Elmer Square – University Campus - Warrior Square - Cliffdown Quarter - St John’s, Central Seafront and the Easter Esplanade - The Western Esplanade - The Neighbourhood Gateways of: Sutton Road/Grainger	<p>The sustainability appraisal of objectives reveals that the AAP does not cover matters relating to protection and enhancement of the natural environment. Given that the AAP covers the Seafront and foreshore areas it is essential the natural resource assets are addressed. This includes protection of the internationally designated nature conservation sites, water quality and trees and planting. All of these are essential in maintaining the quality of Southend for residents, visitors and as part of the overall image of the area.</p> <p>New development in central Southend must not adversely impact on the internationally designated nature conservation sites, evidence needs to be in place to demonstrate this has been addressed. A Habitats Regulations screening assessment will be needed to show how impacts on biodiversity have been taken into account.</p> <p>Impacts that will need to be avoided include storm water runoff infrastructure that avoids impacts on the foreshore, and management of the sea defences. Development proposals closest to the Seafront have the potential for direct impacts, this will include development in the City Beach.</p> <p>Site specific proposals for the Quarters and Key Sites should set out how nature conservation will be integrated into development. For instance the AAP already includes the option of creating a pocket park at the north end of the High Street between the Odeon and Sainsburys or at St John’s Church, or the potential to make better use of the green spaces along Queensway and the potential for a linear park. Delivering parks such as this can be positive in helping secure more sustainable urban environments.</p> <p>The town centre currently has poor provision of public open space, with the exception of the Seafront. The AAP could include proposals to improve the quality of existing areas. The existing green area of Warrior Square could also be</p>

<p>Road (including the Greyhound Retail area), North Road / Salisbury Avenue, Kursaal Estate and its environs.</p>	<p>enhanced and its role for biodiversity and informal recreation improved.</p> <p>The large amount of redevelopment proposed through the AAP will require substantial use of natural resources during construction and operation. To reduce these impacts it is essential that new development is designed in such a way as to reduce overall natural resource demands.</p> <p>Many older buildings in the town centre are unlikely to be energy efficient, therefore new buildings have the potential to deliver energy savings in the long-term. Energy savings can be achieved through efficiency, but also there is the possibility with larger projects to deliver some of the energy used from local low carbon sources. This could include community heat and power schemes, that may be suitable as part of larger redevelopment areas, including University Campuses or new office developments. In addition, the coastal location means wind energy could play a role in delivering energy for the town centre. New turbine technology presents ever more efficient wind energy generation for urban spaces. The tidal range may also present opportunities for energy generation associated with leisure developments on the seafront.</p> <p>Proposed policies for delivering sustainable construction are shown in the options for development management policies. These options are appraised in section 8 of this SA Report.</p> <p>Water resource in the East of England can be limited, especially in times of low rainfall. Therefore, new buildings and refurbishments must incorporate water efficiency measures, including re-use of rainwater or greywater.</p> <p>Proposals for specific Quarters and Key Sites could include areas wide targets for sustainable construction. Consideration could be given in the AAP on how these can further reduce resource use, beyond existing policy requirements. This could include setting specific policy in the AAP in addition to general principles for sustainable construction.</p>
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Appendix 4 – Natura 2000 Sites: Characteristics and Conservation Objectives

Site	Benfleet and Southend Marshes (SPA and Ramsar Site) - Benfleet and Southend Marshes SSSI; Southend-on-Sea Foreshore Local Nature Reserve; Leigh National Nature Reserve
Features of Interest	<p>Benfleet and Southend Marshes SPA site comprises the intertidal part of the Thames Estuary from Benfleet to Shoeburyness, which is predominantly occupied by mudflats, with small areas of saltmarsh and sandy beach.</p> <p>Benfleet and Southend Marshes qualifies under article 4.2 of the EU Birds Directive by supporting:</p> <ul style="list-style-type: none"> ▪ Internationally important populations of regularly occurring migratory species; and ▪ An internationally important assemblage of waterfowl
Conservation Objectives	<p>Southend Marshes SPA internationally important populations of regularly occurring migratory bird species:</p> <p>i) Subject to natural change, maintain in favourable condition the habitats for the internationally important populations of regularly occurring migratory bird species under the Birds Directive, in particular:</p> <ul style="list-style-type: none"> • Shell banks; • Saltmarsh; • Intertidal Mudflats and Sandflat communities; and • Eelgrass beds. <p>The conservation objective for the internationally important assemblage of waterfowl:</p> <p>ii) Subject to natural change, maintain in favourable condition the habitats for the internationally important assemblage of waterfowl under the Birds Directive, in particular:</p> <ul style="list-style-type: none"> • Shell banks; • Saltmarsh; • Intertidal Mudflats and Sandflat communities; and • Eelgrass beds.

Condition	Benfleet and Southend Marshes SSSI condition - 0% of the site is in a favourable condition. 5.26% is unfavourable recovering and 94.74% is unfavourable declining. These were compiled 01 May 2007 and indicate no change from November 2006.
Vulnerabilities / areas of concern	Benfleet and Southend Marshes comprises extensive areas of foreshore with a tidal creek system and an area of grazing marsh. The vulnerability of the intertidal habitats is linked to changes in the physical environment, especially to 'coastal squeeze'. In principal, recreational activities are not currently perceived as a problem, subject to appropriate management and regulation. Infrastructure works to facilitate visitor attractions, although dealt with under the planning control provisions of the Habitat Regulations, have the potential either alone or in combination to adversely affect the interest features of this SPA and Ramsar site. Both wildfowling and cockle fishing are also potential threats which currently are well regulated by agreement. The sea fisheries are regulated by Kent and Essex Sea Fisheries using bye-law power granted by a sea Fisheries regulatory order. Dredging of the Thames and inputs of herbicides to the mudflats may be having indirect effects on the loss of intertidal habitat and viability of the eelgrass <i>Zostera</i> beds. Research is underway to determine the effect of herbicides on the eelgrass. The marsh is suffering from the lack of freshwater inputs due to low rainfall. The Environment Agency has agreed a Water Level Management Plan for the grazing marshes part of the site which will maintain appropriate water levels. Although sewage outfalls have recently been upgraded to comply with the EC Directives, it is understood that sediment within the intertidal contains elevated levels of copper and TBT. Consequently, development within the intertidal areas and activities such as dredging, have the capacity to disturb and mobilise these pollutants thus posing a threat to the interest features of this site. To secure protection of the site, most of the foreshore is a Local Nature Reserve and covered by the Thames Estuary Management Plan.

Site	Foulness (SPA and Ramsar site) - Foulness SSSI; Partly Southend-on-Sea Foreshore Local Nature Reserve
Features of Interest	<p>This site comprises a large area of mudflats and sandflats known as Maplin Sands, running from Shoeburyness Point to Foulness Point, and smaller areas of saltmarsh and marshland around and on Foulness Island itself.</p> <p>Foulness SPA qualifies under article 4.1 of the EU Birds Directive by supporting:</p> <ul style="list-style-type: none"> ▪ Internationally important breeding populations of regularly occurring Annex 1 species: sandwich tern (<i>Sterna sandvicensis</i>), common tern (<i>Sterna hirundo</i>), little tern (<i>Sterna albigrons</i>) and avocet (<i>Recurvirostra avosetta</i>); and ▪ For supporting an internationally important wintering population of the Annex 1 species: hen harrier (<i>Circus cyaneus</i>).

	<p>Foulness SPA also qualifies under article 4.2 of the EU Birds Directive in that it supports:</p> <ul style="list-style-type: none"> ▪ An internationally important assemblage of waterfowl (wildfowl and waders); and ▪ Internationally important populations of regularly occurring migratory species; and ▪ Nationally important breeding populations of a regularly occurring migratory species: ringed plover (<i>Charadrius hiaticula</i>)
<p>Conservation Objectives</p>	<p>The conservation objective for the Foulness SPA internationally important populations of the regularly occurring Annex 1 Bird species:</p> <p>i) Subject to natural change, maintain the habitats for the internationally important populations of the regularly occurring Annex 1 Bird species in favourable condition, in particular:</p> <ul style="list-style-type: none"> ▪ Shell, sand and gravel shores banks ▪ Intertidal Mudflats and sandflats ▪ Saltmarsh ▪ Shallow coastal waters <p>The conservation objective for the internationally important populations of regularly occurring migratory bird species:</p> <p>ii) Subject to natural change, maintain the habitats for the internationally important populations of regularly occurring migratory bird species in favourable condition, in particular:</p> <ul style="list-style-type: none"> ▪ Saltmarsh ▪ Intertidal Mudflats and sandflats ▪ Boulder and cobble shores <p>The conservation objective for the internationally important assemblage of waterfowl:</p>

	<p>iii) Subject to natural change, maintain the habitats for the internationally important assemblage of waterfowl in favourable condition, in particular:</p> <ul style="list-style-type: none"> ▪ Saltmarsh ▪ Intertidal Mudflats and sandflats
Condition	Foulness SSSI condition - 77.94% of the site is in a favourable condition. Of the remaining 22.06%, 0.98% is unfavourable no change and 21.08% is unfavourable declining. These were compiled 01 May 2007 and indicate no change from November 2006
Vulnerabilities / areas of concern	<p>At the time of citation of the Foulness SPA much of the area was owned by the Ministry of Defence and is not, therefore, subject to development pressures or public disturbance. This position has started to change with the release of Shoebury Garrison (Old Ranges) for approved (and partially completed) mixed development scheme. The New Ranges is subject to investigations for potential development. Offshore aggregate dredging and seismic surveys, which could possibly adversely affect the Maplin sands, will be addressed through the Essex Estuaries marine Special Area of Conservation (SAC) management scheme, of which Foulness is part. Natural processes are adversely affecting the south-east coastline and saltmarshes are being eroded. Maintenance of the integrity of the intertidal and saltmarsh habitats of the Mid-Essex Coast Ramsar sites as a whole is being addressed by soft sea defence measures, managed retreat and foreshore recharge. The cockle beds on the Maplin Sands support internationally important numbers of wading birds: the Kent and Essex Sea Fisheries Committee control the cockle fishery through regulatory orders. The site includes areas of grazing marsh and ditches. These areas are low lying, protected by sea walls and surrounded by areas of arable land. The main ditches that run through these marshes are saline and are fed from sea water which floods through sluices. The combination of lower rainfall and improved drainage to facilitate arable production means that the grazing marshes are becoming too dry. The rainfall has been too low in recent years to enable maintenance of the water levels by selecting damming ditches. To offset this, the main ditch is deliberately fed with sea water to keep it topped up. This operation has increased in frequency in the past 8- 10 years.</p>

Site	Essex Estuaries (SAC and Ramsar Site) - Foulness SSSI
Features of Interest	<p>The Essex Estuaries SAC has been created as a result of the Habitats Directive that required the establishment of a network of protected wildlife sites across the European Union.</p> <p>The Essex Estuaries SAC is one of the best examples of a coastal plain estuary system on the British North Sea coast and</p>

	<p>comprises the estuaries of the Rivers Colne, Blackwater, Crouch and Roach, as well as extensive open coastal flats at Foulness, Maplin and Dengie. In addition to intertidal mudflats and sandflats there are rich marine communities supporting internationally important numbers of over-wintering waders and wildfowl. Saltmarsh and other marine vegetation communities may be found on areas that are subject to tidal flooding.</p> <p>In summer the site hosts breeding populations of Annex 1 listed birds on the sand and gravel beaches.</p> <p>Foulness SPA qualifies under the EU Habitat Directive in that it supports the following Annex 1 habitat features:</p> <ul style="list-style-type: none"> ▪ <i>Salicornia</i> and other annuals colonising mud and sand (pioneer saltmarsh) ▪ <i>Spartina</i> swards (<i>Spartinion</i>) (cordgrass swards) ▪ Atlantic salt meadows (<i>Glauco-Puccinellietalia</i>) ▪ Mediterranean and therm-Atlantic halophilous scrubs (<i>Arthrocnemetalia fruticosae</i>) (Mediterranean saltmarsh scrubs) ▪ Estuaries Mudflats and sandflats not covered by seawater at low tide (intertidal mudflats and sandflats)
<p>Conservation Objectives</p>	<p>The conservation objectives for Essex Estuaries SAC interest features:</p> <p>i) Subject to natural change, maintain the following in favourable condition:</p> <ul style="list-style-type: none"> ▪ <i>Salicornia</i> and other annuals colonising mud and sand, in particular: <ul style="list-style-type: none"> - Glasswort/annual sea-blite community - Sea aster community ▪ <i>Spartina</i> swards (<i>Spartinion</i>), in particular: <ul style="list-style-type: none"> - Small cordgrass community - Smooth cordgrass community ▪ Atlantic salt meadows (<i>Glauco-Puccinellietalia</i>), in particular: <ul style="list-style-type: none"> - Low/mid-marsh communities

	<ul style="list-style-type: none"> - Upper marsh communities - Upper marsh transitional communities - Drift-line community <ul style="list-style-type: none"> ▪ Mediterranean and thermo-Atlantic halophilous scrubs (<i>Arthrocnemum fruticosae</i>), in particular: - Shrubby sea-blite community - Rock sea lavender/sea heath community <ul style="list-style-type: none"> ▪ Estuaries, in particular: - Saltmarsh communities - Intertidal mudflat and sandflat communities - Rock communities - Subtidal mud communities - Subtidal muddy sand communities - Subtidal mixed sediment communities <ul style="list-style-type: none"> ▪ Mudflats and sandflats not covered by seawater at low tide, in particular: - Mud communities - Muddy sand communities - Sand and gravel communities
Condition	<p>Sandbanks which are slightly covered by sea water all the time - for which the area is considered to support a significant presence.</p> <p>The estuaries are considered to be one of the best areas in the United Kingdom.</p> <p>The mudflats and sandflats not covered by seawater at low tide for which this is considered to be one of the best areas in the United Kingdom.</p> <p><i>Salicornia</i> and other annuals colonising mud and sand for which this is considered to be one of the best areas in the United Kingdom.</p>

	<p><i>Spartina</i> swards (<i>Spartinion maritimae</i>) for which this is one of only two known outstanding localities in the United Kingdom and is considered to be rare as its total extent in the United Kingdom is estimated to be less than 100 hectares.</p> <p>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) for which this is considered to be one of the best areas in the United Kingdom.</p> <p>Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>) for which this is one of only four known outstanding localities in the United Kingdom and is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares.</p>
Vulnerabilities / areas of concern	<p>At the time of citation of the Essex Estuaries SAC the saltmarshes and mudflats were under threat from 'coastal squeeze' - man-made sea defences prevent landward migration of these habitats in response to sea-level rise. These habitats are also vulnerable to plans or projects (onshore and offshore) which have impacts on sediment transport. English Nature's Regulation 33 advice was issued June 2000. A scheme of management is being established with the aim of addressing such problems</p>

Site	Crouch and Roach Estuaries SPA - Crouch and Roach Estuaries SSSI
Features of Interest	<p>The Crouch and Roach Estuaries SPA qualifies under Article 4.2 of the EU Birds Directive in that it supports:</p> <ul style="list-style-type: none"> ▪ an internationally important assemblage of waterfowl (wildfowl and waders); and ▪ internationally important populations of regularly occurring migratory species
Conservation Objectives	<p>The conservation objective for the Crouch and Roach Estuaries SPA internationally important populations of regularly occurring migratory bird species</p> <p>i) Subject to natural change, maintain the habitats for the internationally important populations of regularly occurring migratory bird species in favourable condition, in particular:</p> <ul style="list-style-type: none"> ▪ Saltmarsh ▪ Intertidal mudflats and sandflats ▪ Boulder and cobble shores <p>The conservation objective for the internationally important assemblage of waterfowl</p>

	<p>ii) Subject to natural change, maintain the habitats for the internationally important assemblage of waterfowl in favourable condition, in particular:</p> <ul style="list-style-type: none"> ▪ Saltmarsh ▪ Intertidal mudflats and sandflats ▪ Boulder and cobble shores
Condition	<p>Crouch and Roach Estuaries SSSI Condition – 23.5% of the site is in favourable condition. 0.67 is unfavourable no change and 75.83% is unfavourable declining. These were compiled 1st May 2007 and indicate no change from 1st December 2006.</p>
Vulnerabilities / areas of concern	<p>The Crouch and Roach Estuaries SPA is vulnerable to coastal squeeze and changes to the sediment budget. <i>A hydraulic numerical model study of the Crouch and Roach Estuaries is being initiated to explore the various options, including managed retreat.</i> Furthermore, it is understood that sediment within the intertidal contains elevated levels of metals and TBT. Consequently, development within the intertidal areas and activities such as dredging, have the capacity to disturb and mobilise these pollutants thus posing a threat to the interest features of this site. Some disturbance of feeding and roosting waterfowl is likely through recreational use of sea wall footpaths by dog walkers, bird watchers etc. Water-skiing is largely controlled by the Crouch Harbour Authority. Most grazing marshes are managed under ESA/Countryside Stewardship Agreements and/or management agreements with English Nature.</p> <p>Low water levels caused by abstraction will be tackled through the Environment Agency’s Review of Consents process (in accordance with regulation 50 of the Habitats Regulations). Many borrow dykes and drainage ditches remain vulnerable to run off and seepage of chemicals from adjacent farm land. Wherever possible arable farmers are being encouraged into Countryside Stewardship schemes to control the application of these chemicals, whilst on most of the adjacent grassland it is controlled by ESA or Stewardship agreements.</p> <p>Sea wall management by mowing may be potentially damaging and this is being addressed through consultation with the Environment Agency and individual owners. To secure protection of the site, the Marine Scheme of Management is in preparation, which will work alongside the Essex Shoreline Management Plan and various management plans and Site Management Statements for parts of the site.</p>

Site	Thames Estuary & Marshes SPA - South Thames Estuary and Marshes and Mucking Flats and Marshes SSSI
Features of Interest	<p>The Thames Estuary European marine site encompasses the extensive mudflats and small areas of saltmarsh on the south bank of the Thames between Shorne Marshes and Grain, together with Mucking Flats on the north shore. Thames Estuary and Marshes SPA qualifies under Article 4.1 of the EU Birds Directive by supporting:</p> <ul style="list-style-type: none"> ▪ Internationally important populations of regularly occurring Annex 1 species. It also qualifies under Article 4.2 of the EU Birds Directive in that it supports: ▪ Internationally important populations of regularly occurring migratory species; and ▪ An internationally important assemblage of waterfowl.
Conservation Objectives	<p>The conservation objective for the internationally important population of the regularly occurring Annex 1 bird species</p> <p>i) Subject to natural change, maintain in favourable condition the habitats for the internationally important population of the regularly occurring Annex 1 bird species, under the Birds Directive, in particular:</p> <ul style="list-style-type: none"> ▪ Intertidal mudflats ▪ Intertidal saltmarsh <p>The conservation objective for the internationally important populations of regularly occurring migratory bird species</p> <p>ii) Subject to natural change, maintain in favourable condition the habitats for the internationally important populations of regularly occurring migratory bird species, under the Birds Directive, in particular:</p> <ul style="list-style-type: none"> ▪ Intertidal mudflats ▪ Saltmarsh ▪ Intertidal shingle <p>The conservation objective for the internationally important assemblage of waterfowl</p> <p>iii) Subject to natural change, maintain in favourable condition the habitats for the internationally important assemblage of waterfowl, under the Birds Directive, in particular:</p>

	<ul style="list-style-type: none"> ▪ Intertidal mudflats ▪ Saltmarsh ▪ Intertidal shingle
Condition	<p>South Thames Estuary and Marshes SSSI condition – 86.74% of site is in favourable condition. 9.61 is unfavourable recovering, 1.87% is unfavourable no change and 1.79% is unfavourable declining. These were compiled 01 May 2007 and indicate no change from 01 December 2006 Mucking Flats and Marshes SSSI condition – 94.13% of site is in favourable condition and 5.87% is unfavourable condition no change. These were compiled 1st May 2007 and indicate no change from 1st December 2006.</p>
Vulnerabilities / areas of concern	<p>There is evidence of coastal squeeze and erosion of intertidal habitat within the site. English Nature (now Natural England) is in discussion with the port authority on the role of port dredging in intertidal habitat loss. The intertidal area is also vulnerable to disturbance from water-based recreation. This is being addressed by information dissemination as part of an estuary management plan. It is understood that sediment within the intertidal contains elevated levels of metals and TBT. Consequently, development within the intertidal areas and activities such as dredging, have the capacity to disturb and mobilise these pollutants thus posing a threat to the interest features of this site. The terrestrial part of the site depends on appropriate grazing and management of water. The availability of livestock may be affected by changes in agricultural markets. Evidence suggests that the water supply to grazing marsh has decreased. A water level management plan may address this.</p> <p>There has been great development pressure in recent years. Current implications of development include both direct land take from the site and indirect disturbance and hydrological effects. These effects will be addressed through the Habitats Regulations 1994.</p>

Appendix 5: Policy Screening

Southend Central Area Action Plan Options	European Site(s)	Potential Effect - either alone or in combination	Justification	Can the element be changed at screening stage to avoid likely significant effect?	Is an Appropriate Assessment Required?
Objectives 1: To improve and transform the economic vitality, viability and diversity of Southend Town Centre by encouraging the establishment of a wider range of homes, businesses and shops whilst providing new opportunities for recreation and leisure.	n/a	No Effect	3. No development could occur through this objective alone, because it is implemented through sub-ordinate policies which are more detailed and therefore more appropriate to assess for their effects on European Site and associated sensitive areas.	n/a	no
Objectives 2: To improve the buildings and public realm, including accessible green space, within the Central Area, to manage traffic and improve cycling and walking facilities so that Southend becomes a place that is more pleasant to experience and move around in.	n/a	No Effect	1. The objective will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy.	n/a	no

Objectives 3: To always have full regard to the unique assets of Southend Town Centre and in particular its spectacular coastal setting, rich social and built heritage, its excellent rail links to London, and its airport	n/a	No Effect	3. No development could occur through this objective alone, because it is implemented through sub-ordinate policies which are more detailed and therefore more appropriate to assess for their effects on European Site and associated sensitive areas.	n/a	no
Objectives 4: To always have regard to the significant biodiversity assets and environmental quality of the Central Area, help meet obligations on carbon emissions and adopt an approach to climate change through measures that mitigate against, or adapt to change	n/a	No Effect	6. The objective is intended to protect the natural environment, including biodiversity.	n/a	no
Objectives 5: To promote design excellence in all things and to ensure that this quality standard is also expressed within the actions of our delivery partners.	n/a	No Effect	1. The objective will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy.	n/a	no
Objectives 6: To expand the presence of the University of Essex and the South Essex	n/a	No Effect	3. No development could occur through this objective alone, because it is implemented through sub-ordinate	n/a	no

College and establish Southend as an important regional centre for learning.			policies which are more detailed and therefore more appropriate to assess for their effects on European Site and associated sensitive areas.		
Objectives 7. To encourage the establishment and expansion of all businesses in Southend Town Centre by identifying, promoting or by actively bringing forward suitable sites for development to meet modern user and investor requirements.		No Effect	3. No development could occur through this objective alone, because it is implemented through sub-ordinate policies which are more detailed and therefore more appropriate to assess for their effects on European Site and associated sensitive areas.	n/a	no
Objectives 8. To increase the number and diversity of people living within the town centre and adjoining residential areas by bringing into use empty or underused floorspace and by building more homes and making efforts to ensure that living in the Town Centre becomes appealing to more families with children	n/a	No Effect	3. No development could occur through this objective alone, because it is implemented through sub-ordinate policies which are more detailed and therefore more appropriate to assess for their effects on European Site and associated sensitive areas.	n/a	no
Option 1: Strengthening the	n/a	No Effect	3. No development could occur through	n/a	no

status quo			this policy alone, because it is implemented through sub-ordinate policies which are more detailed and therefore more appropriate to assess for their effects on European Site and associated sensitive areas.		
Option 2: Reinforcing urban circuits	n/a	No Effect	3. No development could occur through this policy alone, because it is implemented through sub-ordinate policies which are more detailed and therefore more appropriate to assess for their effects on European Site and associated sensitive areas.	n/a	no
Option 3: City by the Sea	n/a	No Effect	3. No development could occur through this policy alone, because it is implemented through sub-ordinate policies which are more detailed and therefore more appropriate to assess for their effects on European Site and associated sensitive areas.	n/a	no
The Quarters and Key Sites: The Victorias	n/a	No Effect	4. Concentration of development in urban areas will not affect European Site and will help to steer development and land use change away from European Site and associated sensitive areas.	n/a	no

The Quarters and Key Sites: London Road Broadway	n/a	No Effect	4. Concentration of development in urban areas will not affect European Site and will help to steer development and land use change away from European Site and associated sensitive areas.	n/a	no
The Quarters and Key Sites: The High Street	Benfleet and Southend Marshes	'likely to have significant effect'	8. The LDD steers a quantum or type of development towards, or encourages development in, an area that includes a European Site or an area where development may indirectly affect a European Site. The policy does not include explanatory text, a caveat or criterion that eliminates effects on the European site.	Not Clear	Yes
The Quarters and Key Sites: Queensway and Southchurch	n/a	No Effect	4. Concentration of development in urban areas will not affect European Site and will help to steer development and land use change away from European Site and associated sensitive areas. 7. The policy is intended to conserve or enhance the natural, built or historic environment, and enhancement measures will not be likely to have any effect on a European Site.	n/a	no
The Quarters and Key Sites:	n/a	No Effect	4. Concentration of development in	n/a	no

Elmer Square			urban areas will not affect European Site and will help to steer development and land use change away from European Site and associated sensitive areas.		
The Quarters and Key Sites: Warrior Square Car Park and adjoining land	n/a	No Effect	4. Concentration of development in urban areas will not affect European Site and will help to steer development and land use change away from European Site and associated sensitive areas.	n/a	no
The Quarters and Key Sites: Clifftown	n/a	No Effect	4. Concentration of development in urban areas will not affect European Site and will help to steer development and land use change away from European Site and associated sensitive areas.	n/a	no
The Quarters and Key Sites: St John's Central Seafront and the Eastern Esplanade	Benfleet and Southend Marshes (SPA and Ramsar Site); Foulness (SPA and Ramsar Site)	'likely to have significant effect'	9. The policy makes provision for a quantum, or kind of development that in the location(s) proposed would be likely to have a significant effect on a European Site. The proposal must be subject to appropriate assessment to establish, in light of the site's conservation objectives, whether it can be ascertained that the proposal would not adversely affect the integrity of the site.	No	Yes
The Quarters and Key Sites: The Western Esplanade	Benfleet and Southend Marshes	'likely to have significant effect'	8. The LDD steers a quantum or type of development towards, or encourages development in, an area that includes a European Site or an area where	Not clear	Yes

	(SPA and Ramsar Site)		development may indirectly affect a European Site. The policy does not include a caveat or criterion that eliminates effects on the European site.		
The Quarters and Key Sites: Gateway Neighbourhoods	Benfleet and Southend Marshes (SPA and Ramsar Site); Foulness (SPA and Ramsar Site)	'likely to have significant effect'	8. The LDD steers a quantum or type of development towards, or encourages development in, an area that includes a European Site or an area where development may indirectly affect a European Site. The policy does not include a caveat or criterion that eliminates effects on the European site.	Not clear	Yes
Development Management: climate change	n/a	No Effect	1. The policy will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy.	n/a	No
Development Management: resource minimisation	n/a	No Effect	1. The policy will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy. 7. The policy is intended to conserve or enhance the natural, built or historic environment, and enhancement	n/a	no

			measures will not be likely to have any effect on a European Site.		
Development Management: local energy generation	n/a	No Effect	1. The policy will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy.	n/a	No
Development Management: sustainable travel to work	n/a	No Effect	1. The policy will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy.	n/a	No
Development Management: biodiversity and green space and the green grid	n/a	No Effect	<u>Biodiversity policies</u> 6. The policy is intended to protect the natural environment, including biodiversity	n/a	No
Development Management: flood risk	n/a	No Effect	<u>Biodiversity policies</u> 6. The policy is intended to protect the natural environment,	n/a	No
Development Management: residential provision	n/a	No Effect	1. The policy will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy.	n/a	No
Development Management: Housing type	n/a	No Effect	1. The policy will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy.	n/a	No
Development Management: Affordable housing	n/a	No Effect	1. The policy will not itself lead to development as it relates to design and	n/a	No

			other qualitative criteria for development and is not a land use planning policy.		
Development Management: Services	n/a	No Effect	1. The policy will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy.	n/a	No
Development Management: Implementation	n/a	No Effect	1. The policy will not itself lead to development as it relates to design and other qualitative criteria for development and is not a land use planning policy.	n/a	No

Appendix 6 – Other Plans and Programmes and HRA Summaries

1. Southend-on-Sea Core Strategy DPD (2007)

The Core Strategy forms part of the Southend-on-Sea Local Development Framework and provides the vision, objectives and planning strategy for the spatial development of the whole Borough of Southend-on-Sea until 2021, including the distribution of growth and the policy context for a 10-year housing supply.

Housing and Employment Growth

The primary focus of regeneration and growth will be in Southend-on-Sea Town Centre and Central Area - to provide for 6,500 new jobs and providing for at least 2,000 additional homes in conjunction with the upgrading of strategic and local passenger transport accessibility, including development of Southend Central and Southend Victoria Stations as strategic transport interchanges and related travel centres.

In addition, appropriate regeneration and growth will be focussed in the following locations:

- Seafront - to enhance the Seafront's role as a successful leisure and tourist attraction and place to live, and make the best use of the River Thames, subject to the safeguarding of the biodiversity importance of the foreshore.
- Shoeburyness - to provide an additional 1,500 jobs and 1,400 additional dwellings.
- Priority Urban Areas – these comprise:
 - a. The District Centres of Westcliff (Hamlet Court Road) and Leigh (Leigh Broadway, Elm Road and Rectory Grove), the Southchurch Road shopping area, and the West Road/Ness
 - b. Road shopping area of Shoebury;
 - c. The main Industrial/employment areas as identified on the
 - d. Key Diagram, and
 - e. The Cluny Square Renewal Area.

Provision is made for 3,350 net additional dwellings between 2001 2021. Provision is made for not less than 6,500 net additional jobs by 2011, and not less than 13,000 net additional jobs by 2021, distributed as follows:

Town Centre and Central Area 6,500

Shoeburyness 1,500

Seafront 750

Priority Urban Areas 2,750

Intensification 1,500

TOTAL 13,000

Transport

- Improvements to the A127/A1159 east-west strategic transport and freight corridor including junction improvements at Progress Road, Kent Elms, The Bell, Cuckoo Corner, Sutton Road, Fairfax Drive, East/West Street and Victoria Circus;
- Improving accessibility to key development opportunity sites, including improved access to Shoeburyness and London Southend Airport to support the potential of the Airport to function as a catalyst for economic growth;
- Providing for the development of high quality transport interchanges at Southend and the key urban interchanges at Leigh Railway Station, Shoeburyness Railway Station, Southend
- Hospital and London Southend Airport.

HRA Summary

- Disturbance - as a result of development near/ adjacent to European sites, including:
 - Recreation
 - Light Pollution
 - Noise Pollution
- Atmospheric Pollution - generated as a result of housing, employment and transport growth.
- Water Pollution - increased pressure on sewerage capacity and an increase in non-permeable surfaces.
- Water Abstraction - as a result of proposed development, potential for reduced water levels.
- Land Take - as a result of proposed development. Coastal Squeeze
- Modified Drainage - as a result of proposed development altering surface and groundwater flow.

The HRA found that two Core Strategy Policies have the potential for likely significant effects and would benefit from strengthening. Amendments to policy wording were proposed and considered to be sufficient to address the identified likely significant effects. These revised policies have been reassessed and it is considered that when incorporated, then the Core Strategy will not have adverse effects on the integrity

of the following European sites either alone or in-combination:

- Benfleet and Southend Marshes SPA;
- Foulness SPA;
- Essex Estuaries SAC;
- Crouch and Roach Estuaries SPA; and
- Thames Estuary & Marshes SPA.

2. Southend-on-Sea Local Transport Plan 2006 – 2011

Shared Objectives

- Tackling congestion by the more efficient use of road capacity; providing for quality public transport; placing greater emphasis on travel plans and 'smarter choices' of travel; and improving conditions for motorists, cyclists, pedestrians and motorists. Both in the Borough and cross boundary with Essex.
- Delivering Accessibility by working with local groups to improve and encourage access to places of work, learning, health care, shopping and leisure services; and encourage sustainable modes of transport, especially for people from disadvantaged groups and areas in the town.
- Providing for Safer Roads by taking forward the Southend Road Safety Strategy in partnership, improving road and bridge maintenance; slower speeds within Environmental Rooms and near schools; road safety measures; improved safety for cyclists and pedestrians; and safety awareness, particularly amongst children.
- Achieving Better Air Quality by reducing congestion, driver distances travelled and number of vehicle trips made.
- Achieving a Better Quality of Life by addressing wider quality of life issues including a quality public realm, landscaping, safer communities, health and reduction in traffic noise

Local Objectives

- Regeneration of Southend by Improving the Economy by promoting and supporting sustainable economic growth in appropriate locations.
- Achieving an Efficient Transport System by ensuring that land use and transport (all modes) planning are integrated.
- Raising Community Awareness by publicising the effects of continuing traffic growth and the benefits and availability of alternative

transport modes.

- Improving the Highway by pursuing effective maintenance procedures that achieve value for money solutions whilst keeping the quality of life and urban renaissance objectives by improving the street scene.

HRA Summary

n/a

3. London Southend Airport Planning Application

The planning application sought permission for the following:

- Runway extension (approx 300m plus 80m starter strip) and repositioning of landing lights.
- Diversion of Eastwoodbury Lane as this currently crosses the site of the proposed runway extension.
- Alterations to the pedestrian and vehicular access to St Laurence and All Saints Church, and removal and reinstatement of part of the churchyard wall.
- Drainage facilities for the extended runway and road diversion.
- Demolition of four cottages on the south side of the runway extension area, and an additional two on the north side.

HRA Summary

The HRA Screening identified that the project has the potential to increase disturbance of the qualifying bird species and assemblages of the Crouch and Roach Estuaries SPA/ Ramsar. It concluded that this impact however, is likely to be temporary as typical altitude of flights would remain unchanged from that currently employed, and taking into account the ability of most birds to become habituated to regularly-occurring noise disturbance the increased frequency of these flights would pose little disturbance to the bird species and assemblages. This conclusion was supported by Natural England in their consultation response to the JAAP.

4. Rochford Core Strategy: Submission (2010)

- The Rochford Core Strategy proposes 4,750 additional dwellings between 2006 and 2025 at locations dispersed across the district. The Core Strategy sets out the infrastructure and services required to accompany residential development in individual settlements.
- The Core Strategy makes provision for an additional 3,000 jobs across the District by 2021.

HRA Summary

The assessment found that the Core Strategy had the potential for likely significant effects both alone and in-combination on European sites

through; increased disturbance, increased atmospheric pollution and reduced water levels and quality.

The assessment considered that the mitigation provided by the Core Strategy through the provision for new open space and alternative recreational opportunities - in the west of the District away from the European sites - would be sufficient to avoid likely significant effects as a result of increased disturbance. Similarly, it was considered that the Core Strategy contained sufficient policy mitigation and monitoring measures to avoid likely significant effects on European sites either alone or in-combination through increased atmospheric pollution. However the assessment could not conclude with certainty that the level of development proposed in the Core Strategy and surrounding areas will not have likely significant in-combination effects on European sites via reduced water quality and increased water resource demand. This is due to a number of uncertainties, including data limitations and the implementation uncertainty of the proposed development.

5. Castle Point Core Strategy: Submission (2010)

Housing

- 5,000 new homes in Castle Point between 2001 and 2026 that are well integrated with community service locations.
- At least 70% of new homes on previously developed land

Employment

- At least 2,500 additional jobs in Castle Point between 2001 and 2026.

Transport

Improvements to public transport provision in Castle Point including:

- Delivery of the A13 Passenger Transport corridor through Castle Point by 2011;
- Extension of similar Passenger Transport corridor features from the A13 to Canvey Island by 2016;
- The delivery of the South Essex Rapid Transit project with connections to the Borough by 2021. Improvements to opportunities for walking and cycling in Castle Point including delivery National Cycle Network Routes, and Greenways identified in the Green Grid Strategy; and work with ECC to identify and deliver, or improve existing footpaths and cycle routes, and make roads safer for

pedestrians and cyclists.

HRA Summary

- Disturbance - as a result of development near/ adjacent to European sites, including:
 - Recreation
 - Light Pollution
 - Noise Pollution
- Atmospheric Pollution - generated as a result of housing, employment and transport growth.
- Water Pollution - increased pressure on sewerage capacity and an increase in non-permeable surfaces.
- Water Abstraction - as a result of proposed development, potential for reduced water levels.
- Modified Drainage - as a result of proposed development altering surface and groundwater flow.
- Land Take - as a result of proposed development.
- Coastal Squeeze.

6. Essex County Council Local Transport 2006 – 2011

The Essex LTP is meant to provide a roadmap for, and integrate approaches to, sustainable transport policy across the county. This will cascade downwards national and regional policy and set a framework for Local Development Frameworks. Some of its key objectives are the following:

- Ensure consistency with national policies for transport, aviation and ports
- Achieve a sustainable approach for all modes of transport
- Support the initiatives for both the Thames Gateway and M11/Stansted Growth Areas
- Minimise the environmental impact of travel
- Deliver more integrated patterns of land-use, movement and development
- Improve social inclusion and accessibility
- Increase the regeneration of town centres ensuring that current deficiencies are resolved and development requirements met

Rural Road Hierarchy Development

Within rural areas, lower categories of road hierarchy will be maintained to serve as the main access points to substantial rural populations

and to act as distributors between borough/district areas leading to towns and higher categories of road. Other than in exceptional circumstances, it is not proposed to undertake major improvements to these roads or to plan for village bypasses.

Inter Urban

The County Council's highest priority for improvements to the inter urban infrastructure is the corridors of A120 (M11-A12), the A12 (M25-A120 Marks Tey) and A130 (A12 to A127 and A130/A13 Sadlers Farm Junction). Planned improvements being promoted by the County Council are:

- A130 (A12 to A127)
- A131 Great Leighs Bypass
- A136 Parkeston Bypass (Harwich)
- A130/A13 Sadlers Farm Junction
- A120 (M11 Stansted Airport to Braintree)
- A120 (M11-Stansted Airport slip roads)
- A12 Hatfield Peverel to Witham Link Road

HRA Summary

- Disturbance - as a result of development near/ adjacent to European sites, including:
 - Recreation
 - Light Pollution
 - Noise Pollution
- Atmospheric Pollution - generated as a result of increased traffic.
- Water Pollution - through increased atmospheric pollution.
- Land Take - as a result of proposed development.
- Coastal Squeeze
- Modified Drainage - as a result of proposed development altering surface and groundwater flow.

7. Essex County Council Minerals Development Document: Site Allocations Issues and Options Paper 2009

Essex County Council is required to produce a Development Plan Document for minerals, which plans for the future provision of minerals setting out how the demand for minerals will be met between now and 2026. The 'Minerals Development Document' (MDD) will set out the vision, objectives, strategy to meet the mineral supply hierarchy and thematic and development control policies as well as the preferred sites to meet the future requirements. All of these issues and the options available were raised in the most recent consultation on the Plan held in January 2009 the "Minerals Development Document Further Issues and Options Paper". This Site Allocations Issues and Options Paper, sets out 9 new suggested extraction sites and 7 revised sites boundaries.

HRA Summary

The HRA identified the following potential impacts for each Option:

- Aggregate Recycling
 - Habitat Loss
 - Emissions
 - Human Disturbance
- Option 1 - Predominantly Extensions to Existing Extraction Sites
 - Habitat Loss
 - Emissions
 - Flooding and Water Use
 - Human Disturbance
- Option 2 - Dispersed Spread of Sites Across the County
 - Habitat Loss
 - Emissions
 - Flooding and Water Use
 - Human Disturbance
- Option 3 - Concentrated Supply of Sites with Some Dispersed Sites
 - Flooding and Water Use

The screening report concluded that due to the large number of European sites and the potential impact of minerals and waste sites, the

screening stage of the Appropriate Assessment should be carried out again, with greater site-specific detail, as the Preferred Options for site allocations are determined.

8. The Essex and Southend-on-Sea Waste Local Plan adopted September 2001

The Essex and Southend Waste Local Plan sets out waste planning policies and proposals in accordance with the governments principles of sustainability. Six key waste management sites are identified and the plan outlines how planning applications for waste management facilities are considered. Preferred locations for waste management

District/ Borough Location

Braintree Rivenhall Airfield, Silver End
Colchester Land East Of Warren Lane, Stanway
Whitehall Road, Colchester
Epping Forest North Weald Airfield, North Weald Bassett
Basildon Courtauld Road, Basildon
Chelmsford Sandon, Chelmsford

The Waste Local Plan policies have been saved until the adoption of the WDD, which is likely to be in 2013.

HRA Summary

Overarching Development Pressures Recycling

Air Pollution/ Disturbance

- Transport and energy emissions generated by collection, sorting and processing
- Dust, noise and odour associated with industrial process

Composting

Air/ Water Pollution, Introduced/Invasive Species

- Odour, litter, possible vermin generation
- Release of spores [non-native], requirement for buffer zones (at least 250 metres between composting operations and sensitive receptors)

- Production of liquid pollutant
- Potential for combustion

Mechanical Biological Treatment (MBT)

Air Pollution, Land Take, Hydrology

- Emissions, traffic impacts, land take and wider environmental impacts analogous with industrial process
- Processes produce residue

Refuse Derived Fuel (energy from waste)

Air Pollution

- Emission concerns, particulates and potentially dioxins

Anaerobic Digestion (energy from Waste)

Air/Water Pollution

- Emissions to air – odour (during collection, transport and pre-treatment)
- Wastewater – potential for high concentrations of metals, dissolved nitrogen and organic material

Incineration with Energy Recovery

Air/ Water Pollution

- Noise, dust, traffic, visual amenity, potential to impact fauna and flora
- Deposition of substances on surface water
- Solid, liquid emissions
- Gaseous emissions include odour, acid gas, heavy metals, particulates, organic compounds
- Ash residues comprising fine particles, [need to landfill ash/ scrap] dioxins, heavy metals salts, unreacted lime and carbon
- Contamination, accumulation of toxic substance (food chain)]

Landfill & Landraise

Air/ Water Pollution, Invasive Species, Land Take

- Methane and carbon monoxide emissions

- Leachate, salts, heavy metals, biodegradable and persistent organics
- Accumulation of hazardous substances in soil
- Topography alteration, visual intrusion
- Soil occupancy, prevention of other land uses
- Attraction of vermin
- Contamination, accumulation of toxic substances
- Potential exposure to hazardous substances
- Impact on surface water runoff, flood risk