Adastral Park
Revised Planning Application

Environmental Impact Assessment
Regulation 19 Statement

Prepared on behalf of BT
by Environ

January 2010

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APPENDICES

1.0 Introduction

Introduction

1.1 This document forms part of the outline planning application for the regeneration of Adastral Park and surrounding land submitted by BT in April 2009.

Outline Application Scheme April 2009

1.2 A summary of the outline planning application scheme submitted by BT in April 2009 is given below.

'Refurbishment of Adastral Park and development of adjoining land to provide: up to 60,000 sqm net additional employment floorspace, related car parking spaces and landscaping *(B1)*; up to 2,000 homes, related car parking spaces and landscaping *(C3)*; mixed use local centre *(comprising health care provision (D1), community centre (D1) retail (A1), Café (A3), Public House (A4), Takeaway (A5)),* related car parking spaces and landscaping; education provision (D1); hotel, related car parking spaces and landscaping *(C1)*; energy centre and other utility infrastructure *(Sui Generis)*; public park and other areas of public open space, including formal open space provision for recreation and play; supporting services and facilities; network of landscape designed boulevards and streets to provide access and utility services for the development; full provision for the operation of public transport through the development, primarily on the boulevards and main streets; new road connections to C356 (Newbourne Road/Heath Road/Waldringfield Road) and related road improvements; changes to junctions on the A12; landscape areas and visual buffers around the perimeter of the land; Ground remodelling following minerals extraction (subject to separate minerals planning application) Other minor works and development ancillary to the main proposals.'

Environmental Statement April 2009

1.3 The outline planning application was accompanied by an Environmental Statement (ES) which sets out the findings an Environmental Impact Assessment (EIA) produced voluntarily by BT under Regulation 4(2)(a) of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI 1999/293) implemented by European Council Directive 85/337/EC, as amended by European Council Directive 97/11/EC [henceforth referred to as the 'EIA Regulations'].

1.4 The ES identified the likely significant effects of the proposed development on the environment and sets out appropriate mitigation to avoid, reduce or off-set any adverse effects. This report should be read in conjunction with the ES.

EIA Regulation 19(1)

1.5 In January 2010, Suffolk Coastal District Council (SCDC) requested that BT provide further information as part of the ES under Regulation 19(1) of the EIA Regulations. This is necessary in order that SCDC can complete its determination of the outline planning application. This request is made in the light of consultation responses received from statutory consultees and SCDC's own review of the ES submitted by BT in April 2009. A copy of SCDC's letter is given as Appendix 1.1 of this document. Further information is requested by SCDC on the following environmental topics:

- Transportation;
- Habitat Regulations Assessment, SSSI assessment and mitigation strategy; and
- Flood Risk.

1.6 SCDC's request for further information also states that:

'Discussions with you have also identified further information and amendments that you seek to submit on other planning application material submitted. These relate to the Design and Access Statement and minor amendments to a number of planning application drawings. It is understood that you will submit a Design and Access Statement Addendum and a number of amended planning application plans which will replace those submitted in April 2009. It is understood that this information will be submitted alongside that under Regulation 19.'

1.7 Given that there are a number of amendments to BT's outline planning application material submitted in April 2009, SCDC also require that any additional significant impacts that arise as a result of the amendments, and hence not covered in the ES submitted in April 2009, should be assessed.

EIA Project Team

1.8 The EIA project team has remained unchanged since the submission of the ES in April 2009. ENVIRON UK Limited coordinated the EIA and produced the ES with technical support from the team members below:

- David Lock Associates provided advice on planning matters and the socio-economic assessment;
- ITP for the Transport Assessment;

- Hurleypalmerflatt (HPF) for information on the carbon and energy strategy for the site and the sustainability assessment;
- Peter Radmall Associates for the Landscape and Visual Impact Assessment;
- Treework Environmental Practice for the Arboricultural Assessment;
- Ecosulis for the Phase 1 and Phase 2 ecology surveys;
- Archaeology and Planning Solutions for the Archaeological Assessment; and
- Suffolk County Council for the review of aerial photographs, the built heritage assessment and the archaeological investigation work which included trial trenching.

Structure of the Remainder of this Report

1.9 In order to provide all of the further information requested by SCDC, the remainder of this report is structured as follows:

- Section 2 – Amendments to Application Material. This section sets out all of the amendments to the outline planning application material submitted in April 2009;
- Section 3 – Review of ES. This section identifies whether or not the amended application material is likely to cause any additional significant effects on the environment, and will provide any additional not already covered in the ES submitted in April 2009;
- Section 4 – Habitats Regulations Assessment and SSSI Mitigation Strategy. This section provides all of the further information requested by SCDC following consultation responses from Natural England;
- Section 5 – Flood Risk Assessment. This section provides all of the further information requested by SCDC following consultation responses from the Environment Agency; and
- Section 6 – Conclusions.

2.0 Amendments to Application Material

Introduction

2.1 This section sets out the amendments to BT's outline planning application material submitted to SCDC for determination in April 2009. The amendments have been made in the light of consultation responses received from statutory consultees and SCDC's own review of the outline planning application.

2.2 Accordingly, specific amendments, as set out in detail below, have been made to the following outline planning application documents:

- Framework Plan;
- Landscape Plan;
- Design and Access Statement; and
- Transport Assessment, including amended plan 'Proposed Junction Improvements Sheet 2 of 2 – A12/Foxhall Road' (Dwg. No. BTP012-024-C, 1:1,250@A0, 21/12/2009).

Amended Framework Plan

2.3 The Framework Plan has been amended to increase the amount of mixed use space north of the main east west boulevard and to reduce the amount of employment space.

2.4 The amended Framework Plan (Dwg. No. BTP012- 001-H, 1:2,500@A0, 16/12/2009) has been submitted separately to SCDC in January 2010 as part of the amended outline planning application material, but a copy of the Plan is given as Appendix 2.1 of this report, for ease of reference.

Amended Landscape Framework Plan

2.5 The Landscape Framework Plan has been amended to remove the playing field annotation (previously in the eastern corner) to allow flexibility on its position.

2.6 The amended Landscape Framework Plan (Dwg. No. BTP012-019-D, 1:2,500@A0, 16/12/2009) has been submitted separately to SCDC in January 2010 as part of the amended outline planning application material, but a copy of the Plan is given as Appendix 2.2 of this report, for ease of reference.

Design and Access Statement Addendum

2.7 The Design and Access Statement has been amended as follows:

- Revised Indicative Master Plan and Density & Capacity Plans;
- More detail on opportunities for co-location of facilities;
- Extensive design work exploring master planning solutions key locations across the development site through Sample Block Designs;
- Development of indicative proposals for the site contours;
- Revision of the indicative phasing strategy and;
- Revision of the visualisation image that illustrates the indicative A12 junction improvement works.

2.8 The Design and Access Statement Addendum has been submitted to SCDC as a separate document, along with this EIA Regulation 19 Statement, in January 2010.

Transport Assessment Addendum

2.9 The Transport Assessment Addendum has been submitted to SCDC as a separate document, along with this EIA Regulation 19 Statement, in January 2010.

2.10 With regard to the ES, the main change is to a plan showing 'Proposed Junction Improvements Sheet 2 of 2 – A12/Foxhall Road' (please note that the accompanying Sheet 1 of 2 is unchanged). The amended Foxhall Road junction layout shows minor changes to the proposed junction arrangement incorporating bus and cycle lanes.

2.11 The amended plan 'Proposed Junction Improvements Sheet 2 of 2 – A12/Foxhall Road' (Dwg. No. BTP012-024-C, 1:1,250@A0, 21/12/2009) is given in the Transport Assessment Addendum, but a copy is given as Appendix 2.3 of this report, for ease of reference.

3.0 Review of ES

Introduction

3.1 This section reviews the ES submitted with the outline planning application in April 2009 against the amended application material set out in Section 2 of this report, and determines whether or not additional assessment is required, i.e. whether or not the amended application material has changed the site, design and size of the proposed development to give rise to likely significant environmental effects (direct, indirect, secondary, and/or cumulative) that have not been addressed in the ES to date. Should additional assessment be required, this will be provided in subsequent sections of this report.

Screening of April 2009 ES Chapters

3.2 Column 1 of Table 3.1 (below) identifies the chapters of the ES submitted in April 2009, and column 2 provides a 'screening assessment' to identify whether or not further assessment is required.

TABLE 3.1: Review of ES of April 2009

ES Chapter	*Screening Against Amended Application Material of January 2010 (re Section 2.0 of this report)*
1.0 Introduction	Section 1.0 'Introduction' of this EIA Regulation 19 Statement sets out the need to provide further information under Regulation 19(1) of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI 1999/293). Section 1.0 of this report should be read in conjunction with chapter 1.0 'Introduction' of the April 2009 ES.
2.0 Existing Site Description	No significant change from April 2009; chapter 2.0 in the April 2009 ES therefore remains valid.
3.0 Proposed Development	Section 2.0 'Amended Application Material' of this EIA Regulation 19 Statement sets out the amendments which have been made to the April 2009 outline planning application material. Section 2.0 of this report should be read in conjunction with chapter 3.0 'Proposed Development' of the April 2009 ES.
4.0 Assessment Methodology	No change from April 2009; chapter 4.0 in the April 2009 ES therefore remains valid.

TABLE 3.1: Review of ES of April 2009	
ES Chapter	***Screening Against Amended Application Material of January 2010 (re Section 2.0 of this report)***
5.0 Planning Policy Framework	No significant change from April 2009; chapter 5.0 in the April 2009 ES therefore remains valid.
6.0 Socio-Economics	No significant change from April 2009; chapter 6.0 in the April 2009 ES therefore remains valid.
7.0 Transportation	As set out in Section 2.0 of this report, a Transport Assessment Addendum has been submitted to SCDC as a separate document. With regard to the ES, the main change is to a plan showing 'Proposed Junction Improvements Sheet 2 of 2 – A12/Foxhall Road' (please note that the accompanying Sheet 1 of 2 is unchanged). The amended Foxhall Road junction layout shows minor changes to the proposed junction arrangement incorporating bus and cycle lanes. The amended plan 'Proposed Junction Improvements Sheet 2 of 2 – A12/Foxhall Road' (Dwg. No. BTP012-024-C, 1:1,250@A0, 21/12/2009) is given in the Transport Assessment Addendum, but a copy is given as Appendix 2.3 of this report, for ease of reference.
8.0 Air Quality	The EIA transport consultant (ITP) has confirmed that the changes made to traffic matrices following the submission of the April 2009 Transport Assessment (TA) do not affect the assumed daily flows that were used in the April 2009 air quality and noise assessments. For calculating the predicted air quality flows and noise levels, the methodology involved: • Determining the increase in daily trips onto the external network from various land uses (this is unchanged since the TA was first issued in April 2009); • Establishing peak hour two way link flows on each link from the 2007/2008 counts and growthing to daily traffic; • Growthing non AP / MHBP / Martlesham Heath traffic on the network to 2011 / 2018 / 2024 levels; and • Manually assigning new development trips to the network.

TABLE 3.1: Review of ES of April 2009	
ES Chapter	***Screening Against Amended Application Material of January 2010 (re Section 2.0 of this report)***
	There is no inherent tie between this methodology and the PARAMICS zoning system which was used for ITP's peak hour traffic modelling analysis, therefore the flows previously provided for the air quality and noise assessments in April 2009 remain valid.
9.0 Noise	No significant change from April 2009; chapter 9.0 in the April 2009 ES therefore remains valid (see Air Quality above also).
10.0 Landscape and Visual Assessment	No significant change from April 2009; chapter 10.0 in the April 2009 ES therefore remains valid.
11.0 Archaeology and Cultural Heritage	No significant change from April 2009; chapter 11.0 in the April 2009 ES therefore remains valid.
12.0 Ecology	The amended application documents do not significantly change the site, design or size of the proposed development that warrants further habitat or species surveys. However, following a review of the ES by SCDC and Natural England, further information was required under Regulation 19(1), as described earlier in Section 1.0 of this report. Accordingly, Section 4.0 and Appendix 4.1 of this report 'Habitats Regulations Assessment and SSSI Mitigation Strategy' provides all of the further information requested by SCDC and Natural England. Section 4.0 and Appendix 4.1 of this report should be read in conjunction with chapter 12.0 'Ecology' of the April 2009 ES.
13.0 Ground and Groundwater Contamination	No significant change from April 2009; chapter 13.0 in the April 2009 ES therefore remains valid.
14.0 Water Quality and Hydrology	The amended application documents do not significantly change the site, design or size of the proposed development that significantly change chapter 14.0 of the April 2009 ES. However, following a review of the ES by SCDC and the Environment Agency, further information was required under Regulation 19(1), as described earlier in Section 1.0

TABLE 3.1: Review of ES of April 2009	
ES Chapter	***Screening Against Amended Application Material of January 2010 (re Section 2.0 of this report)***
	of this report. Accordingly, Section 5.0 and Appendices 5.1 to 5.4 provide all of the further information requested by SCDC and the Environment Agency. Section 5.0 and Appendices 5.1 to 5.4 of this report should be read in conjunction with chapter 14.0 'Water Resources and Hydrology' of the April 2009 ES.
15.0 Agriculture and Soil Resources	No significant change from April 2009; chapter 15.0 in the April 2009 ES therefore remains valid.
16.0 Conclusions	Section 6.0 of this report provides conclusions on the need to re-assess likely significant effects of the proposed development, including the amended application material, on the environment, and the requirement to provide 'further information' under Region 19(1) of the EIA Regulations. Section 6.0 of this report should be read in conjunction with chapter 16.0 'Conclusions' of the April 2009 ES.

Need to Amend ES of April 2009

3.3 The amended application documents do not cause significant changes to the site, design or size of the proposed development and that warrant the ES of April 2009 to be revised (as determined chapter by chapter in Table 3.1 above).

3.4 However, following a review of the ES by SCDC and statutory consultees (namely Natural England and the Environment Agency), 'further information' is required under Regulation 19(1) of the EIA Regulation (as described earlier in Section 1.0 of this report). The further information required by SCDC and the statutory consultees is provided in the remainder of this report.

4.0 Habitat Regulations Assessment and SSSI Mitigation Strategy

Introduction

4.1 The proposed development at Adastral Park, Martlesham, Ipswich (planning application number C0/09/0555) is located approximately 1.5 km away from the Deben Estuary SPA/Ramsar/SSSI, and 0.7 km and 1 km from the Ipswich Heath and Newbourn Spring SSSI respectively. In a letter dated 22 May 2009, Natural England objected to the planning application on the grounds that insufficient information was provided in the ES to determine the nature of the likely impacts on the designated sites within the locality.

4.2 Subsequently, SCDC acting upon the consultation response from Natural England formally requested 'further information' under Regulation 19(1) of the EIA Regulation, as described earlier in Section 1.0 of this report.

4.3 In order to provide further information required by SCDC and Natural England, a Habitat Regulations Assessment and Site of Special Scientific Interest (SSSI) Mitigation Strategy was compiled (hereafter referred to as the HRA) and is included in Appendix 4.1. The HRA is summarised in the following section.

4.4 It should be noted that the amended application material, as set out in Section 2.0 of this report, does not necessitate the revision of chapter 12.0 'Ecology' of the ES produced in April 2009; this has been determined in a 'screening assessment' carried out in Section 3.0 of this report.

Summary of Habitat Regulation Assessment and SSSI Mitigation Document

4.5 The HRA was prepared in order to assess the potential impacts of the proposed development on the protected sites. The HRA is split into three parts as outlined below.

Part 1: Habitat Regulation Assessment of the Proposed Development at Adastral Park

4.6 A Habitat Regulations Assessment as required under the EU Habitats Directive (92/43/EEC). This part assesses the potential impacts of recreational pressures on the designated features of the SPA/Ramsar (avocet, brent geese and narrow-mouth whorl snail). A possible impact on the population of avocet was identified as a result of an increase in small craft along the Estuary and on brent geese as a result of an increase in dog walkers.

Part 2: Summary of Potential Impacts to the SSSIs in the locality of the Proposed Develoment at Adastral Park

4.7 Part 2 of the HRA provides an assessment of potential impacts of the proposed development on the surrounding SSSIs, as requested by Natural England in order to adhere to national and regional planning policy. Possible impacts were identified on the Ipswich Heaths and Deben Estuary SSSIs as a result of an increase in human recreation.

Part 3: Mitigation Measures and Conclusions

4.8 Part 3 of the HRA outlines mitigation measures to offset the potential developmental impacts on the protected sites and is summarised as follows.

4.9 A warden would be employed to promote responsible access and compile a visitor management plan to minimise impacts on the Ipswich Heaths and the Deben Estuary. Part of their ongoing duties would include:

- Implement restrictions on where dogs are allowed to be let off their leads, particularly in the area around Hemley;
- provision of signage and publicity material promoting responsible access, places to visit etc; and
- provision of additional board walks or way marked routes to direct people away from sensitive locations. A public footpath network already exists directly to the south of the proposed development at Adastral Park. The warden will be responsible for installing appropriate signs and providing adequate visitor management measures to direct people along this network of paths.

4.10 The warden would also be responsible for co-ordinating the following mitigation measures specifically relating to the Deben Estuary:

- Controlling access to sensitive areas of saltmarsh, either by appropriate signage or fencing;
- zoning of activities and provision of enclosures to prevent access where there are important concentrations of birds;
- installing a barrier at Waldringfield Sailing Club car park to prevent unauthorised use of this area by non-members wishing to use it in order to access the estuary;
- monitoring of the impacts of an increase in visitors on the Deben Estuary; and
- Should monitoring of the Deben Estuary SPA/SSSI attributes show that the above mitigation measures are not succeeding in mitigating for the increased recreational pressures of the Adastral Park development, and the population of wintering birds are not being maintained at the current levels, then further mitigation measures would be required. The lower limit/trigger threshold of acceptable change on the population of wintering birds would be agreed with Natural England at the detailed planning application stage.

4.11 In addition to provision of a warden, the habitat management plan of Ipswich Heaths SSSI would be reviewed and funds provided to manage this heathland for nature conservation (i.e. creating new areas of heathland by felling conifer trees, etc). The visitor management plan for this area would include a fire management plan to prevent arson.

4.12 Funds would be provided to install a barrier at Waldringfield Sailing Club car park and appropriate signage at Martlesham Church car park to prevent unauthorised use of this area by the public. It would also be necessary to provide funds to the church to offset the loss of income from donations from people parking in the church car park.

Summary of Natural England's Objections and Comments

4.13 Details of Natural England's objections to chapter 12 of the April 2009 ES (letter dated 22nd May 2009) and how they have been addressed within the HRA given at Appendix 4.1 are set out in Table 1.1 below.

TABLE 1.1: Summary of Natural England Objections and Responses

Natural England's Objections/Comments	*How objections have been addressed*	*Where objection has been addressed within the HRA (if applicable)*
A reptile mitigation strategy should be submitted if outline planning permission is granted.	A mitigation strategy will be prepared upon receipt of outline planning permission. Environ has been in liaison with the Landscape Partnership who are putting together a reptile strategy for Brett Aggregates application which lies in the centre of Adastral Park.	N/A
Further information on the location of hide tide roosts and low water feeding areas for birds.	Core Wetland Bird Survey (WeBS) counts and location of high tide roosts was obtained from the British Trust for Ornithology (BTO) in Nov 2009. Close liaison with the local BTO co-ordinator for the WEBS counts (Nick Mason) regarding the birds within the SPA and the potential developmental effects on these species (with particular emphaises on Avocets and Brent Geese – which are the designated feature of the Deben Estuary SPA and Ramsar respectively.	Data included in Annex C of the HRA. Consultation references included throughout the HRA.
Further information on the Invertebrates within	The Deben Estuary is designated as a Ramsar for the Narrow-Mouthed Whorl Snail. The	Section 5.4.2

TABLE 1.1: Summary of Natural England Objections and Responses		
Natural England's Objections/Comments	***How objections have been addressed***	***Where objection has been addressed within the HRA (if applicable)***
the Estuary.	Conchological Society was contacted (Dr Martin Willing, Conservation Officer) in order to discuss the impacts.	
Assessment of impacts of disturbance on birds within the Deben Estuary	A literature review of the effects of recreational disturbance on birds is given within the HRA with further sections on Avocets and Brent Geese.	Section 5.4.1
More information required on mitigation to offset the impacts on the designated sites	An outline of mitigation measures is detailed in the HRA. As requested by Natural England measures include wardening, notice boards, fencing , creation of new access routes and dogs on leads.	Section 11
Habitats Regulations Assessment to assess the developmental impacts on Avocets	Core Wetland Bird Survey (WeBS) counts and location of high tide roosts obtained from BTO. Further information on population size, location and duration of estuarine use was obtained from the local BTO WeBS count co-ordinator.	Section 5.4.1 Figure 4 and Annex C
	Assessment of developmental activities that might cause disturbance to Avocets. Technical Review of Part 1 of the HRA was undertaken by Jo Treweek who authored the 'best practice' guidance on HRA for land use plans (Scott Wilson, Levett Therivel, Treweek Environmental Consultants and Land Use Consultants, 2006).	Section 5.4.1
	In-combination assessment of other plans and projects within the area	Section 5.2
	Measures to offset potential impacts on Avocets are outlined.	Section 11
Heathland within he proposed development area	As this is an outline planning application, the details of the location and extent of the heathland would be included within the detailed planning application.	N/A

TABLE 1.1: Summary of Natural England Objections and Responses		
Natural England's Objections/Comments	***How objections have been addressed***	***Where objection has been addressed within the HRA (if applicable)***
Details on the creation of new and accessible areas of habitat	The planning application outlines plans for the inclusion of 31.7 km of pedestrian access within the proposed development area. The network of footpaths to the south of Adastral Park would be enhanced and a visitor management strategy implemented.	Section 11

4.14 Emailed comments and advice from Pat Williams (Natural England) dated 26th January 2009 are summarised below.

TABLE 1.1: Summary of Natural England's Emailed Comments of 26th January 2009	
Natural England's Comments	***Response***
Disagreement with how Suffolk County Council's population predictions have been applied to the HRA	The HRA was undertaken on the basis that the proposed development would result in a worse case scenario of a 10% increase in visitors to the Deben Estuary SPA. This figure was taken from Natural England's objection letter to SCDC, dated 18th November 2009, and therefore this worse case scenario is unlikely to exceeded regardless of whether 1800 people are based at the site or 4800.
Concerned that the Avocets that feed in the following areas could be impacted by mountain bikers and dogs off lead: i) Mouth of Martlesham Creek ii) North of Hemley	i) The BTO 5 yr average monthly core count for the area from Cross Farm (just north of Waldringfield) to Martlesham Creek (which includes the area at the mouth of Martlesham Creek) (Sector 5) recorded on an average of one avocet during the key winter months. The low tide peak for the last available year 2006/2007 in this area (BX017) was two avocets. The intertidal area at the mouth of Martlesham Creek where avocets occasionally feed is soft mud and inaccessible to mountain bikers and dogs. ii) The nearest roosting area for this species is to the east of Hemley approximately 4.5 km from the proposed development and 2.5 km from the nearest car park (3.5 km along roads/footpaths). Other bird species also roost in this area.

TABLE 1.1: Summary of Natural England's Emailed Comments of 26th January 2009	
Natural England's Comments	***Response***
	It is understood that mountain biking along the Deben is low when compared to the Stour and Orwell Estuary and our consultation has found that mountain biking is infrequent around Hemley. However without mitigation, the likelihood of mountain bikers from the proposed development cycling in this area cannot be ruled out and therefore due to the 'precautionary principle'. The assessment of impacts has been amended accordingly. The long distances from the development and the nearest car park means that dog walkers coming from the development to this area would be infrequent. However it is not possible to be certain that there will be no impact on the birds roosting in this area and therefore due to the 'precautionary principle'. The assessment of impacts has been amended accordingly. Measures outlined in section 11 are considered to adequately mitigate for these impacts.
The impacts on the additional SSSI wintering bird features which are present in the area (Black-tailed Godwit, Redshank and Shelduck) have not been considered and should be examined in the same way as has been done for the SPA features.	The potential impacts on the birds are assessed in Section 5.4.1 of the HRA and in Table 9.1 of part 2 of the report – it was concluded that an impact is possible as a result of an increase in recreational pressures. The HRA also refers Natural England to the 2008 Dilly Lane test case judgement on HRA (SoS vs Hartford District Concil) which concluded that mitigation measures can negate the need for an assessment of potential impacts. It is considered that the mitigation measures outlined the HRA adequately address the potential impacts from an increase in recreational pressures.
Report has not included the car park near the church just south of Martlesham Creek.	Comment accepted. The HRA has been modified accordingly (see section 5.3.2). Visitor management measures proposed to offset this impact (Section 11).
Impact of additional people going to Woodbridge not addressed in report.	Impacts assessed in Section 5.4.1 of the report along with Table 9.1 of part 2 of the report – it was concluded that an impact on the SSSI bird feature is possible as result of the development and mitigation measures would offset this impact.
i) Figure 1 shows footpaths likely to be used by dog walkers	i) Plan modified accordingly. ii) Impacts on the Newbourn Spings SSSI were discussed via a telephone call week with Kate Jackson from Natural England

TABLE 1.1: Summary of Natural England's Emailed Comments of 26th January 2009	
Natural England's Comments	***Response***
should include the one south of the development that runs through Newbourn Springs. ii) Potential disturbance on this SSSI is not fully addressed in the report iii) No examination of the potential hydrological changes of Newbourn springs as a result of the development	(Officer responsible for this SSSI) who stated that the woodland is unlikely to be affected by an increase in dog walkers as the woodland is currently difficult to penetrate by visitors or dogs due to the dense understorey (as stated in Table 9.1 of our report). Also we understand that signposts at the entrance to Newbourn Springs state that dogs should be kept on leads. iii) Potential hydrological impacts on Newbourn Springs are considered in Paragraphs 14.19-14.23 of Chapter 14 of the April 2009 ES.
i) Welcome the recommendation of wardening and this should include monitoring with a review process so that adaptive measures can be taken if necessary ii) Provision of accessible greenspace should be included. Which might include areas within the development	i) Agreed section 11 of HRA modified accordingly. ii) See HRA amendments in Section 11.1 and 11.2.
Comments on the calculation used to determine Natural Greenspace and how this does not tie in with the Thames Basin Heaths example.	The Thames Basin Heaths is designated as a SPA primarily for its breeding birds whose eggs and chicks are susceptible to dog predation. Developmental impacts are therefore higher when compared with the Deben Estuary SPA which is designated for its wintering Avocets that feed on the mudflat edge away from footpaths. Other wintering birds along the estuary in are also unlikely to be impacted in the same way as heathland birds.

Summary of Parties Consulted

4.15 The following table outlines which individuals, organisations were contacted since April 2009 and what the result of this consultation process was (please also see Table 1.1 in Chapter 1.0 of the April 2009 ES for a summary of the 'scoping responses' identifying the likely significant environmental effects to be assessed in the ES).

TABLE 1.3: Summary of Parties Consulted during Compilation of the HRA

Consultee	*Form of Consultation and Summary of Issues*	*Date*
Pat Williams and Alison Collins, Natural England	Meeting at Natural England office to discuss their objections and how to address the,	11 August 2009
Pat Williams, Natural England	Consulted via telephone and email on several issues regarding the on numerous occasions	August 2009 to January 2010
John Davies, Suffolk Coastal District Council	Consulted on potential footpath network to the south of the proposed development	13th November 2009
Nick Mason, BTO Co-ordinator for WeBS Counts along the Deben Estary	Consulted on the developmental impacts on the wintering birds within the Deben Estuary	November to December 2009
Margaret Lake, Waldringfield Sailing Club	Consulted via telephone on the impacts of boats on the Deben Estuary SPA/SSSI and on the car park at Waldringfield	November 2009
Maybush Public House	Consulted via telephone on the car park at Waldringfield	December 2009
Adrian Judge, Anglian Wildfowlers Association	Consulted via telephone on the shooting arrangement along the Deben and how an increase in population will effect the amount of shooting.	3 December 2009
Jo Treweek, Treweek Environmental Consultants **Author of 'best practice' guidance on Habitat Regulations Assessments of Plans Appropriate**	Technical Review of a Draft of Part 1 of the HRA	10th December 2009

TABLE 1.3: Summary of Parties Consulted during Compilation of the HRA		
Consultee	***Form of Consultation and Summary of Issues***	***Date***
Assessment of Plans.		
Kate Jackson, Natural England	Consulted via telephone regarding the developmental impacts on Newbourne Springs SSSI	15th December 2009
Monica O'Donnell, Natural England	Consulted via telephone regarding the developmental impacts on Ipswich Heaths SSSI	Week commencing 14th December 2009
Dr Martin Willing, Conchological Society	Consulted via telephone on the impacts on the invertebrates within the Deben Estuary	Week commencing 14th December

Conclusion

4.16 It is concluded that provided the mitigation set out in the HRA and summarised above is secured, then the proposed development at Adastral Park would have no residual adverse impact on the integrity of the Deben Estuary SPA/RAMSAR and Newbourne Springs SSSI, and a low impact on the Deben Estuary SSSI and Ipswich Heaths SSSI.

5.0 Flood Risk Assessment

Introduction

5.1 This section of the Regulation 19 Statement outlines the results of additional correspondence with the Environment Agency (EA) following submission of the application and associated Flood Risk Assessment (Environ, November 2009). The FRA was subsequently updated and re-issued in December 2009; the additional assessment presented in this section is the result of comments made by the EA on the updated FRA report, a copy of which is included as Appendix 5.1.

5.2 Correspondence between the Environment Agency, Environ and their consultants following submission of the planning application is included as Appendix 5.2. The specific questions raised by the EA relate to the following topic areas:

- groundwater depth and potential reinstatement scenarios post mineral extraction;
- sensitivity testing of key parameters used in the rainfall-runoff calculations; and
- sustainable drainage techniques.

5.3 This section of the Regulation 19 submission is structured to address these three main topics in turn. There are a number of more minor technical points that are addressed in the correspondence included in Appendix 5.2 and these are not therefore discussed in detail within the main text of this section.

5.4 The following subsections should be read in conjunction with the relevant correspondence set out in Appendix 5.2.

Groundwater Protection

5.5 The site is subject to an application for minerals extraction by Brett Aggregates. The EA has asked for clarification of the process to be used (if any) to reinstate land post-extraction and also to provide details of the anticipated depth of unsaturated zone that would be present following completion of minerals extraction. These issues are discussed further under the following subheadings.

Reinstatement Scenarios

5.6 The minerals extraction being undertaken by Brett Aggregates considers two possible reinstatement scenarios:

- extraction of the Glacial Sands and Gravels and reinstatement to former land levels with no post-extraction development proposed; and
- extraction of the Glacial Sands and Gravels with the site being handed over to BT for development with **no reinstatement** of land levels.

5.7 For the purposes of the Environmental Impact Assessment and FRA for the proposed development of the Adastral Park site, the latter scenario is the only one of relevance, i.e. that **no reinstatement** of land is to be carried out prior to handover of the site for development.

Unsaturated Zone Depth

5.8 The groundwater level in the underlying Crag is at 11.5 metres above Ordnance Datum (mAOD) to 13.0 mAOD and has been monitored by Brett Aggregates. This level corresponds to a depth of 10-15 metres below ground level. Groundwater depths have been derived from a monitoring programme which was undertaken between December 2004 and November 2008, so worst case (winter) groundwater levels have been taken into account.

5.9 Brett Aggregates only intend to extract the viable Glacial Sands and Gravels (rather than the underlying Crag) and will only remove material to a depth of around 4.5 metres below existing ground level, providing an unsaturated zone depth of 5.5 to 9.5 metres. There are no significant quantities of groundwater in the Glacial Sand and Gravel and therefore all workings will be dry.

5.10 As proposed in the revised FRA, there will be no extraction below the water table which will, for the significant majority of the site, provide an unsaturated zone depth[1] of 5.5 metres or more as calculated above. Soakaways and/or infiltration trenches will only be sited in areas where this depth of unsaturated zone is available. The lowest levels on the site are located around the existing fishing/amenity ponds which would be retained as greenfield land (forming the area shown on the illustrative masterplan in the FRA as the Central Park).

5.11 Site levels on completion of extraction and prior to development will therefore be approximately 4.5 metres below the existing site contours as illustrated in Figures 2.1 a-d in the revised FRA (Appendix 5.1).

[1] The unsaturated zone is defined as the zone between ground level and the underlying water table. This zone is involved in land drainage via percolation, but it is not permanently saturated with water. The unsaturated zone is important in bioattenuation and treatment of infiltrating rainwater which are important for groundwater protection.

5.12 At the end of extraction, the resulting uneven site would be regraded to provide a developable surface, retaining the general site contours present pre-extraction, where possible. This requires some cut and some fill which will result in a small surplus, as there may be some unsuitable material and some additional material that can be sold off-site. The cut and fill material will be mainly in the sand and gravel layers, but will include cut of some former extraction areas that have been back-filled with inert, mainly granular material.

5.13 Borehole logs showing the underlying strata and groundwater depths have been provided by Brett Aggregates and are included as Appendix 5.3.

Sensitivity Testing of Runoff Calculations

5.14 The rainfall-runoff calculations are presented in Section 3 of the revised FRA. These conclude that a critical storm duration of 4 hours is appropriate; they also provide separate runoff rate and volume calculations for each proposed development phase.

5.15 In subsequent correspondence, the EA has asked for clarification on the value used for Urban Catchment Wetness Index (UCWI), including a sensitivity test between the summer and winter values for this parameter. In addition, justification was asked for on the value of SOIL used in the runoff calculations. Both issues are discussed further below.

Urban Catchment Wetness Index (UCWI)

5.16 Changing the UCWI to a winter value of 120 (Source: Institute of Hydrology, Design Values of Catchment Wetness Index in Mixed Urban/Rural Catchments, 1989) increases the critical storm volume by approximately 50% for each development phase.

5.17 The 'land take' associated with the proposed infiltration-based SUDS would need to increase by the same ratio, i.e. from 4.1% to approximately 6.1% of the site area. This is considered to be minimal and readily achievable, especially as the SUDS measures would be below ground. The updated Modified Rational Method spreadsheet, using the winter value for UCWI, is included as Appendix 5.4. For further background on rainfall-runoff calculations and for the Modified Rational Method spreadsheet for the summer value of UCWI, refer to Section 3 of the FRA (Appendix 5.1).

SOIL

5.18 The value for SOIL has been taken from the Winter Rain Acceptance Potential (WRAP) Maps within the Wallingford Procedure Manual; the Adastral Park site clearly lies in WRAP class 1 and therefore a SOIL value of 0.15 is appropriate and has been used in the FRA. Given the permeability nature of the underlying sand and gravel, as illustrated by the borehole logs, this value of SOIL is backed up by site observations.

Sustainable Drainage

5.19 The updated FRA sets out the proposed drainage strategy which is based on infiltration of surface runoff into the ground to mimic the existing hydrological conditions on the site. As the site lies on Glacial Sands and Gravels overlying the Red and Norwich Crag (a series of shelly sands), the underlying geology is considered to be suitably permeable to facilitate these drainage measures.

5.20 Further details of the proposed management of surface runoff are given in Section 3 of the updated FRA (Appendix 5.1). The response to specific EA comments relating to justification of the estimated infiltration rates and clarification of the SUDS techniques to be adopted are provided below; a brief summary of the underlying geology is provided first by way of background.

Geology

5.21 According to the British Geological Survey (BGS) 1:50,000 solid and drift map of the area (Sheet 207; Ipswich) the site is directly underlain by Glacial Sands and Gravels, overlying undifferentiated Red and Norwich Crag, with an approximate thickness of 35 m. Below this is the London Clay, which is present to depth.

5.22 The EA groundwater vulnerability map (Sheet 33; East Suffolk) confirms that the site is situated on Minor Aquifers (the Glacial Sands and Gravels and the Red and Norwich Crag) of high vulnerability.

Infiltration Rates

5.23 The infiltration rate used in the FRA has been derived from the description of local geology and from review of the borehole logs provided by Brett Aggregates (Appendix 5.3). These borehole logs show that the geology below the depth to which aggregate is to be removed consists predominantly of clean sand with occasional gravel and shell fragments. No clay lenses were observed below 4 mbgl which could potentially limit local infiltration.

5.24 Based on this geology, an infiltration rate of 1 x 10^{-5} m/s was derived as the lowest rate for a clean sand (Source: Seepage, Drainage and Flow Nets, Cedergren 1997). As the sand is clean and includes some gravel and shell fragments, it is considered likely that the actual infiltration rate would be greater than the conservative value adopted for the FRA. Infiltration rates would need to be confirmed for the specific locations of infiltration features as part of the detailed drainage design, but are not anticipated to be lower than the conservative value used in the FRA.

SUDS Techniques

5.25 It is anticipated that the detailed drainage design would explore a wider range of infiltration-based SUDS than those used within the FRA to establish overall SUDS feasibility. The detailed drainage design for each phase in turn (and the scheme in its entirety) would address options to replace some of the soakaway and infiltration trenches with alternative infiltration systems (such as infiltration ponds, basins and swales).

5.26 There is potential to make the proposed scheme an exemplar development in terms of the range of sustainable drainage methods that could be adopted to manage surface runoff at the site to greenfield rates and, in so doing, to provide a range of biodiversity and amenity benefits. It is hoped that it may now be accepted that the FRA establishes that infiltration-based SUDS are readily feasible at this site. The range of SUDS measures adopted in the final design could be controlled by a planning condition specifying that the detailed drainage design for each development phase is submitted to the Environment Agency and SCDC for approval prior to the commencement of construction.

Conclusion

5.27 A summary of the key conclusions with regard to flood risk are provided in Table 5.1

TABLE 5.1: REGULATION 19 CONCLUSIONS – FLOOD RISK

Topic	*Description*	*Comment*
Land Reinstatement	Concern over the potential impact of land reinstatement on SUDS feasibility and groundwater quality after minerals extraction.	There is to be **no reinstatement** of land levels after extraction for the 'with future development' option. Site levels following minerals extraction will be regraded to approximately 4.5 metres below existing site contours.
Unsaturated Zone Depth	More information required on the depth of groundwater beneath the site and how this affects SUDS feasibility.	Borehole logs and minerals proposals leave a minimum of 5.5 m of unsaturated zone

TABLE 5.1: REGULATION 19 CONCLUSIONS – FLOOD RISK		
Topic	***Description***	***Comment***
		beneath the site which is ideal for infiltration-based SUDS techniques. Soakaways will only be located in areas where this unsaturated zone depth is available.
Sensitivity Testing of Runoff Parameters	Clarification was sought on the impact of using the winter value of UCWI and justification for the value of SOIL used in the rainfall-runoff calculations.	Winter value of UCWI increases storage requirements by 50%, which is achievable with ~6% 'land take'. SOIL value of 0.15 is appropriate from WRAP class review.
Infiltration Rates	Justification was requested on the likely infiltration rates of the underlying Crag in terms of the effectiveness of soakaways and infiltration trenches.	A conservative infiltration rate of 1 x 10^{-5} m/s has been used based on observed geology; infiltration-based SUDS are readily feasible at this permeability.
SUDS Techniques	The EA requested that the detailed design of the drainage system considers the use of a range of infiltration-based SUDS techniques.	A commitment to this is made in the revised FRA; the detailed drainage design will be submitted to the EA and the Council for approval prior to commencement of any works.

6.0 Summary and Conclusions

Introduction

6.1 This section provides a summary and the conclusions for each section provided earlier in this EIA Regulation 19 Statement.

6.2 In January 2010, Suffolk Coastal District Council (SCDC) requested that BT provide further information as part of the ES under Regulation 19(1) of the EIA Regulations. This request is made in the light of consultation responses received from statutory consultees and SCDC's own review of the ES submitted by BT in April 2009. Further information requested by SCDC is provided in this report on the following environmental topics:

- Transportation;
- Habitat Regulations Assessment, SSSI assessment and mitigation strategy; and
- Flood Risk.

Amended Application Material

6.3 As set out in Section 2.0 of this report, a number of minor amendments have been made to the following outline planning application documents:

- Framework Plan;
- Landscape Plan;
- Design and Access Statement; and
- Transport Assessment, including amended plan 'Proposed Junction Improvements Sheet 2 of 2 – A12/Foxhall Road' (Dwg. No. BTP012-024-C, 1:1,250@A0, 21/12/2009).

Review of ES

6.4 Following a by SCDC in their Regulation 19 letter, this report has carried out a 'screening assessment' to determine whether or not there are any additional significant impacts that arise as a result of the amendments to the application material which require further assessment.

6.5 It has been determined in Section 3.0 of this report that the amended application documents do not cause significant changes to the site, design or size of the proposed development which warrant the ES of April 2009 to be revised.

6.6 However, following a review of the ES by SCDC and statutory consultees (namely Natural England and the Environment Agency), 'further information' is required under Regulation 19(1) of the EIA Regulation (as described earlier in Section 1.0 of this report). The further information required by SCDC and the statutory consultees is provided in Section 4.0 (Habitat Regulations Assessment and SSSI Mitigation Strategy) and Section 5.0 (Flood Risk Assessment).

Habitat Regulation Assessment and SSSI Mitigation Strategy

6.7 It is concluded that provided the mitigation set out in the Habitat Regulation Assessment and SSSI Mitigation Strategy given as Appendix 4.1, and summarised in Section 4.0 of this report, is secured, then the proposed development at Adastral Park would have no residual adverse impact on the integrity of the Deben Estuary SPA/RAMSAR and Newbourne Springs SSSI, and a low impact on the Deben Estuary SSSI and Ipswich Heaths SSSI.

Flood Risk Assessment

6.8 As set out in Section 5.0 of this report, it is anticipated that the detailed drainage design would explore a wider range of infiltration-based SUDS than those used within the FRA to establish overall SUDS feasibility. The detailed drainage design for each phase in turn (and the scheme in its entirety) would address options to replace some of the soakaway and infiltration trenches with alternative infiltration systems (such as infiltration ponds, basins and swales).

6.9 It is concluded that there is potential to make the proposed scheme an exemplar development in terms of the range of sustainable drainage methods that could be adopted to manage surface runoff at the site to greenfield rates and, in so doing, to provide a range of biodiversity and amenity benefits.