

eco-towns

Sustainability Appraisal and Habitats Regulations
Assessment of the Eco-towns Programme

Rushcliffe





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Prepared by Scott Wilson for Communities and Local Government

Rushcliffe

November 2008

Scott Wilson Ltd

Department for Communities and Local Government

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The structure of the eco-towns SA/HRA publications

The Sustainability Appraisal (SA) and Habitats Regulations Assessment (HRA) of the draft Eco-towns Planning Policy Statement and Programme have been prepared by Scott Wilson Ltd for Communities and Local Government.

As the SA and HRA has been undertaken at a strategic level, it is necessarily broad in its assessment, conclusions, and recommendations. It takes a 'snapshot' of locations and proposals in September 2008, recognising that the proposals are continuing to be developed, and constitutes the first of a series of successive assessments that will be required as eco-town proposals are taken forward. Planning applications for eco-towns will also need to include a detailed Environmental Impact Assessment (EIA) and possibly HRA which may, in turn, also identify mitigation measures.

The SA and HRA should be read in four parts and an Annex:

- I) **The SA of the draft Eco-towns PPS**
- II) **The SA/HRA of the Programme – Introduction**
- III) **The SA/HRA of the Programme – Locational chapters**
 - Pennbury
 - Middle Quinton
 - Whitehill-Bordon
 - Weston Otmoor and Cherwell
 - Ford
 - St Austell (China Clay Community)
 - Rossington
 - Hanley Grange and Cambridgeshire
 - Marston
 - North East Elsenham
 - Rushcliffe
 - Greater Norwich
 - Curborough
 - Manby
 - Leeds City Region
- IV) **The SA/HRA of the Programme – Conclusions**

Annex: Profile of European Sites

The sections above are accompanied by a Non-Technical Summary which summarises the findings of the SA and HRA of the draft Eco-towns PPS and Programme.

All documents are available on the Communities and Local Government website at www.communities.gov.uk/ecotowns

If you have comments on issues raised in the SA or HRA please respond as part of the consultation on the PPS, details of which are set out at www.communities.gov.uk/ecotowns. If you would like further information on any of the above please contact the Eco-Towns Team at Zone 2/G9, Eland House, London, SW1E 5DU or by email to: ecotowns@communities.gsi.gov.uk

1 Introduction

1.1 This chapter

- 1.1.1 This chapter sets out the draft Sustainability Appraisal and Habitats Regulations Assessment for three possible eco-town locations in **Rushcliffe**. In April 2008 the then Housing Minister, Caroline Flint, announced that an eco-town proposal had been submitted for **Kingston-on-Soar**, to the south of Nottingham, but that this had been opposed by Rushcliffe Borough Council (RBC). However, the Government was proposing to carry out a further review in partnership with RBC to consider whether there is a suitable alternative location within **Rushcliffe**.
- 1.1.2 Subsequently, two further locations at **Newton-Bingham** and **Cotgrave Place** were proposed by the Crown Estate together with landowners Banks Developments Ltd., and Terence O'Rourke on behalf of Crown Golf respectively.
- 1.1.3 As this Sustainability Appraisal (SA) and Habitats Regulations Assessment (HRA) has been undertaken at a strategic level, it is therefore necessarily broad in its assessment, conclusions, and recommendations. It takes a 'snapshot' of locations and proposals in September 2008 recognising that the proposals are continuing to be developed, and constitutes the first of a series of successive assessments that will be required as eco-town proposals are taken forward. Planning applications for eco-towns will also need to include a detailed Environmental Impact Assessment (EIA) and possibly HRA which may, in turn, also identify mitigation measures.

1.2 Eco-towns Planning Policy Statement

- 1.2.1 Communities and Local Government has published for consultation a Draft **Eco-towns Planning Policy Statement** (PPS), accompanied by a Sustainability Appraisal and Habitats Regulations Assessment. According to the Draft PPS, eco-towns are new settlements which *"will have sustainability standards significantly above equivalent levels of development in existing towns and cities"*¹. The eco-towns concept is designed to assist in meeting the twin challenges of providing additional housing and mitigating and adapting to climate change. The aim of the Draft PPS is to promote the development of *"exemplar projects that encourage and enable residents to live within environmental limits"* and provide a showcase for sustainable living and allow government, business and communities to work together to develop greener, low carbon living thus providing inspiration for future development. With this in mind, the Draft PPS sets out a range of minimum

¹ Communities and Local Government (2008). *Planning Policy Statement: Eco-Towns – Consultation document*

standards which will be used to define an 'eco-town'. These cover a wide range of sustainability issues including biodiversity; climate change adaptation; employment; flood risk management; green infrastructure; homes; local services; transport; waste; water; and zero carbon.

1.3 Eco-towns Programme

1.3.1 The **Eco-towns Programme** has been developed with the aim of getting exemplar eco-towns off the ground, with development underway by 2016. The Government has short listed a series of potential eco-town locations² – of which **Rushcliffe** is one – following an initial call for proposals. Each location has been subject to a Sustainability Appraisal and Habitats Regulations Assessment to assess its suitability for an eco-town. The findings of the appraisal for Kingston, Newton-Bingham and Cotgrave Place – are documented in this report. In a parallel exercise, the Government is deciding which of the schemes related to the short listed locations will get backing or financial support from Government through funding of associated infrastructure or partner public bodies.

1.4 SA and HRA

1.4.1 **Sustainability Appraisal (SA)** is generally not undertaken at the national level. In developing the Eco-towns PPS and the Eco-towns Programme, Communities and Local Government has decided to undertake SA, incorporating the requirements of the European Strategic Environmental Assessment Directive³, at a level proportionate to the PPS and the Programme. Scott Wilson was commissioned to undertake the SA as well as a **Habitats Regulations Assessment (HRA)** of the Draft Eco-towns PPS and the Eco-towns Programme. SA seeks to identify and evaluate the impacts of a proposal on the economy, the community and the environment – the three dimensions of sustainable development – and suggest measures for improving the proposal's sustainability performance. HRA tests the impacts of a proposal on nature conservation sites of European importance – Special Areas of Conservation and Special Protection Areas, and, as a matter of Government policy, Ramsar sites – and is also a requirement under EU legislation⁴. An accompanying report sets out the SA and HRA of the Draft Eco-towns PPS.

² Communities and Local Government (2008). *Eco-towns: Living a greener future* [online] available at: www.communities.gov.uk/publications/housing/ecotownsgreenerfuture (accessed 4 July 2008)

³ Directive 2001/42/EC on the assessment of the effects of certain plans and Programmes on the environment (the 'SEA Directive') implemented through The Environmental Assessment of Plans and Programmes Regulations 2004

⁴ Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive') implemented through The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007

1.5 SA methodology

1.5.1 Part I of this report describes the SA methodology in full. The SA for each of the shortlisted locations and any reasonable alternatives is based on a series of questions:

- What's the objective of the proposal?
- What's the policy context?
- What are the key sustainability objectives we need to consider?
- What's the situation now? (including any existing problems)
- What will be the situation without the eco-town? (the 'business-as-usual' option)
- What will be the situation with the eco-town?
- How can we mitigate/enhance effects? (Scott Wilson's recommendations)
- How should we monitor sustainability impacts?

1.5.2 These questions correspond to the key requirements of the SEA Directive, as set out in Annex I to the Directive – see Table 1.

1.5.3 In undertaking the appraisal for each location, we drew on a wide range of information including the Scoping Report; the developer's proposal; discussions with the developer; discussions with the relevant local planning authority and, in some cases, the Government Office; the comments of the statutory consultees (the Environment Agency, Natural England etc.); and discussions with Communities and Local Government. We also visited each of the shortlisted locations.

Table 1: Meeting the requirements of the SEA Directive

Questions for each shortlisted location and associated development proposal	Key requirement of the SEA Directive (the 'environmental report' must include...)
What's the objective of the proposal?	<i>"an outline of the contents, main objectives of the plan or Programme and relationship with other relevant plans and Programmes"</i> (Annex I(a))
What's the policy context?	<i>"an outline of the contents, main objectives of the plan or Programme and relationship with other relevant plans and Programmes"</i> (Annex I(a))
What are the key sustainability objectives we need to consider?	<i>"the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or Programme and the way those objectives and any environmental considerations have been taken into account during its preparation"</i> (Annex I(e)) ⁵

⁵ Note that *"the way those objectives and any environmental considerations have been taken into account during its preparation"* is addressed in Section 3 for the Draft PPS and in each locational chapter

Table 1: Meeting the requirements of the SEA Directive (*continued*)

Questions for each shortlisted location and associated development proposal	Key requirement of the SEA Directive (the 'environmental report' must include...)
What's the situation now? (including any existing problems)	<p><i>"the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or Programme"</i> (Annex 1(b))</p> <p><i>"the environmental characteristics of areas likely to be significantly affected"</i> (Annex 1(c))</p> <p><i>"any existing environmental problems which are relevant to the plan or Programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC"</i> [NB problems relating to European sites are addressed through the HRA] (Annex 1(d))</p>
What will be the situation <i>without</i> the eco-town? (the 'business-as-usual' option)	<p><i>"the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or Programme"</i> (Annex 1(b))</p>
What will be the situation <i>with</i> the eco-town?	<p><i>"the likely significant effects (1) on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors"</i> [our emphasis]</p> <p><i>(1) These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects"</i> (Annex 1(f))</p>
How can we mitigate/enhance effects? (Scott Wilson's recommendations)	<p><i>"the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or Programme"</i> (Annex 1(g))</p>
How should we monitor sustainability impacts?	<p><i>"a description of the measures envisaged concerning monitoring..."</i> (Annex 1(i))</p>

- 1.5.4 It should be noted that the SA focused primarily on the merits of the proposed *location* as a suitable place to situate an eco-town since the location is fixed (notwithstanding the need to ultimately settle on a precise boundary for the development). However, we have also referred to the actual *development* proposed for that location (recognising that the current proposals for development at the various locations can obviously be modified and doubtless will be as time goes on). Reference to the development itself was considered important in gauging sustainability impacts particularly since the development could potentially mitigate impacts associated with the location and also make the most of any locational opportunities.

1.5.5 The aim of this SA was not to determine whether an eco-town location and proposal was either acceptable – ie ‘sustainable’ – or unacceptable – ie ‘unsustainable’- and determine which locations progressed on this basis. The purpose of this SA was, rather, to explore the benefits and disadvantages associated with each of the locations and development proposals as an input to the Eco-towns Programme, and suggest ways in which their impact could be rendered more sustainable.

1.6 HRA methodology

1.6.1 Part II of this report describes the HRA methodology in full. The requirement to undertake HRA arises from the Habitats Directive⁶ which requires that plans and projects are subject to ‘Appropriate Assessment’ (AA) where they might have a significant effect on a European wildlife site. European sites include Special Areas of Conservation, Special Protection Areas and, as a matter of Government policy, Ramsar Sites. In order to establish whether or not an AA is necessary, plans and projects with potential effects must be ‘screened’ to determine the likelihood of their giving rise to significant effects – a so called HRA. All the proposed eco-town locations were screened and determined to have potential impacts on European sites. A full AA was therefore undertaken for each location and the assessment for RAF Newton-Bingham, Kingston, and Cotgrave Place, and is documented in Section 3. The assessment involved identifying the European sites which could conceivably be impacted upon by development at the proposed location; establishing the environmental conditions needed to maintain the integrity of these sites (eg minimum air pollution or minimal recreational pressure); and assessing whether or not development at the location would adversely impact on these environmental conditions and therefore site integrity. Details of the ecological features of the European sites covered within the assessment, the reasons for their designation, their condition and the environmental conditions necessary to maintain their integrity are set out in the Annex I, *Profile of European Sites*.

1.6.2 It should be noted that the objective of the HRA of the Eco-towns Programme was not to devise detailed site-specific measures for each of the current proposed eco-towns, but rather to use an appraisal of the current proposed eco-towns as a tool to determine whether the policies and standards in the Draft PPS provide sufficient direction (in terms of both scope and detail) to enable eco-towns to deliver the detailed site-specific measures necessary to avoid or mitigate an adverse effect.

⁶ Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora implemented in England through The Conservation (Natural Habitats &c. Regulations) 1994 (as amended)

2 Sustainability Appraisal

2.1 Introduction

2.1.1 This section sets out the **Sustainability Appraisal (SA)** of the shortlisted eco-town locations and associated development proposals at Newton-Bingham, Kingston and Cotgrave Place.

2.2 What's the objective of the proposal?

2.2.1 The Borough of Rushcliffe is located in south Nottinghamshire, south of the River Trent and the city of Nottingham. Rushcliffe covers an area of over 400 square kilometres and includes suburban areas to the north and rural areas to the south and east. The largest town is West Bridgford where one third of the borough's population lives. Other towns include Bingham and Cotgrave, and larger villages include Radcliffe-on-Trent, East Leake, Keyworth and Ruddington⁷.

2.2.2 Three alternative sites have been proposed in the area and are the subject of this appraisal:

- Newton-Bingham
- Kingston
- Cotgrave Place

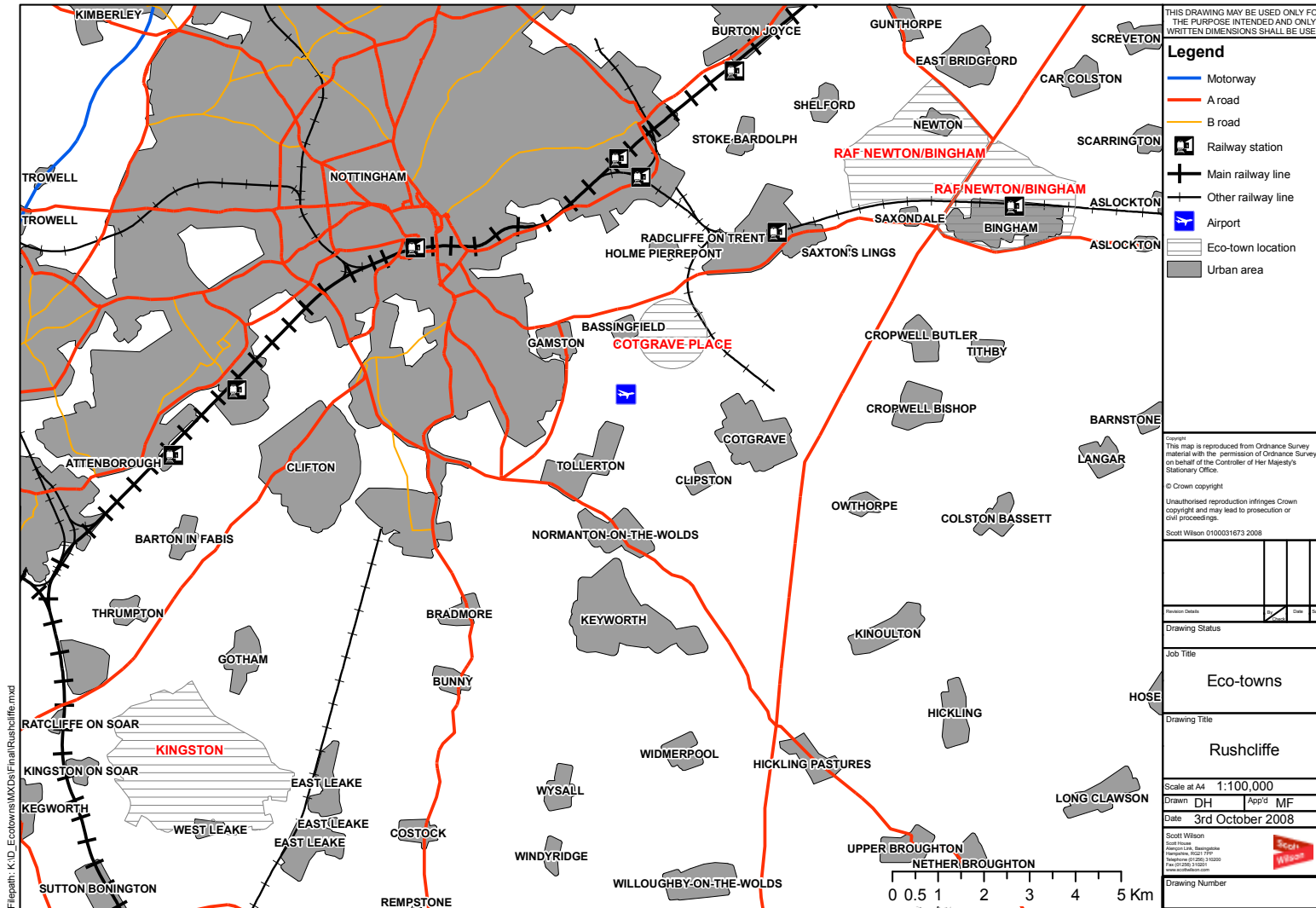
2.2.3 The Kingston eco-town proposal was included in the original list of 57 potential locations submitted to Communities and Local Government but was not specifically selected as a shortlisted location. The proposal was graded "C" in the initial appraisal by Communities and Local Government. Given this grading and the location within an area of search for an eco-town, Kingston has been included in this sustainability appraisal.

2.2.4 Since the announcement of the shortlisting, two other proposals have been made for eco-towns in Rushcliffe. Newton-Bingham was proposed as an eco-town by a consortium comprising the Crown Estate, Defence Estates and Newton Nottingham Limited Liability Partnership (LLP). Cotgrave Place was also proposed by Crown Golf. As these two sites broadly meet the eco-town criteria and are located within the Rushcliffe area of search, they have been included in the appraisal.

2.2.5 Figure 1 below shows the three proposed locations in relation to Nottingham and other settlements and the main roads and railways.

⁷ Audit Commission (2008) Rushcliffe Borough Council – corporate assessment. Available at: <http://www.audit-commission.gov.uk/reports/CPA-CORP-ASSESS-REPORT.asp?CategoryID=&ProdID=65051393-7A3E-4D1C-899F-451B86A5B266&fromREPORTSANDDATA=CPA-CORP-ASSESS-REPORT>

Figure 1: Rushcliffe eco-town – settlement pattern and transport infrastructure



Newton-Bingham

- 2.2.6 The Crown Estate, Defence Estates & Newton Nottingham LLP are proposing the development of an eco-town on the former RAF Newton Airbase near Bingham in Rushcliffe. The site is located some 14 km to the east of Nottingham at the junction of the A46 and A52. It covers 713 hectares, and abutts the northern edge of the existing town of Bingham (population approximately 10,000) rather than encompassing it and includes the existing settlement of Bingham.
- 2.2.7 The landowners' preliminary proposal⁸ does not give an indication of the number of dwellings, beyond a baseline of 5,000 to 6,000 dwellings, employment, community facilities or related infrastructure. The site promoters are intending to carry out a series of consultation events in order to inform their decision on the exact size, location and phasing of the development. The current options for the location of the eco-town are:
- development around the existing settlement of Bingham which would allow use of the existing infrastructure (eg railway station – although road access is poor)
 - development in the western part of the search area which includes the former WWII air base of RAF Newton
- 2.2.8 The main message of the eco-town promoters is that the area needs more housing and associated infrastructure; for instance, a new health centre and a new sports centre. The key features of the site, as highlighted by the site promoters, include the setting of Bingham railway station as a potential focus for development, the landscape and vistas of former RAF Newton, and opportunities for the creation of structural woodland planting which would provide landscape and biodiversity enhancement. Other features of the proposal include: the use of green infrastructure; production of energy from biomass and micro-generation; promoting live-work schemes, and providing a community sports hub. Provision of 30 per cent affordable housing is being considered.
- 2.2.9 The Crown Estate has obtained planning permission for development of an employment park on land between the A46 and Chapel Lane and for development, also for employment purposes, of a smaller parcel of land east of Chapel Lane. These areas could be incorporated into the eco-town proposal, dependent on the location of the final site.

⁸ *An Eco-town at former RAF Newton-Bingham, proposal submitted to Communities and Local Government on 20 June 2008; available at: http://www.newtonecotown.com/next_steps.php (Accessed 4 July 2008)*

Kingston

- 2.2.10 The Kingston site is located 5 km to the east of the M1 in south west Nottinghamshire. The nearest town is Loughborough (11 km) and it is 17km from Nottingham City Centre (via the A453), 27km from Derby city centre (via the A50 and A6) and 29.5km from Leicester city centre (via the M1). The site is also 6 km east of the East Midlands Airport. The site is located outside the main flight approaches and the relevant noise contours.
- 2.2.11 This site is being promoted by Banks Developments in partnership with the landowner, Kingston Estate, with whom discussions are underway to increase the land available for the proposal. The site promoters are proposing a development of 6,000 homes and 3,700 new jobs as a first stage. However, the site has the capacity to grow to 10,000 homes. The development would include at least 30 per cent affordable housing.
- 2.2.12 The development would take advantage of the East Midlands Trains' East Midlands Parkway Station at Ratcliffe-on-Soar which is currently under construction and would provide rail access to jobs, shops and services in the Three Cities (Derby, Nottingham and Leicester). 'Feeder' bus services to the new station and local employment centres (eg the airport and university) would also be provided.
- 2.2.13 The site covers approximately 600 ha of which 65 ha is mature woodland. The rest is in agricultural use. Most of the land is used for arable farming and is graded 2 and 3A. The land is framed by extensive areas of woodland and crossed by a network of hedgerows. The northern part of the site is part of the Nottingham-Derby Green Belt. The edge of the site adjacent to Kingston Brook is subject to periodic flooding.
- 2.2.14 The West Leake Hills is a wooded ridge that runs from north west to southeast and visually contains and separates the site from the Nottingham urban area and the rest of the Green Belt. The site contains several south facing slopes, particularly along this ridge. There are a number of villages and hamlets that surround the site. Gotham (north, across the Hills, pop 1640), East Leake (east, population 6290), Kegworth (west, population 4306) and Sutton Bonington (southwest, population 1890) are the largest villages. Kingston-on-Soar (west, population 240), Radcliffe-on-Soar (northwest, population 125) and West Leake (south, population 110) are smaller settlements.

Cotgrave Place

- 2.2.15 The proposed site is located approximately 6 km (8 km by road) to the south-east of Nottingham city centre and adjacent to the A52. The hilltop town would be located on the site of an existing golf course, which extends to over 90 ha of land, and farmland. The proposal includes providing a new 'high quality' 18-hole golf course to the south of the eco-town which would also serve as a permanent open space buffer to the northern perimeter of the existing community at Cotgrave.
- 2.2.16 The site promoters (Crown Golf) are proposing an eco-town featuring linear parks to connect residential neighbourhoods and the existing footpath and bridleway network. The proposal is for 5,000 dwellings and would provide a minimum of 30 per cent of affordable housing and a range of tenures and house types including family housing. Other features of the proposal include: no built development on grade 1 or 2 agricultural land, provision of 'significant' green spaces/ green infrastructure, increased biodiversity, allotment gardens, reducing food miles by establishing links with local farming industry and creating a market town, protecting the character of Cotgrave and improving public rights of way links to Holme Pierrepont National Watersports Centre, the River Trent and Cotgrave Country Park.
- 2.2.17 There is a former mineral railway along the eastern boundary of the site which it is proposed to reopen as a link into Nottingham. The Grantham Canal lies to the east and south of the site. Improving public access to the canal could provide a significant recreational amenity for the new community.
- 2.2.18 The promoters have also highlighted that the proposal would benefit the existing settlement of Cotgrave which is in need of regeneration. It would provide infrastructure (eg a railway line) that would benefit a proposed development of 500 dwellings at the former Cotgrave Colliery. Proposals for governance arrangements have not been finalised but the site promoters are considering setting up a community trust and providing a source of income to support the community (eg ownership of retail units).

2.3 What's the policy context?

- 2.3.1 The national policy context in relation to housing provision, climate change and other relevant issues is set out in Part I of this report. This section considers the policy context at regional and local level relevant to the three locations.
- 2.3.2 The Regional Spatial Strategy (RSS) for the East Midlands (RSS8) published in 2005 included the following annual average rates for housing provision for the period 2001-2021: 2,450 for Nottingham and Nottinghamshire and 15,925 for the East Midlands Region. These figures are less than the National Housing and Planning Advice Unit (NHPAU) suggests is needed to avoid further deterioration in affordability in the Region⁹.
- 2.3.3 Housing provision figures and affordable housing are being re-examined in the current RSS review which extends the plan period to 2026. The new average annual housing provision for the East Midlands Region for the period to 2026 is proposed to be 20,418 homes. Average annual housing provision to 2026 for Rushcliffe is proposed to be 555 dwellings of which 445 dwellings per annum should be provided within or adjacent to the principal urban area of West Bridgford and Clifton¹⁰.
- 2.3.4 The Government Office's proposed changes to the draft RSS include increasing housing growth across the region to 21,750 per year for the period 2006-26. Much of the additional growth is proposed in and around the main cities of Derby, Leicester and Nottingham, recognising Growth Point agreements in those cities and surrounding areas (ie the Three Cities Growth Point) and in other Growth Point agreements at Lincoln, Newark and Grantham¹¹.

⁹ National Housing and Planning Advice Unit (2007). *Developing a target range for the supply of new homes across England* [online] available at <http://www.communities.gov.uk/nhpau/keypublications/reports/supplynewhomes/>

¹⁰ Draft East Midlands RSS Review, Available at: <http://www.emra.gov.uk/what-we-do/housing-planning-transport/rss-review/documents>

¹¹ Government Office for the East Midlands (22 July 2008) *East Midlands Regional Plan (Regional Spatial Strategy) – Secretary of State's Proposed Changes Published for consultation*. Available: <http://www.goem.gov.uk/goem/news/regionalplanning/>

- 2.3.5 The draft RSS review¹² divides the region into five sub-areas including the Three Cities Sub-Area, which encompasses the cities of Nottingham, Derby and Leicester and surrounding areas including Rushcliffe (see Figure 2). The draft RSS review includes Sub-Regional Strategies for each sub-area. The purpose of the Three Cities Sub-Regional Strategy (SRS) is to *'provide additional direction and guidance to Local Development Frameworks on issues that cross strategic planning boundaries and other Sub-Regional matters of importance in the Three Cities Sub-area. In particular it aims to set out a context for the sustainable regeneration and growth of the Sub-area. The requirement for a Three Cities Sub-area SRS was identified by the Secretary of State in Policy 16 of RSS8 (2005)'*¹³. The Sub-Area has been designated by the Government as 'New Growth Point'¹⁴ and contains just under half of the region's population.
- 2.3.6 The draft RSS review sets out the Regional Approach to Selecting Land for Development (Policy 2) which should inform land allocations in Local Development Frameworks (LDFs). The priority order for selecting land is: a) suitable sites within urban areas; b) suitable sites adjoining urban areas as part of planned and sustainable urban extensions; c) suitable sites in rural areas within or adjoining existing towns and villages; d) suitable sites elsewhere. In assessing the suitability of sites, Policy 2 also states that priority should be given to making best use of previously developed land. Other criteria to be considered are: accessibility by non-car modes, capacity of existing infrastructure (including roads, public transport and other social and environmental infrastructure), physical constraints including level of contamination and flood risk, impact on natural resources and cultural and environmental assets, viability of development, suitability for mixed use, impact of development on existing settlements, contribution to existing community needs, effects on the causes and impacts of climate change etc¹⁵.
- 2.3.7 Rushcliffe Borough Council has a series of saved policies from a 12 year old Local Plan and is beginning the LDF process.

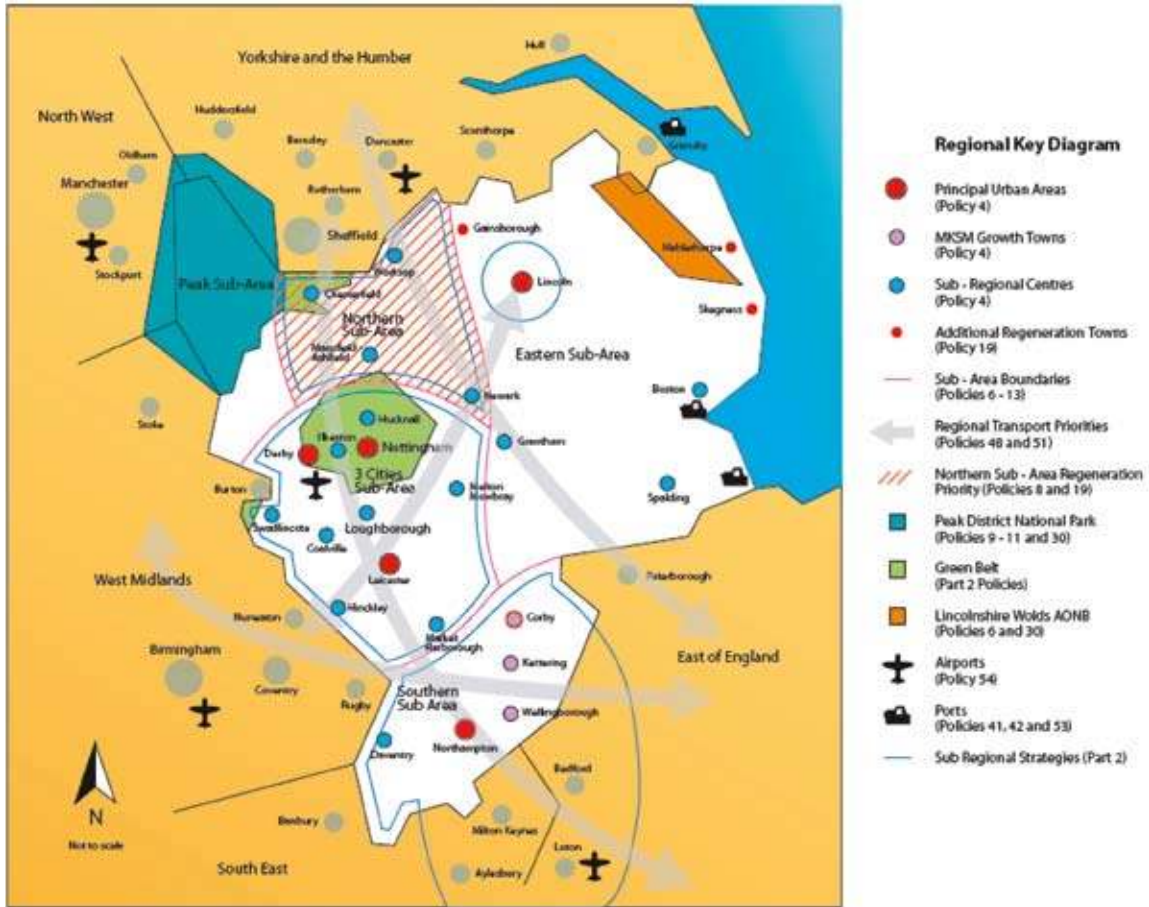
¹² Available at: <http://www.emra.gov.uk/what-we-do/housing-planning-transport/rss-review/documents>

¹³ Draft East Midlands RSS Review, p.5; Available at: <http://www.emra.gov.uk/what-we-do/housing-planning-transport/rss-review/documents>

¹⁴ See Communities and Local Government (n.d.) *New Growth Points* Available at: <http://www.communities.gov.uk/housing/housingsupply/growthareas/newgrowthpoints/>

¹⁵ Draft East Midlands RSS Review, Available at: <http://www.emra.gov.uk/what-we-do/housing-planning-transport/rss-review/documents>

Figure 2: Regional key diagram (Regional Spatial Strategy draft review)¹⁶



2.4 What are the key sustainability objectives we need to consider?

2.4.1 Preliminary scoping work undertaken by Faber Maunsell on behalf of Communities and Local Government identified a significant number of potentially relevant sustainability objectives to inform the appraisal. Taking into account this initial work, Scott Wilson has identified 12 core sustainability issues which will provide the basis for the SA of the locations and associated development proposals (no priority should be inferred from the ordering):

Environment

- biodiversity and green infrastructure
- climate change adaptation and flood risk
- climate change mitigation
- landscape and historic environment
- waste
- water resources and water quality

¹⁶ *Ibid.*

Socio-economic

- community infrastructure
- community wellbeing
- decent and affordable homes
- transport and accessibility
- employment and economy

Spatial issues

- spatial issues

2.5 What's the situation now? (Including any existing problems)

Biodiversity and green infrastructure

- 2.5.1 Figure 3 shows that the biodiversity value of the areas around the three locations is primarily linked to several patches of ancient woodland. There is ancient woodland within the Kingston site and a site of Special Scientific Interest (SSSI) adjacent.
- 2.5.2 At the regional level biodiversity levels are amongst the lowest in England, largely reflecting the significant proportion of high-grade agricultural land and associated intensive farming. One of the major biodiversity issues in the area is the fragmentation of habitats¹⁷. The draft RSS has highlighted the continued long term decline in biodiversity as an issue of particular concern¹⁸.
- 2.5.3 There are currently eight Sites of Special Scientific Interest (SSSIs), around 200 Sites of Importance for Nature Conservation (SINC) and four Local Nature Reserves (LNR) in Rushcliffe. Rushcliffe's SSSIs currently cover approximately 0.15 per cent of the local authority area compared to eight per cent of the total land area in the UK. Approximately 37 per cent of the SSSIs in Rushcliffe are in favourable condition, 37 per cent are in unfavourable but recovering condition, 21 per cent are in unfavourable condition with no change and 5 per cent of SSSIs are in unfavourable and declining condition¹⁹. The Rushcliffe Golf Course SSSI is adjacent to the Kingston site. The site is of interest because it '*contains some of the best examples of calcareous and neutral grassland remaining in Nottinghamshire and is representative of species rich grassland on calcareous loam soils in Central and Eastern England*'. The condition of the site as of 1 August 2008 is 'unfavourable recovering'²⁰.

¹⁷ Land Use Consultants in association with GHK (2006) *Sustainability Appraisal of the Draft East Midlands Regional Plan*. Available at: <http://www.emra.gov.uk/files/file1044.pdf>

¹⁸ Draft East Midlands RSS Review, Available at: <http://www.emra.gov.uk/what-we-do/housing-planning-transport/rss-review/documents>

¹⁹ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

²⁰ Natural England (n.d.) Nature on the Map. Available: <http://www.natureonthemap.org.uk/identify.aspx>

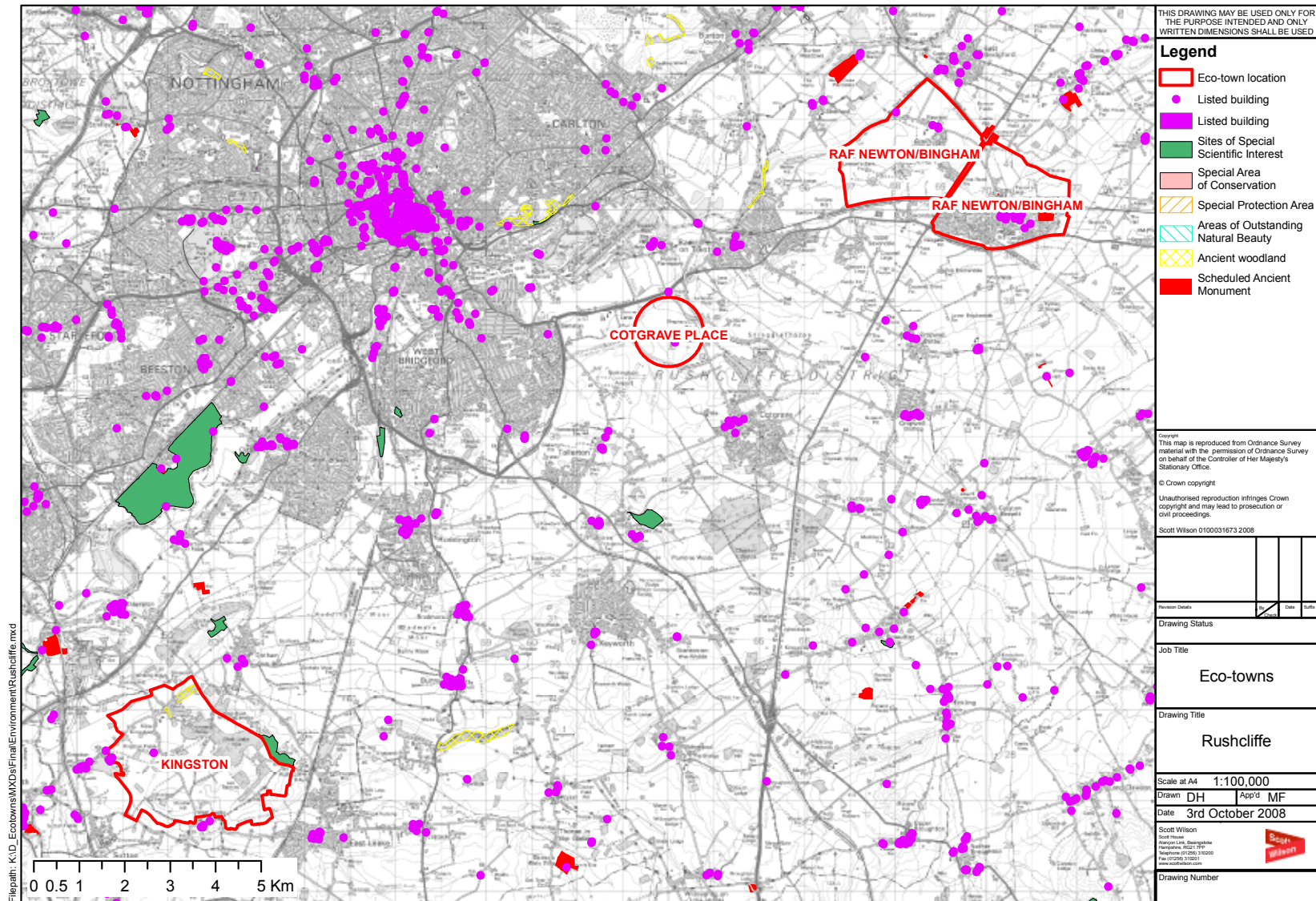
2.5.4 The following habitats identified in the Nottinghamshire Local Biodiversity Action Plan (LBAP) are found in Rushcliffe:

- mixed ash-dominated woodland
- wet broad-leaved woodland
- unimproved neutral grassland
- lowland dry acid grassland
- lowland calcareous grassland
- lowland wood pasture and parkland
- lowland wet grassland
- reedbed
- rivers, streams and canals
- fens and marshes
- eutrophic and mesotrophic standing waters
- urban and post-industrial habitats
- farmland and hedgerows
- coniferous forests

2.5.5 The following species present in Rushcliffe are also included in the LBAP:

- bats
- Otter
- Water Vole
- Harvest Mouse
- Grass Snake
- Slow-Worm
- Great Crested Newt
- Dingy and Grizzled Skippers
- Black Poplar
- Bluebell
- Raptors (including Hobby and Common Buzzard)
- Barn Owl
- Farmland birds
- Trent Salmon

Figure 3: Rushcliffe eco-town locations and environmental constraints



Climate change adaptation and flood risk

- 2.5.6 The UK Climate Impacts Programme (UKCIP) predicts that by the 2020s the average annual temperature in the East Midlands will increase by between 0.5°C and 1°C. It is also forecast that temperatures in the region could potentially increase by 3°C by the end of the 21st century. Rainfall patterns are also predicted to change significantly²¹.
- 2.5.7 The effects of climate change, particularly on water resources and flood risk are considered key issues for the region in the draft review of the RSS²². Similarly the risk of flooding was highlighted as one of the key sustainability issues in Rushcliffe's LDF Sustainability Appraisal Scoping Report (2007).
- 2.5.8 A total of 6,526 hectares of land within Rushcliffe are located within the Environment Agency's Flood Zones 2 and 3. This represents approximately 16 per cent of the total land within the Borough. The majority of the land considered to be at risk from flooding falls within Flood Zone 3 (high risk area), which accounts for approximately 5,525 hectares of land²³.
- 2.5.9 The sources of flood risk within Rushcliffe are the rivers Trent and Soar, which respectively affect areas along the northern and western boundaries of the Borough. The rivers Smite and Devon contribute to flood risk within the central and eastern areas, whilst a number of other sources such as the Kingston and Fairham Brooks contribute to flood risk elsewhere within the Borough²⁴. The Greater Nottingham Strategic Flood Risk Assessment (SFRA)²⁵ includes the Grantham Canal as potential flood flow route in the modelling of the River Trent floodplain. The SFRA also mentions flood risk from other sources within Rushcliffe: surface water drainage, highway drainage, and groundwater.

Climate change mitigation

- 2.5.10 The following Table 2²⁶ shows an estimate of energy consumption and CO₂ emissions in Rushcliffe compared with the East Midlands region in 2003. The table shows that total energy consumption per capita for domestic uses is lower in Rushcliffe than the region. Energy consumption for industrial and commercial uses is significantly lower than for the region. This reflects the limited provision of employment within the Borough. However, the total consumption of vehicle fuel in Rushcliffe is equal to the regional average.

²¹ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

²² Draft East Midlands RSS Review, Available at: <http://www.emra.gov.uk/what-we-do/housing-planning-transport/rss-review/documents>

²³ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

²⁴ *Ibid.*

²⁵ Black and Veatch (2008) *Greater Nottingham SFRA – Technical Report Volume 5 – Rushcliffe Borough Council*

²⁶ Source: DTI Energy Trends, 2006 included in Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

Table 2: Energy Consumption and CO₂ Emissions (2003)

	Rushcliffe	East Midlands
Total Final Energy Consumption per Capita (kWh)	25,400	32,000
Total Domestic Energy Consumption per Household (kWh)	21,810	24,500
Total Domestic Energy Consumption per Capita (kWh)	9,190	10,300
Total Industrial and Commercial Energy Consumption per Employee (kWh)	17,100	27,300
Total Vehicle Fuel Consumption per Capita (Tonnes of Fuel)	1	1
CO ₂ Emissions per Capita (Tonnes of CO ₂)	9	10

2.5.11 There is no significant renewable energy generation in Rushcliffe. Much of the Borough is covered by the East Midlands Airport safeguarding zone which is likely to restrict wind turbine development. There are also local airfields at Langar and at Nottingham that are likely to have informal safeguarding arrangements²⁷.

Landscape and historic environment

2.5.12 The 1997 Countryside Appraisal – Nottinghamshire Landscape Guidelines, published by Nottinghamshire County Council subdivides Rushcliffe into four ‘character areas’.

- Trent Washlands
- South Nottinghamshire Farmlands
- Nottinghamshire Wolds
- Vale of Belvoir.

2.5.13 Two of the proposed sites, Newton-Bingham and Cotgrave Place are located in the South Nottinghamshire Farmlands area (see Figure 4) which is “a prosperous lowland agricultural region with a simple rural character of large arable fields, village settlements and broad alluvial levels”²⁸.

2.5.14 The South Nottinghamshire Farmlands can be subdivided into two areas: Alluvial Farmlands and Village Farmland. The Alluvial Farmland area is found near to the rivers Smite and Devon and at Ruddington Moor. This is mainly an arable area where the field structure has largely been broken down, producing large expanses perhaps reminiscent of the pre-enclosure moorlands. Trees are contained in the occasional copse and riparian corridors. The River Smite has been partly canalised. The Village Farmland area represents a strong, largely arable, agricultural landscape dominated

²⁷ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

²⁸ Rushcliffe Borough Council (n.d.) *Regional Character Areas* Available at: <http://www.rushcliffe.gov.uk/doc.asp?cat=9631>

by hedgerows. The Grantham Canal and disused railways in this area form important habitats. Parklands are found at Whatton Manor, Flintham, Tollerton, Bunny and Ruddington²⁹. Both Cotgrave Place and RAF Newton-Bingham are located in the Village Farmland area.

- 2.5.15 Most of the Kingston site is located in the Nottinghamshire Wolds area and a small part in the Trent Washlands. The Nottinghamshire Wolds is a sparsely settled and remote rural region characterised by rolling clay wolds, mixed farming, small red brick villages and narrow country lanes. The region can be sub-divided into three key zones: Village Farmlands, Wooded Hills and Farms and Wooded Clay Wolds³⁰.
- 2.5.16 The Trent Washlands is a low-lying agricultural region associated with the valleys of the Rivers Trent and Soar. The region is characterised by productive arable farming, meadowlands, small villages, market towns, power stations and quarries. The soils within this region are rich and have supported agriculture for a long time. The area includes Kingston Hall and the surrounding and uncharacteristic woodlands³¹.
- 2.5.17 There are 29 Conservation Areas, 713 listed buildings and several scheduled ancient monuments (SAMs) within Rushcliffe (see Figure 3 Environmental Constraints).

Waste

- 2.5.18 In 2006/07, 427.5 kg of household waste per capita was collected within Rushcliffe. This figure is lower than the Nottinghamshire average, 566.5 kg, and slightly lower than the national average of 441 kg. The per capita amount collected in 2005/06 was similar and the amount collected in 2004/05 lower at 404 kg³². There has been a significant increase in the amount of waste collected in Rushcliffe since 2001/02 when the level was 323 kg³³.
- 2.5.19 The percentage of household waste recycled is also on the increase: 27 per cent in 2006/07 compared to 24.6 per cent in 2005/06 and 21 per cent in 2004/05. The figures are similar to the Nottinghamshire area but considerably higher than the national average of 19.57 per cent. The rate of household waste composting has been about 25 per cent for the last two years (2005/06 and 2006/07) and has risen from 20 per cent in 2004/05. This figure is considerably higher than the County average of 12.54 per

²⁹ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

³⁰ *Ibid.*

³¹ *Ibid.*

³² Audit Commission Area Profiles, Available at: <http://www.areaprofiles.audit-commission.gov.uk>

³³ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

cent and the national average of 11 per cent³⁴. The remaining landfill capacity of the area is limited but there is an incinerator near Sneinton, Nottinghamshire. The County are currently looking for a new site to locate an additional incinerator³⁵.

Water resources and water quality

- 2.5.20** Parts of the region are among the driest in England with average annual rainfall totals in some places of less than 600 mm. The majority of surface water through the East Midlands is already fully committed to existing abstractions meaning that no significant additional resources are readily available, with the possible exception of the River Trent and the River Soar³⁶.
- 2.5.21** Public water supply constitutes the largest use in the region and it can be broken down into household use (53 per cent), non-household use (27 per cent) and leakage (20 per cent). Non-household uses include industry and farming. Farming abstraction is used for spray irrigation, mainly in the summer months when the river flows are at their lowest. Very little irrigation water is returned, so the potential impacts on the environment are increased³⁷.
- 2.5.22** Water supplies in the East Midlands come from a range of sources including reservoirs, rivers and ground water. Abstraction from some aquifers has depleted available supplies, leading to low groundwater levels and adverse effects on associated habitats. To the north east of the region, the licensed surface or groundwater abstractions exceed the sustainable limit, potentially affecting rivers and wetlands³⁸.
- 2.5.23** Severn Trent Water estimates that climate change could result in a further reduction in water levels in the River Trent and the Derwent Valley reservoir system. The East Midlands population is estimated to grow by about 400,000 by 2025, which will cause an increase in the total demand for water³⁹.
- 2.5.24** The Environment Agency, the East Midlands Regional Assembly and the water companies commissioned an assessment of the impacts of the housing development proposed in the draft RSS⁴⁰. The review concluded that if the additional supply and demand measures included in the 2004 water

³⁴ Audit Commission Area Profiles, Available at: <http://www.areaprofiles.audit-commission.gov.uk>

³⁵ Rushcliffe Borough Council, pers. comm.

³⁶ Land Use Consultants in association with GHK (2006) *Sustainability Appraisal of the Draft East Midlands Regional Plan*. Available at: <http://www.emra.gov.uk/files/file1044.pdf>

³⁷ *Ibid.*

³⁸ *Ibid.*

³⁹ *Ibid.*

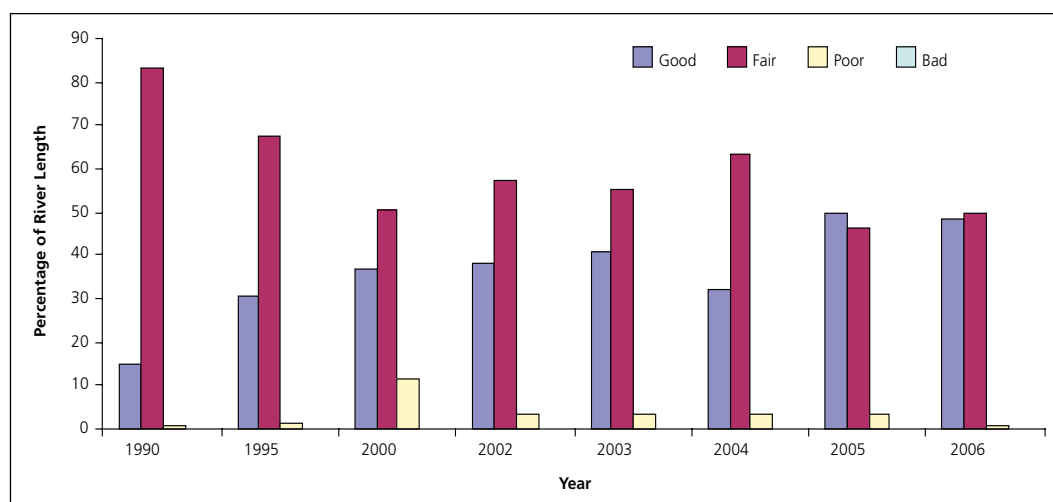
⁴⁰ Ove Arup (2006) Spatial Review of Water Supply and Quality in the East Midlands Final Study Report; Commissioned by the Environment Agency, Available at: <http://www.emra.gov.uk/files/file1139.pdf>

companies' resources plan are delivered, about a third of the region will remain in surplus and deficits will be greatly reduced. However, deficits will still occur in Leicestershire, Nottinghamshire and Derbyshire.

2.5.25 The study also indicated the need for a high level of water efficiency in new housing. Reducing water consumption in new properties by 25 per cent in addition to the planned resource developments included in the water companies resource plans⁴¹ would further reduce or even remove some of the deficits. Additional sewage treatment works capacity and sewerage infrastructure will also be required in the Region to serve the projected housing growth rates. The study also concluded that Local Planning Authority (LPA) policies will need to recognise this when considering the locations for future housing developments⁴².

2.5.26 Figures 4 and 5 show that river water quality in Rushcliffe has improved since 1990. The percentage of river lengths classified as 'Good' is around 50 per cent for biological water quality and 60 per cent for chemical water quality. The percentage of river lengths classified as 'Fair' is around 50 per cent for biological water quality and around 20 per cent for chemical water quality. The percentage of river length classified as of 'Poor' chemical quality has increased to nearly 20 per cent. However, since 1990, no stretches of river have been classified as 'Bad'.

Figure 4: Rushcliffe biological river water quality 1990-2006⁴³

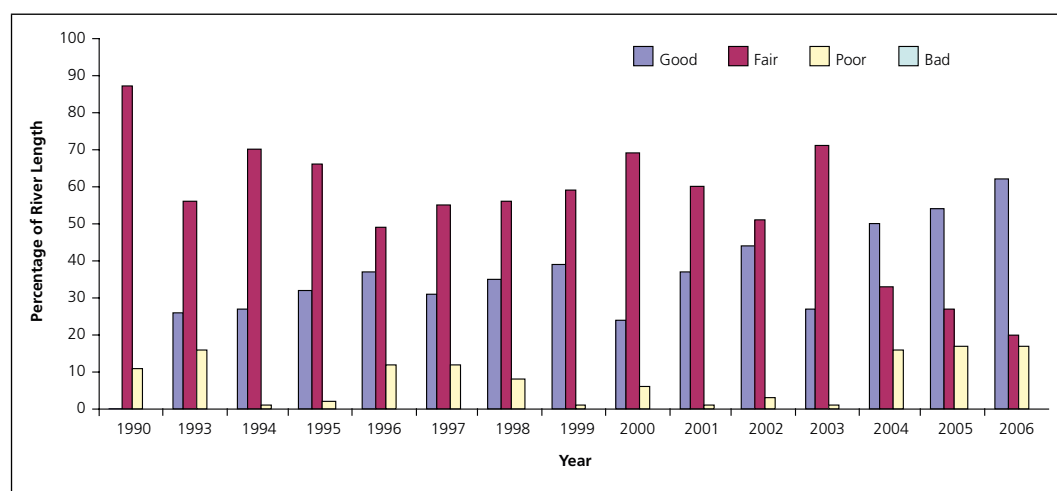


⁴¹ Note: The study refers to 2004 Water companies' resource plans. Water companies are currently reviewing their resource plans which will be published in 2009.

⁴² Ove Arup (2006) Spatial Review of Water Supply and Quality in the East Midlands Final Study Report; Commissioned by the Environment Agency, Available at: <http://www.emra.gov.uk/files/file1139.pdf>

⁴³ Defra (2007) e-Digest Statistics about: *Inland Water Quality and Use* Available at: <http://www.defra.gov.uk/environment/statistics/inlwater/index.htm>

Figure 5: Rushcliffe chemical river water quality 1990-2006⁴⁴



Community infrastructure

- 2.5.27** One of the sustainability issues identified in the LDF Sustainability Appraisal Scoping Report for Rushcliffe is that '*community services and facilities are lacking in some locations and there can be pressure on existing services for redevelopment*'. This is considered to be a moderate to major sustainability issue⁴⁵.
- 2.5.28** There are six health centres in the Borough including centres in Cotgrave, Bingham and East Leake (near the Kingston site)⁴⁶. The health centre in Bingham is currently overstretched: it was designed to serve 2,500 people but is now serving 10,000⁴⁷.
- 2.5.29** There are several major sports facilities located in West Bridgford namely Nottingham Forest Football Club, Trent Bridge Cricket Ground and the East Midlands Gymnastics Centre. The National Water Sports Centre at Holme Pierrepont is also located within the borough⁴⁸. There are six leisure centres including at Bingham and Cotgrave⁴⁹.
- 2.5.30** West Bridgford is the major retail centre in the Borough and has a wide range of retail facilities, including a number of large supermarkets. A smaller range of more local services are available in Bingham, Cotgrave, East Leake, Keyworth, Radcliffe on Trent and Ruddington⁵⁰.

⁴⁴ *bid.*

⁴⁵ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

⁴⁶ Rushcliffe Borough Council (2007) *LDF Annual Monitoring Report 2006 – 2007*

⁴⁷ Rushcliffe Borough Council, pers. Comm.

⁴⁸ Audit Commission (2008) Rushcliffe Borough Council – corporate assessment. Available at: <http://www.audit-commission.gov.uk/reports/CPA-CORP-ASSESS-REPORT.asp?CategoryID=&ProdID=65051393-7A3E-4D1C-899F-451B86A5B266&fromREPORTSANDDATA=CPA-CORP-ASSESS-REPORT> (accessed: 10 July 2008)

⁴⁹ Rushcliffe Borough Council (n.d.) *Leisure centres* Available at: <http://www.rushcliffe.gov.uk/doc.asp?cat=10436>

⁵⁰ Rushcliffe Borough Council (2007) *LDF Annual Monitoring Report 2006 – 2007*

Community wellbeing

- 2.5.31** Rushcliffe is a relatively affluent local authority that ranked 331 of 364 local authorities in the 2007 Index of Multiple Deprivation (IMD), up from 309 in the 2004 IMD (where 1 is most deprived and 364 least deprived). There are however pockets of relative deprivation.
- 2.5.32** Cotgrave Place is located within Rushcliffe 009B Super Output Area (SOA). This SOA is within the 45 per cent most deprived in England. A closer look at individual scores shows that the SOA is within the 6 per cent most deprived in the country in terms of crime and within the 30 per cent most deprived in terms of education, skills and training. Conversely this SOA is within the 15 per cent least deprived SOAs in the country in terms of its living environment. This indicator measures both quality of housing and the 'outdoor' living environment which includes air quality and road traffic accidents.
- 2.5.33** The Newton-Bingham site is covered by several SOAs with a range of scores. The rural areas around the town of Bingham are covered by two SOAs (Rushcliffe 002A and 002C) which are within the 10 per cent least deprived in the country. Also in the 10 per cent least deprived in the country is a small SOA to the south of Bingham, 002E. The town of Bingham is covered by three SOAs: 002D, 002B and 002F which are respectively within the 40 per cent, 45 per cent and 50 per cent least deprived in the country. The Newton part of the site is covered by Rushcliffe 002D which is one of the 25 per cent least deprived SOAs in England. Particular issues highlighted by the individual scores that make up the Index of Multiple Deprivation are: SOA 002F (Bingham) is in the 30 per cent most deprived in the country in terms of income and also education, skills and training. SOA 0002D (Newton) is within the 30 per cent most deprived in the county in terms of barriers to housing and services. Conversely all the SOAs have generally good scores in terms of crime and living environment.
- 2.5.34** The Kingston site is covered by two SOAs: Rushcliffe 14A and 15A. SOA 14A is in the 30 per cent least deprived SOAs in the country; however, it is in the 17 per cent most deprived in the barriers to housing and services domain. SOA 15A is in the 3 per cent least deprived in the country.
- 2.5.35** Educational achievement in Rushcliffe is high: two-thirds of 16 years old achieved five or more GCSEs at grade A* to C in 2005/06, compared to the national average of 58.5 per cent, and the regional average of 55.2 per cent. Almost 40 per cent of the economically active population have a degree (or higher) compared to less than 20 per cent regionally⁵¹.

⁵¹ Audit Commission (2008) *Rushcliffe Borough Council – corporate assessment*. Available at: <http://www.audit-commission.gov.uk/reports/CPA-CORP-ASSESS-REPORT.asp?CategoryID=&ProdID=65051393-7A3E-4D1C-899F-451B86A5B266&fromREPORTSANDDATA=CPA-CORP-ASSESS-REPORT>

2.5.36 Life expectancy is also high: The average life expectancy across the area is 82.1 years for females and 79.3 for males compared to 81.1 and 76.9 respectively for England. Mortality rates are lower than average for England for circulatory diseases, cancer and suicide. Teenage conceptions are low at 20.1 compared to 41.6 nationally, but there are significant health inequalities across the Borough. For example, smoking-related illness is high in Cotgrave. Across the Borough, road injuries and deaths are significantly worse than the English average⁵².

2.5.37 Rushcliffe's population breakdown is noticeable for two reasons:

- there is a lower percentage of 16 – 24 year olds than the England average
- there is a higher percentage of 45+ year olds than the England average (2001 Census data⁵³).

2.5.38 These figures show that the Borough has a relatively ageing population which could have implications in terms of infrastructure and service provision (eg health related).

2.5.39 Overall levels of crime are high compared to levels in similar areas, although levels are falling. All levels of crime are high including robberies, domestic burglaries and theft of and from a motor vehicle, when compared to other areas, but are lower than most other Nottinghamshire districts⁵⁴.

Decent and affordable homes

2.5.40 Rushcliffe has the highest ratio of average house prices to average income of all the Nottinghamshire local authorities: 8.52⁵⁵. Communities and Local Government has identified Rushcliffe as an area that has very high housing affordability pressures and recent affordable housing supply is around 60 annually with 1,535 households on the waiting list⁵⁶.

2.5.41 A low level of affordable housing is also recognised as a key issue by the Local Authority. The Council has prepared a draft Affordable Housing Supplementary Planning Document. The draft Supplementary Planning Document (SPD) states that 30 per cent affordable housing provision will be sought on sites over 0.5 hectares or of more than 15 dwellings. The greatest need for affordable housing in Rushcliffe is for two and three bedroom houses for rent⁵⁷.

⁵² *Ibid.*

⁵³ Rushcliffe Borough Council (2007) Annual Monitoring Report 2006/07

⁵⁴ *Ibid.*

⁵⁵ Rushcliffe Borough Council (2007) Annual Monitoring Report 2006/07

⁵⁶ Communities and Local Government (2008) *Eco-towns: living a greener future – Consultation*, Available at: <http://www.communities.gov.uk/publications/housing/ecotownsgreenerfuture>

⁵⁷ Rushcliffe Borough Council (2006) Draft Affordable Housing SPD, available at <http://www.rushcliffe.gov.uk/doc.asp?catid=9908>

Transport and accessibility

2.5.42 A number of important trunk roads pass through the borough: A453, A46 and A52. Rushcliffe Council considers that improvements to these roads are vital in the context of the current transport problems faced by the Borough⁵⁸. The following issues have been identified:

- The A453 east of the M1 is a major route between Nottingham, the M1 and the East Midlands Airport. It is a single carriageway road that has become increasingly congested. The A453 carries up to 32,000 vehicles a day, has a poor safety record and poses maintenance difficulties. The Highways Agency is currently developing a scheme to widen the A453 to dual carriageway between the M1 and the Crusader roundabout on the approach to Clifton, and to a four-lane single carriageway through Clifton from the Crusader roundabout to Farnborough Road, at the start of the A52 Nottingham Ring Road⁵⁹. The Agency has consulted on proposals for the scheme and is expecting to publish an Environmental Statement in Autumn 2008. A public inquiry may be held and subject to the decision by the Secretary of State, construction could start in 2010, with the road open to traffic in winter 2012/13⁶⁰.
- The A46 is an important regional trunk road connecting the East and West Midlands. The section between Widmerpool and Newark carries between 16,200 and 25,300 vehicles per day, of which up to 15 per cent are heavy goods vehicles. This level of traffic gives rise to frequent congestion and delay. The Highways Agency has proposed a new 28km long two-lane dual carriageway from the A606 two level junction at Widmerpool to an improved roundabout at Farndon, just south of Newark⁶¹. This scheme has gone through the public inquiry process and is currently awaiting funding. However, obtaining and justifying the necessary funding is considered problematic by the local authority even with an eco-town⁶². Moreover, DfT has highlighted that the A46 improvement is now being considered in sections rather than as a single improvement scheme.
- The A52 runs east-west across Rushcliffe and is also heavily congested. The section within Rushcliffe, east of Clifton, has been observed by the Highways Agency as operating at over 100 per cent stress (2005 data based on the Annual Average Daily Traffic Flow of that route divided by the Congestion Reference Flow for that category of road). A 2004 Multi-

⁵⁸ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

⁵⁹ *Ibid.*

⁶⁰ Highways Agency (n.d.) A453 Widening (M1 Junction 24 to A52 Nottingham) Available: <http://www.highways.gov.uk/roads/projects/4337.aspx>

⁶¹ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

⁶² Rushcliffe Borough Council, pers. comm.

Modal Study for the A52 corridor between Clifton Bridge and Bingham recommended a number of short term measures including: encouraging modal change, improvements to walking and cycling infrastructure, bus priority measures, village and town centre improvements and a bus-based park and ride site at Gamston. The study also recommended longer term measures including: including the provision of split level junctions at the Nottingham Knight, Wheatcroft and Gamston roundabouts, the dualling of the Lings Bar section and the provision of an off-line dual carriageway between Radcliffe and Saxondale. Other long-term recommendations from the study include a new River Trent crossing, with a preferred location at Radcliffe, the extension of the Robin Hood Line to Bingham and a new parkway rail station at Saxondale⁶³.

2.5.43 Public transport provision in the borough is described as ‘variable’. Larger settlements (eg West Bridgford and others) are relatively well served by a range of bus services. However, a number of smaller parishes have either an infrequent bus service or no service at all⁶⁴. Public transport was defined by local residents as their ‘second priority for improvement in the local area’ (2003-04)⁶⁵. The following Table 3 shows the current accessibility by train, bus, cycle and walking within 30 minutes from Bingham, Cotgrave and Kingston-on-Soar (note that Kingston-on-Soar is a small village):

Table 3: Accessibility by train, bus, cycle and walking within 30 minutes⁶⁶

Parish	Primary school	Secondary school	Health Facility	Hospital	Retail centre	Employment	Bus Frequency
Bingham	All	All	All	None	All	All	Frequent
Kingston-on-Soar	None	None	Cycle/ Walk	None	None	None	Infrequent
Cotgrave	All	Bus	All	None	All	All	Frequent

2.5.44 Nationally, 68 per cent of households have access to a car while in Rushcliffe 83 per cent of households have a car compared to 55 per cent in Nottingham⁶⁷. This could be a reflection of the rural nature of the area and ‘variability’ of public transport provision.

⁶³ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

⁶⁴ *Ibid.*

⁶⁵ Audit Commission – Area Profiles. Available: [http://www.areaprofiles.audit-commission.gov.uk/\(cfuek3aqj0r3ua3efoplni55\)/StaticSequencePage.aspx?info=94&menu=2](http://www.areaprofiles.audit-commission.gov.uk/(cfuek3aqj0r3ua3efoplni55)/StaticSequencePage.aspx?info=94&menu=2)

⁶⁶ Rushcliffe Borough Council (2007) *LDF Annual Monitoring Report 2006 – 2007*

⁶⁷ Nottingham City Council & Nottinghamshire County Council (2006) *Local Transport Plan for Greater Nottingham 2006/7 – 2010/11*. Available at: http://www.nottinghamshire.gov.uk/home/traffic_and_travel/strategy-policy/ltp.htm#greaternottm

2.5.45 'Journey to work' data collected within the 2001 Census indicated that 63 per cent of the Rushcliffe population travel to work by car, which is higher than the average across England (55 per cent) and Nottinghamshire (57 per cent). The proportion of residents that travel to work by bus (9.9 per cent) is slightly higher than the England average (7.5 per cent) but lower than Nottinghamshire (7.5 per cent). The proportion of Rushcliffe residents that travel to work by other modes is lower than the England and county averages in all cases⁶⁸.

2.5.46 In September 2005 Rushcliffe Borough Council declared two Air Quality Management Areas (AQMAs) in West Bridgford because of traffic pollution levels (specifically nitrogen dioxide – NO₂). The main areas affected are Trent Bridge, Loughborough Road, Radcliffe Road, Lady Bay Bridge, Melton Road, Wilford Lane, and the A52 southern ring road between the Nottingham City Boundary and the A52/A60 roundabout⁶⁹. The Environment Agency has highlighted that the Kingston proposed eco-town location is located within an AQMA designated because of NO₂ levels.

Employment and economy

2.5.47 Unemployment rates within the Borough have consistently been the lowest in Nottinghamshire. The unemployment rate in March 2007 was 1.1 per cent for Rushcliffe in comparison to 2.6 per cent for the UK and 2.7 per cent for the County⁷⁰.

2.5.48 Household income levels for wards in Rushcliffe are generally higher than those within other authorities in the Greater Nottingham area. Employment by occupation statistics show that the proportion of Rushcliffe residents employed in managerial and professional occupations is significantly higher than within the East Midlands and the UK as a whole. The proportion of Rushcliffe residents employed within process and elementary occupations is significantly lower than the East Midlands and UK averages⁷¹.

2.5.49 Census 2001 data shows that Rushcliffe acts primarily as a residential area serving the Greater Nottingham employment area. In Rushcliffe, there are 52,639 working residents and 36,359 jobs. The ratio of working residents to jobs in Rushcliffe is therefore 0.69, meaning that the Borough is a net exporter of workers. A third of Rushcliffe residents work within the Borough, a further third work within Nottingham and a significant proportion travel beyond Nottingham to work (2001 Census data)⁷².

⁶⁸ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

⁶⁹ Rushcliffe Borough Council (n.d.) *Traffic pollution in West Bridgford (AQMA 1 and 2)* Available at: <http://www.rushcliffe.gov.uk/doc.asp?cat=9659&doc=6747>

⁷⁰ *Ibid.*

⁷¹ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

⁷² *Ibid.*

2.5.50 The East Midlands Airport is a significant source of employment within the Borough and has the potential to generate a large number of associated jobs. Other key employment sites within the borough include: BGCS, Nottingham University and British Gypsum⁷³.

Spatial issues

2.5.51 Approximately 42 per cent of the total land within the Borough is designated as Green Belt⁷⁴. A strategic review of the boundaries of the Green Belt in the Three Cities Area, undertaken as part of the RSS review process, identified the area between Nottingham and Derby as the most important part of the Green Belt as it prevents coalescence of the two cities. Areas north of Nottingham and Derby are also important, but *'areas to the south and east of Nottingham are of lesser importance'*⁷⁵.

2.5.52 The Panel Report on the draft RSS recommended that land to the north, east and south of Nottingham be removed from the Green Belt. However, the Government has rejected this advice in their proposed changes to the RSS. Site-specific urban extensions around Nottingham (and also Leicester and Lincoln) are to be removed⁷⁶.

2.5.53 The regional target is for 60 per cent of residential development to take place on brownfield land. 87 per cent of new houses within Rushcliffe were built on previously developed land in 2005/6 and 86 per cent since 2001⁷⁷.

2.6 What will be the situation *without* the eco-town? (the 'business-as-usual' option)

2.6.1 The Three Cities area (which includes Rushcliffe) has been designated as 'New Growth Point' by the Government. The draft RSS includes a figure of 555 additional dwellings per annum in Rushcliffe up to 2026, of which 445 dwellings per annum should be provided within or adjacent to the Principal Urban Area of West Bridgford and Clifton. In terms of land allocations, the preferred approach included in the draft RSS in the urban areas and in 'sustainable urban extensions.'

2.6.2 In the absence of an eco-town there is likely to be significant development within Rushcliffe but it is more likely to take the form of urban extensions around West Bridgford and Clifton rather than a separate eco-town.

⁷³ *Ibid.*

⁷⁴ *Ibid.*

⁷⁵ Draft East Midlands RSS Review, Part 2, p.7; Available at: <http://www.emra.gov.uk/what-we-do/housing-planning-transport/rss-review/documents> (Accessed 4 July 2008)

⁷⁶ *Region green belt rescued* in Planning, 25 July 2008.

⁷⁷ Rushcliffe Borough Council (2007) *LDF Sustainability Appraisal Scoping Report*, available at: <http://www.rushcliffe.gov.uk/doc.asp?catid=9457>

2.6.3 In all scenarios, there will be a need for affordable homes and for measures to reduce road congestion.

2.7 What will be the situation with the eco-town?

Introduction

2.7.1 In this section we consider the sustainability of the proposed locations and developments at RAF Newton-Bingham, Cotgrave Place and Kingston. The discussion is structured around the sustainability issues derived from the earlier scoping work.

2.7.2 The appraisal draws on information derived from:

- the Faber Maunsell scoping studies
- the developers' proposals
- discussions with the agents for the three site proposals
- discussions with Rushcliffe Borough Council
- a site visit
- the comments of statutory agencies (eg English Heritage, the Environment Agency, Natural England) and the Department of Transport
- Communities and Local Government
- responses to the Communities and Local Government Consultation Document 'Eco-towns, Living a Greener Future' (April 2008)

Biodiversity and green infrastructure

2.7.3 The HRA is set out in detail in Section 3 of this chapter. In summary, two Natura 2000 sites (Birklands & Bilhaugh SAC and the Humber Estuary SAC SPA & Ramsar site) were included in the assessment. It did not prove possible to say that the development in Rushcliffe under the Eco-Towns Policy Statement (whether at Newton-Bingham, Cotgrave Place or Kingston-on-Soar) will not lead to material adverse effects on Humber Estuary SAC/ SPA & Ramsar site as a result of deteriorating water quality, or on European sites as a result of increased abstraction, without further amendments to the Planning Policy Statement and these are detailed in Section 3.

2.7.4 Rushcliffe has relatively limited areas of biodiversity interest. However, all the proposed sites have features of interest from nature conservation/ biodiversity points of view. The land along the railway line in Newton both to the north and south of the site is of local nature conservation interest. The Grantham Canal adjacent to the Cotgrave site is designated as a Site of Importance for Nature Conservation (SINC).

- 2.7.5 The woodlands within the Kingston site are designated as SINC. The site promoters have proposed that the woodlands become part of a country park. As well as providing a country park, the development at Kingston would maintain any features of interest such as woodlands, hedgerows, etc.
- 2.7.6 In regards to the Kingston site, the Environment Agency has highlighted that fish survey data (EA) for 2006 shows a good population of cyprinid fish and minor species. These may be impacted by pollutants and an increase in silt derived from new development. The quality of surface water should be managed within the development through sustainable drainage schemes before being released into receiving water courses.
- 2.7.7 The Cotgrave site and the surrounding area are located in the 'Trent Valley and Rises Natural Area', as defined by Natural England. This area comprises mainly agricultural uses, although there are a number of semi-natural habitats including neutral grasslands, wet meadows, parkland, wet woodlands, rivers and streams. The Cotgrave Place promoters are proposing to create a network of linked parks and open spaces. In addition, the development would provide for the retention and management of existing habitats as well as creating new habitats. The proponents will also seek to enhance the ecological value of a Trent tributary located in the western part of the site, improve community access to the Grantham Canal and protect the integrity of the water course and enhance its biodiversity value⁷⁸.
- 2.7.8 The assessment of this site by Natural England has identified that there are no significant landscape and biodiversity interests known on the site, and there are a good range of potential green infrastructure links that can be established in the nearby area to strategic sites such as the Grantham Canal, Cotgrave Country Park, and Holme Pierrepont Country Park. There is good countryside recreation and access potential in the vicinity, but the safe crossing of the A52 for non motorised users is a critical factor that would need to be resolved.
- 2.7.9 The RAF Newton-Bingham proposal would also seek to maximise the use of green infrastructure and enhance biodiversity. The proposal does not provide much detail but one of the key aspects is the significant extent of the landholding (713 ha) which the promoters consider would enable them to re-instate biodiversity and landscape features through a green infrastructure network⁷⁹. The promoters note that the card holding of the landowning partners within the area is considerably greater than the area of search. Natural England's assessment of this site concluded that there are no known significant landscape and biodiversity interests. Recreation and access to the surrounding countryside for walkers and cyclists is currently compromised by the poor rights of way network in and the main roads and railway acting as barriers.

⁷⁸ Information provided by Cotgrave Place site promoters.

⁷⁹ Information included in RAF Newton-Bingham site proposal.

Climate change adaptation and flood risk

- 2.7.10 Figure 6 shows the Environment Agency on-line flood risk map and the approximate locations of the proposed eco-towns (note: the top map shows the Kingston site location and the bottom map shows Cotgrave Place and Newton-Bingham).
- 2.7.11 An area of the land to the east part of the Newton-Bingham site (ie north of Bingham) is within Flood Zone 3 on the Environment Agency's indicative flood plain map. The site promoters have pointed out that the bulk of this area has already received planning permission for an employment related development and water management proposals are already being progressed as part of the implementation strategy. These measures would be incorporated into the eco-town scheme and involve the creation of parkland with flood management lakes to reduce peak flood levels in the watercourses in this area; in effect removing land from flood zone 3 and providing alternative flood storage within the lakes. The promoters are keen to emphasise that this scheme would improve flood risk management as well as providing opportunities for recreation and habitat creation⁸⁰.
- 2.7.12 Information provided by the Cotgrave Place site promoters indicates that although most of the site is in Flood Zone 1 (outside flood plain). A small proportion of the western part of the area is within a 1 in 75 year flood plain according to the Environment Agency on-line information. – highly significant⁸¹ to the extent that a Flood Risk Assessment will be required. To mitigate this, the site promoters are anticipating using this area as green infrastructure. Their assessment of the site also highlights that the application of the sequential test (in accordance to PPS25) may result in a reduced number of residential properties being accommodated within the site.
- 2.7.13 A small area of the Kingston site is at risk of flooding, near the Kingston Brook. However, the development would take place outside this area. The Environment Agency would require the surface water to be carefully managed within the site to avoid a detrimental impact on downstream properties. They have also recommended that sustainable drainage systems should be integral to the design of the development and can be constructed within the timescales. They will need to be operational from the outset of occupancy of the development. The EA would also require a Flood Risk Assessment with particular emphasis on the sustainable management of surface water. The site developers have not looked at drainage in detail to date but the existing water course (Kingston Brook) could potentially support natural drainage in the site. As part of their drainage they would consider providing a wetland⁸².

⁸⁰ The Crown Estate, Bingham Estate Nottingham (2008) Flood Risk and Drainage Strategy.

⁸¹ The EA site assessments use a five-point significance scale for impacts: **Show stopper** (significant impacts that cannot be mitigated and/or goes against Government policy), **Highly significant** (Significant impacts with medium to long term implications, infrastructure requirements and/or need for mitigation measures which would be very challenging to deliver by 2016 or only with exceptionally high costs.), **Significant** (significant impacts, medium-long term implications but could be mitigated in the timescale if adequate investment made), **Manageable** (short term implications that can be mitigated in the timescale), **None**.

⁸² Information provided by the Kingston site promoters.

Figure 6: Rushcliffe approximate eco-town locations and flood risk⁸³



Key:

- Zone 3 (1 in 100 years river flood)
- Zone 2 (up to 1 in 1000 years river flood)
- Flood defences
- Areas benefiting from flood defences

⁸³ Source: Environment Agency flood map, Available at: <http://maps.environment-agency.gov.uk/wiyby/mapController>

Climate change mitigation

- 2.7.14 The information provided by the Cotgrave Place promoters states that the eco-town will utilise a combination of renewable energy technologies. The promoters will collaborate with the new Institute of Sustainable Energy Technology (ISET) at the University of Nottingham which will carry out research into renewable/sustainable technologies. Other proposals include: orientating buildings to maximise natural heating and light gains, insulation and air tightness techniques.
- 2.7.15 Initiatives mentioned in the Newton-Bingham Proposal include energy from waste/biomass, providing power to the whole community and micro-generation associated with individual properties or neighbourhoods. Other measures include significant changes in travel behaviour, reducing the carbon footprint of resources consumed in the community (such as 'food miles') and incorporating the 'highest standards' of energy efficiency into all built development, it is suggested that the majority of electricity and heating needs will be provided locally from a combination of different renewable energy solutions.
- 2.7.16 The Kingston site would include a series of Combined Heat and Power (CHP) plants in locations with high energy demand. These would be fuelled from biomass that potentially could be sourced from neighbouring woodlands and forests and also from municipal and industrial waste (anaerobic digestion). However, waste offers limited potential – as municipal waste is already tied up in long term contracts to be taken to landfill. The developers would also look at harnessing wind energy. There is a constraint on the use of wind turbines due to the proximity of the East Midlands Airport, but the site promoters, based on their experience of dealing with similar situations, claim that they will be able to overcome the problems.

Landscape and historic environment

- 2.7.17 The Grantham Canal is located close to Cotgrave Place. The canal has significant historic interest: it was used to transport coal from Nottingham to Grantham in the 1800s and early 1900s. The eco-town proposal will include measures to encourage access to the canal and will also seek to protect the setting of the canal⁸⁴. The Newton-Bingham site would seek to develop the local heritage of the former RAF base in Newton and also the historic market town of Bingham⁸⁵. The Kingston site would retain the existing manor house and associated parkland⁸⁶.
- 2.7.18 English Heritage has provided comments on the historical and archaeological value of the locations. The key points are:

⁸⁴ Information provided by the Cotgrave Place site promoters.

⁸⁵ *An Eco-town at Newton-Bingham, proposal submitted to Communities and Local Government on 20 June 2008*; available at: http://www.newtonecotown.com/next_steps.php (Accessed 4 July 2008)

⁸⁶ Information provided by Kingston site promoters.

- the historic core of Bingham has 26 listed buildings including the Grade I listed St Mary's Church, and two scheduled monuments on the northern and eastern edges. The proposal is likely to have a substantial effect on the setting of Bingham and its historic character. A new settlement could also have indirect impacts if it draws away jobs, services and shops which may lead to a deterioration of the historic core. The site area contains rich archaeological remains, largely focussed around the Roman route of Fosse Way (broadly the route of the modern A46). On the northern edge of the site is the Roman settlement of Margidunum, which is also scheduled and will need its setting preserved
- the village of Newton contains three Grade II listed buildings and a Grade II listed windmill further west, which could be affected by an eco-town development. RAF Newton, whilst not containing any designated historic features, is likely to have a distinctive military character and layout that will need to be properly assessed and understood to inform any future development
- surrounding settlements contain a number of listed buildings, including highly graded churches and manor houses. There are a number of scheduled monuments reflecting the area's Roman and medieval heritage. The impact of a large new settlement on the setting and character of these existing places and features is likely to be considerable
- within the Cotgrave Place site, the setting of the Grade II Cotgrave Place Farmhouse is likely to be greatly affected by an eco-town development, along with Holme House on the northern edge. In the surrounding area, the setting of historic features (including highly graded listed buildings) in Holme Pierrepont, Cotgrave and Tollerton may be affected given the topography. There is also likely to be considerable archaeological potential, with National Monument Record data revealing a number of finds including prehistoric and Roman artefacts. The proximity to the River Trent is significant, and the area forms part of the Trent Valley Geo Archaeology project
- conservation areas, listed buildings and scheduled ancient monuments are to be found around the Kingston site and a rich seam of archaeology exists within and around the site. There are Grade I listed churches at Kingston on Soar, Gotham and East Leake, and a Grade II* listed church at West Leake. Conservation areas cover Sutton Bonnington, West and East Leake and Thrumpton. There is a Grade II listed building at Kingston Fields Farm within the site. There are major concerns regarding the landscape and archaeological impact of a new settlement.

2.7.19 The landscape around the Newton-Bingham site is relatively flat and consists of large open fields and agricultural land. Therefore a new settlement of at least 5,000 dwellings could have a considerable impact. The landscape impact of a settlement at Cotgrave Place could be partly mitigated by

the more hilly landscape. There are some natural barriers that would separate the Kingston site from the surrounding countryside and that could potentially reduce the visual impact including the West Leake Hills which run from the north west to the south east of the site and woodlands to the north and west. The site is situated in a 'bowl' so this could reduce impacts on the landscape.

Waste

- 2.7.20 At Cotgrave Place, a site waste management plan would be implemented during the construction and operational phases of the development. Construction and operational waste would be minimised in accordance with level 6 Code for Sustainable Homes. The development will include 'best practice' waste management facilities including recycling facilities within all buildings, municipal recycling centres, door to door collection, composting facilities, and provision of storage, collection and treatment of commercial waste. The site promoters would also explore the potential for generating energy from waste.
- 2.7.21 The Newton-Bingham site proposal also includes a commitment to minimising waste at both the construction and operational stages. They propose to achieve waste neutrality during the construction phase and would also prepare a Site Waste Management Plan. During the operational stages, they propose similar measures as the Cotgrave Place promoters, including production of energy from waste.
- 2.7.22 The Kingston development would link waste to energy production and also provide recycling facilities on the site. Waste disposal would be minimised through the implementation of a waste management plan for the town to manage waste production and recovery.

Water resources and water quality

- 2.7.23 Reducing water consumption, increasing water efficiency in new developments and providing additional sewage treatment capacity are key issues for the region. The RAF Newton proposal does not provide much detail regarding their water management/efficiency measures at this stage. Information provided by the Cotgrave Place site promoters includes that water efficiency measures will be maximised in accordance with the Code for Sustainable Homes 6 star rating criteria. The proposal will seek to demonstrate best practice in the supply, use, reuse, collection, treatment and disposal of foul and surface water. Efficiency measures will include: water efficient fixtures and fittings, reuse of grey water, suds, etc. The Kingston site developers have not finalised their proposals related to water efficiency and reducing water use.

2.7.24 The Environment Agency has provided the following comments in relation to water resources and the proposed sites. All three sites are located in the same Water Resource Zone:

- all the sites fall within the East Midlands Water Resource Zone (EMRZ). The EMRZ currently has a supply/demand deficit (based on per capita consumption). The Environment Agency expect Severn Trent Water to put a solution forward to address this situation in the next Water Resources Management Plan (WRMP) but they will not have included the requirements of the extra housing in this plan
- the Environment Agency recommends that water cycle studies are carried out for all proposed developments. They expect the greatest possible efficiency for all buildings in the proposed developments including non-household properties (schools, shops etc) as this will make the impacts of the proposed developments much more manageable.

2.7.25 The Environment Agency considers that the issue described above is 'significant⁸⁷' and have highlighted that depending on the outcomes of the Water Cycle Study, there may be a need to construct new water resource infrastructure. In terms of the sewerage network, the Environment Agency assessment of the proposed sites concludes that improvements may be required depending on the result of the water cycle studies and the modelling of consent limits.

Community infrastructure

2.7.26 All sites are located near existing settlements: Bingham and Cotgrave. Kingston is surrounded by a series of small villages and towns. While this can provide advantages in terms of existing community facilities, the development of an eco-town should not put additional pressure on the existing infrastructure. Particular issues identified include the health centre in Bingham, which is currently at capacity and the need for a new sports centre. The promoters of the Newton-Bingham site were keen to emphasise that the development would include provision of community infrastructure such as new education, community sports, and health facilities. Equally the promoters suggest the community would additionally benefit from an increased retail offer, provision of public open space, development of green technologies, and better public transport provision.

⁸⁷ The EA site assessments use a five-point significance scale for impacts: **Show stopper** (significant impacts that cannot be mitigated and/or goes against Government policy), **Highly significant** (Significant impacts with medium to long term implications, infrastructure requirements and/or need for mitigation measures which would be very challenging to deliver by 2016 or only with exceptionally high costs.), **Significant** (significant impacts, medium-long term implications but could be mitigated in the timescale if adequate investment made), **Manageable** (short term implications that can be mitigated in the timescale), **None**.

- 2.7.27 The Kingston site promoters are proposing to include a town centre with a retail centre and a secondary school which could initially be linked to an existing secondary school. Three local centres would be based around a primary school and corner shop and a CHP plant. They would also consider providing a swimming pool in the town centre, a library, and a community centre. The proposed country park would be a distinctive feature of the development.
- 2.7.28 The Cotgrave Place proposal would provide three primary schools, one secondary school, a town centre, health and other facilities such as community halls, public parks, play space and places of worship. They would also re-provide the existing golf course.

Community wellbeing

- 2.7.29 According to the IMD 2007, Cotgrave has particularly high crime levels and is within the 30 per cent most deprived areas in England in terms of education, skills and training. The Cotgrave Place eco-town could potentially contribute to the regeneration of the Cotgrave area. Proposals for governance arrangements have not been finalised but the site promoters are considering setting up a community trust and providing a source of income to support the community (eg ownership of retail units).
- 2.7.30 However, the East Midlands Development Agency (EMDA) has expressed concern, in its response to the Communities and Local Government's consultation 'Living a Greener Future,' about the challenges that eco-towns could raise in terms of their potential impact on existing economic development and regeneration initiatives in adjacent areas. EMDA also recommends that where proposed eco-towns are located near or could impact on existing urban centres, the relationship between them needs to be fully explored to ensure that the eco-towns do not have a detrimental impact. Although, EMDA commented on the document after the Kingston site had been excluded from the final shortlist and before either of the other two site proposals had been formally submitted, one of the issues they raised is the potential for an eco-town to *'best compliment priorities for regeneration such as the Cotgrave Colliery site and within the Nottingham Regeneration Zones'*.
- 2.7.31 The areas within and in the vicinity of Newton-Bingham are in general not deprived. In terms of governance and long-term community sustainability, the proposal refers to the track record of the Crown Estate in delivering developments based on Stewardship Principles, involvement of the Prince's Foundation for the Built Environment and community engagement from the outset.

2.7.32 The Kingston site is within an area of low deprivation. The site promoters are proposing a town management company similar to a 'new town' development corporation which would own some of the assets that will generate income for the community.

Decent and affordable homes

2.7.33 Affordability of housing is a key issue in the borough. The promoters of the Cotgrave and RAF Newton sites propose that 30 per cent of their housing will be affordable, with a range of tenure types (eg rent, shared ownership, etc) and provision of family housing. The Kingston development would also include a minimum of 30 per cent affordable housing, but the site promoters have highlighted that they could potentially deliver a higher percentage of 40 per cent or 50 per cent.

Transport and accessibility

2.7.34 The main roads in the area, A453, A52 and A46 are at capacity and any improvement will require a large investment, which affects all three proposals. Rushcliffe Borough Council would not support any proposal unless it included adequate improvements to the roads.

2.7.35 The Cotgrave Place site is located 8 km from Nottingham and the proposal will promote the use of the Grantham Canal route via West Bridgford by pedestrians and cyclists. The site promoters are also proposing to restore the former Cotgrave Mineral Line which runs adjacent to the site and would provide a link with Nottingham. The promoters have consulted with the County Council and in principle (subject to further consultation with services providers) the line could be restored and brought into commercial use. As well as a rail line, the promoters are also considering a lighter 'tram-train' system for the disused line which would provide a link to the existing tram system. A new bus interchange is also proposed and the design and layout of the site will be focused on '*a series of walkable neighbourhoods where key facilities are within 5 minutes' walk of the whole population*'. The design would also aim to encourage walking and cycling within the town⁸⁸.

2.7.36 The area of search for the proposed eco-town at Newton-Bingham is located 14 km to the east of Nottingham at the junction of the A46 and A52. There is an existing railway station in Bingham and the potential for expanding the Robin Hood train line. The proposal includes various improvements to the railway station facilities and parking arrangements. However, DfT have warned that the use of this station would be difficult due to poor road access and that although the possibility of extending Robin Hood Line service exists, this would be subject to enhancements to existing infrastructure and a strong business case. Another potential opportunity highlighted by the site promoters is the location of the Sustrans cycle route to the north west of the

⁸⁸ Information provided by Cotgrave Place site promoters.

site. This would be a potential link into Nottingham for cyclists. The proposal also includes investment in non-motorised transport modes, walking and cycling, railway crossing point improvements, using a prioritised cycle network, car-free and low car zones and designing streets to discourage traffic⁸⁹.

2.7.37 Transport issues have been highlighted by the Rushcliffe Borough Council as one of the weaknesses of the Kingston proposal. In particular, the absence of a train station is seen as a major obstacle⁹⁰. However, the site promoters are keen to point out that the site would benefit from planned improvements to the transport infrastructure. This includes the East Midlands Parkway Station at Ratcliffe-on-Soar which is currently being built in close proximity to the site. This would provide rail access to jobs, shops and services in the Three Cities (Leicester, Nottingham and Leicester). The Highways Agency also has a commitment to widening the M1 and dualling the A453 to Clifton. 'Feeder' bus services to the new station and local employment centres (eg the airport and university) would also be provided for the eco-town.

2.7.38 The Highways Agency and Department of Transport have stated that an eco-town at Kingston would not cause capacity problems on the rail line or at the new Parkway station at Radcliffe on Soar. However, they have expressed concern that it would reduce the benefits for the area of the infrastructure improvements. In particular, the A453 corridor to Nottingham is congested, with service buses already being forced to divert to country roads. The impact of housing growth at Clifton will add to these problems. Capacity provided by planned dualling of A453 would be negated if residents of Kingston used it to commute. The developer is keen to point out, however, that as the area is experiencing an economic buoyancy unmatched by housing uplift, the Kingston proposal may reduce local community trends and infrastructural demands by providing a better employment to residency match.

2.7.39 They have also raised the issue that because the improvement of M1/J24 (the main motorway hub in the area) will improve journey times north to Sheffield and south to Leicester and Northampton, there would be a strong temptation therefore to commute from Kingston rather than work there. They have also highlighted that in the long term a fixed link by tram, from Clifton, to the airport could well be called for but this would be very costly. The Kingston site developers have highlighted that this tram link could potentially run through the eco-town and this would contribute to the justification of the costs of the new link.

⁸⁹ Information provided by Newton-Bingham site promoters

⁹⁰ Rushcliffe BC pers. comm.

2.7.40 Related to this, Sustrans, Campaign for Better Transport, Carfree UK and Friends of the Earth England have submitted a joint response to Communities and Local Government's consultation 'Living a Greener Future'. Their comments have highlighted the importance of having a railway station in the centre of any eco-town development in order to reduce car dependency. Their comments on Rushcliffe do not refer to any of the three sites but do talk about Rushcliffe as a *'possibility, particularly if it is linked to an extension of the Nottingham tram system'*.

Employment and economy

2.7.41 The Newton-Bingham proposal highlights that planning permission has been obtained for a business park within the site which could provide between 3,000 and 5,000 jobs and could greatly contribute to the self-containment of the site. In addition, live-work accommodation could be provided within the development. The proposal also refers to an additional number of jobs which could be provided in the vicinity of the site. The total number of jobs which might be created could be between 2,660 and 13,000.

2.7.42 The information provided for the Cotgrave Place site does not provide numbers of jobs that could be created. It includes encouraging home working by providing 'high-tech IT links', providing apprenticeships schemes in relation to the re-provision of the golf course and an associated hotel, provision of employment floorspace close to the A52 and the proposed railway and opportunities for smaller business units within the town.

2.7.43 The Kingston site promoters have highlighted that the eco-town would be located in an area where there is a large provision of existing and future jobs. This includes the airport, the gypsum works, power station and university. They also consider that because of its location in respect of these employment centres, Kingston would be more likely to attract employment. The proposal includes the creation of 3,700 jobs plus additional jobs associated with the town centre including retail, schools, offices, that would take the number to 5,000 or one job per household.

Spatial issues

2.7.44 Approximately 42 per cent of the total land within the Borough lies within the Green Belt⁹¹. The western part of the Newton-Bingham site is designated as Green Belt, part of Kingston is Green Belt, Cotgrave is entirely located within the Green Belt.

⁹¹ *Ibid.*

2.7.45 Only part of the Newton-Bingham site is considered brownfield. Both Kingston and Cotgrave Place are greenfield. However the Cotgrave Place site promoters are keen to point out that 'part of the site is currently used as a golf course and is therefore not 'virgin' greenfield land' that the existing golf course would be relocated in order to prevent coalescence with Cotgrave, and the site is currently served with drainage, road and services infrastructure.

2.7.46 Land contamination is possible at the former RAF Newton site. The Environment Agency's assessment of the site has highlighted that significant contaminated hotspots are likely and that contaminants may include hydrocarbons from fuels and radioactive material from aircraft instrumentation, munitions, etc. The rest of the site is primarily green field which also may contain hotspots from agricultural contaminants. The EA has stated that a desk top study will be needed prior to development and any contaminants dealt with prior to build.

2.7.47 A study assessing the most suitable locations for the development of Sustainable Urban Extensions adjacent to the Nottingham looked at several strategic areas and specific sites within Rushcliffe. One of the broad areas considered was that around Cotgrave. The assessment concluded that, because of lack of connectivity and other sustainability issues, the area did not show great potential. Within the broad area, a specific site adjacent to the village of Bassingfield (north of the proposed eco-town) was included in the assessment. However the study concluded that the site was unsuitable for development due to its poor performance in terms of accessibility and transport and its location in the Green Belt⁹². The promoters challenge the applicability of this broader assessment to the specificity of Cotgrave.

2.7.48 Parts of the three sites are high grade agricultural land: a part near Bingham is Grade 2 and 3, parts of Cotgrave Place are Grade 3, Kingston includes Grade 2 and 3A.

2.8 How can we mitigate/enhance effects?

2.8.1 This section summarises the key sustainability strengths and weaknesses of the proposed eco-town locations in Rushcliffe.

Strengths and weaknesses of the Newton-Bingham location

2.8.2 The **key strengths of the Newton-Bingham** location from a sustainability viewpoint are:

- existing railway station at Bingham

⁹² Tribal Urban Studio with Roger Tym and Partners and CampbellReith (2008) Appraisal of Sustainable Urban Extensions; Available at: <http://www.nottinghamshire.gov.uk/appraisalofsustainableurbanexts.pdf>

- proximity to the Sustrans cycle route which could provide a cycle route to Nottingham
- existing planning permission for a business park which could create up to 9,000 jobs
- part of the site is brownfield
- part of the site (former RAF base) could be contaminated and the development would provide an opportunity to remediate it

2.8.3 The **key weaknesses of the Newton-Bingham** location from a sustainability viewpoint are that:

- part of the site is greenfield and located on the edge of the Green Belt
- parts of the site are Grade 2 and 3 agricultural land
- the road infrastructure around the site is under great pressure
- there is an area at high risk of flooding within the site, to the east of the A46 and north of the existing settlement at Bingham. The flood risk area covers approximately 15 per cent of the total area of search
- potential for significant landscape impacts due to the rural and flat nature of the area

Strengths and weaknesses of the Kingston location

2.8.4 The **key strengths of the Kingston location** from a sustainability viewpoint are:

- natural features that could contain the development in the landscape
- proximity to major employment locations (airport, power station, etc)
- planned improvements to local roads (A453, M1) that are likely to go ahead
- proximity to a future Midlands Mainland Station (East Midlands Parkway Station)

2.8.5 The **key weaknesses of the Kingston location** from a sustainability viewpoint are that:

- the site is greenfield and is located within the Nottingham and Derby Green Belt
- parts of the site are Grade 2 and 3 agricultural land
- although road improvements are going ahead, the new settlement could negate the benefits of these improvements to the area. In addition, these improvements could facilitate Kingston becoming a commuter town.

Finally the improvements only go as far as the beginning of the built up area (Clifton) and could end up merely creating a bigger bottleneck nearer Nottingham

- risk of coalescence with and/or loss of character of surrounding settlements

Strengths and weaknesses of the Cotgrave Place location

2.8.6 The **key strengths of the Cotgrave Place** location from a sustainability viewpoint are:

- existing disused mineral line which could be reopened and used (however, the Department for Transport has warned that there are many problems inherent in reopening the disused mineral line, the main one being the viability of the service)
- proximity to Nottingham which could encourage walking and cycling to work
- the proximity of the Grantham Canal and possibility of using as a walking/cycling route and recreational resource
- good range of links to accessible countryside for recreation, eg the Grantham Canal, Cotgrave Country Park, and Holme Pierrepont Country Park

2.8.7 The **key weaknesses of the Cotgrave Place location** from a sustainability viewpoint are that:

- the site is located within the Green Belt
- there are a number of small settlements/ proposed developments in the area so there could be a risk of coalescence (the proposal includes relocating the existing golf course between the site and Cotgrave to avoid this)
- the road infrastructure in Rushcliffe and around the site is under great pressure
- it could become a commuter settlement because of its proximity to the strategic road network
- the site is greenfield and part of it is Grade 3 agricultural land

Summary assessment of the sustainability of the three potential eco-town locations

- 2.8.8 The sustainability of each of the three sites as a potential eco-town location is further assessed in Table 4 below. The table uses a series of 23 indicators, derived from the appraisal criteria, to provide an objective summary of the strengths and weakness of the location from a sustainability viewpoint. On this basis, the three potential locations have respectively been assessed in accordance with the key at the end of Table 4 as:

Newton-Bingham: B – Location might be suitable for an eco-town subject to meeting specific planning and design objectives.

Kingston: B – Location might be suitable for an eco-town subject to meeting specific planning and design objectives.

Cotgrave Place: C – Location might be suitable for an eco-town subject to meeting specific planning and design objectives.

Table 4: Sustainability of Newton-Bingham, Kingston and Cotgrave Place as eco-town locations

Issue	Site Specific Issues	Indicators	Newton-Bingham	Kingston	Cotgrave Place
Biodiversity, and green infrastructure	Conserve and enhance biodiversity	SSSIs within or adjacent to the site	No	Yes – SSSI adjacent to site (Rushcliffe Golf course)	No
	Protect and enhance priority habitats and species	Presence of priority habitats/ species	Not known	Not known	Not known
	Increase and enhance green infrastructure				
Climate change adaptation and flood risk	Avoid development in areas of high flood risk	Area of flood risk 3 within site	Possible – approximately 15% of the search area is flood risk zone 3	No	Yes – the EA have highlighted that flood risk is a highly significant issue for the site
	Avoid exacerbating flooding in the vicinity of the site	Area of flood risk 3 adjacent to the site	No	Yes – some localised flood risk	Yes – some localised flood risk
Climate change mitigation	Maximise use of renewable energy	Potential of the site for renewable energy	Not known	Not known	Not known
Landscape and historic environment	Protect and enhance the landscape	Designated landscapes across or adjacent to the site	No	No	No
	Protect and enhance heritage assets and their settings	Listed buildings/ancient monuments within or adjacent to the site	Yes – listed buildings and SAMs	Yes – listed buildings	Yes – listed buildings

Table 4: Sustainability of Newton-Bingham, Kingston and Cotgrave Place as eco-town locations (continued)

Issue	Site Specific Issues	Indicators	Newton-Bingham	Kingston	Cotgrave Place
Water resources and water quality	Minimise impacts on water resources and water quality	Water supply status	Site located in the East Midlands Water Resource	Site located in the East Midlands Water Resource	Site located in the East Midlands Water Resource
			Zone – currently in deficit	Zone – currently in deficit	Zone – currently in deficit
		STW capacity	Additional STW capacity may be required	Additional STW capacity may be required	Additional STW capacity may be required
Community infrastructure/wellbeing	Utilise existing infrastructure within its capacity	Will contribute to retaining character of higher order centre	Not known	Not known	Not known
	Complement broader planning policies/objectives	Will facilitate regeneration	Not known	Not known	Not known
		Within or adjacent to Air Quality management Area (AQMA)	NO ₂ AQMAs encompassing parts of the A52 southern ring road, areas in and around West Bridgford and areas in central Nottingham	NO ₂ AQMAs encompassing parts of the A52 southern ring road, areas in and around West Bridgford and areas in central Nottingham	NO ₂ AQMAs encompassing parts of the A52 southern ring road, areas in and around West Bridgford and areas in central Nottingham
Decent and affordable homes	Meet housing need	Demand for housing	Yes	Yes	Yes
		Demand for affordable housing	Yes – lack of affordable housing a key issue in the borough	Yes – lack of affordable housing a key issue in the borough	Yes – lack of affordable housing a key issue in the borough

Table 4: Sustainability of Newton-Bingham, Kingston and Cotgrave Place as eco-town locations (continued)

Issue	Site Specific Issues	Indicators	Newton-Bingham	Kingston	Cotgrave Place
Transport and accessibility	Provide easy access to a higher order centre	Proximity to higher order centre (distance)	Nottingham c. 14km (9 miles)	Nottingham c. 17km (10.5 miles)	Nottingham c. 8km (5 miles)
	Provide easy access to a railway station	Proximity to railway station (distance)	The existing settlement of Bingham has a rail station	East Midlands Parkway station c. 5.5km (3.5 miles).	Radcliffe on Trent c. 5km (3 miles). Potential for reopening disused minerals rail line.
		Proximity to existing sources of employment (scale/distance)	On site (existing planning permission for a business park).	Close to several employment areas: airport, gypsum works, power station and university c. 3km (2 miles)	Nottingham c. 8km (5 miles)
	Discourage long distance commuting	Proximity to motorway/strategic road network (distance)	Adjacent to A46 and A52.	Approx. 1.5 miles to A453 and 3 miles to M1.	Adjacent to A52.
	Proximity to area of poor air quality				

Table 4: Sustainability of Newton-Bingham, Kingston and Cotgrave Place as eco-town locations (continued)

Issue	Site Specific Issues	Indicators	Newton-Bingham	Kingston	Cotgrave Place
Spatial efficiency	Use brownfield land wherever possible	Area of previously developed land within the site	Yes – part of the site is brownfield	No – greenfield	No – greenfield
		Area of grade 1/2 land within the site	Grade 2 and 3	Grade 3	Grade 2 and 3
	Reduce the loss of and damage to the most versatile agricultural land	Area of contaminated land	Contamination possible in the former RAF site	Not known	Not known
		Part or all of site within Green Belt	Yes – partly located in the Nottingham and Derby green belt	Yes – partly located in the Nottingham and Derby green belt	Yes – partly located in the Nottingham and Derby green belt
	Reduce the quantity of contaminated land	Within growth area	Yes – within Growth Point	Yes – within Growth Point	Yes – within Growth Point

Key:

Positive

Not known

Potential Negative

Negative

2.8.9 The following sub-section assesses the strengths and weaknesses of the current development proposals at Newton-Bingham, Kingston and Cotgrave Place. As full details of the proposals have yet to be developed, this is, of necessity, a preliminary analysis.

Strengths and weaknesses of the Newton-Bingham development

2.8.10 The **key strengths of the Newton-Bingham** development from a sustainability viewpoint is:

- the large area of search which offers flexibility in terms of location, phasing and size of development and green infrastructure
- commitment to provide a new health centre and sports centre
- requirement to address contamination

2.8.11 Issues which require further consideration and elaboration are:

- more detail is needed on the exact location, phasing and quantum of development and associated infrastructure
- the sustainability of the site depends heavily on improvements in the transport infrastructure: particularly the dualling of the A46 and the extension of the Robin Hood line

- avoiding or mitigating the impacts on areas of historic and/or archaeological interest⁹³
- more detail on jobs provision including, numbers and type of jobs
- preparation of a Water Cycle Strategy
- study to identify any potential land contamination

Strengths and weaknesses of the Kingston development

2.8.12 The **key strengths of the Kingston** development from a sustainability viewpoint is:

- The eco-town would include a country park that would incorporate the existing ancient woodland within the site and would provide opportunities for enhancing the biodiversity value of the area.

2.8.13 Issues which require further consideration and elaboration are:

- more detail on jobs provision including, numbers and type
- more detailed proposals on how the eco-town would minimise any potential negative impact on the existing communities and how they would maximise any potential synergies
- more detailed proposals for public transport provision and any planned contributions to improvement of the Borough's roads
- preparation of a Water Cycle Strategy
- avoiding or mitigating potential impacts on areas of historic and/or archaeological interest⁹⁴
- addressing Environment Agency concerns about flood risk

⁹³ English Heritage have suggested that site promoters and the Sustainability Appraisal should consider:

- Nottinghamshire County Council has recently carried out an Extensive Urban Survey (EUS) for Bingham to document and assess its historic environment. This should be a key reference document to inform any proposal and should be noted in the eco-towns sustainability appraisal.
- Refer to recent surveys and assessments of Roman archaeology carried out in connection with the upgrading of the A46.
- The historic value of the landscape within and beyond the Newton-Bingham site should be assessed. There is a Historic Landscape Characterisation (HLC) exists for Nottinghamshire, although this will need updating and deepening to understand the landscape in and around the study area. EH also recommends archaeological research and a more detailed HLC study for the Cotgrave Place site.

They have also expressed concerns about the Kingston site. However, this level of detail is outside the remit of the SA and more appropriate to be considered at the planning application stage.

⁹⁴ As above

Strengths and weaknesses of the Cotgrave Place development

2.8.14 The **key strengths of the Cotgrave Place** development from a sustainability viewpoint are:

- proposal for the restoration of the old mineral railway line for passengers

2.8.15 Issues which require further consideration and elaboration are:

- more detail is needed on the exact location, phasing and quantum of development and associated infrastructure
- more detail on jobs provision including, numbers and type
- more detailed proposals on how the eco-town would minimise any potential negative impact on the existing communities (eg regeneration at Cotgrave) and how would they maximise any potential synergies
- more detailed proposals for public transport provision and any planned contributions to improvement of the Borough's roads. The sustainability of this site is heavily dependent on the refurbishment of the disused mineral line. The developers will need to show that this is feasible and that they have discussed it with the service providers and any relevant authorities
- preparation of a water cycle strategy
- avoiding or mitigating impacts on areas of historic and/or archaeological interest⁹⁵

2.8.16 Table 5 provides a checklist of each of the development proposals against the standards set for eco-towns in Communities and Local Government's progress report published in July 2008 (which were available to the proponents prior to their final submissions at the end of August).

⁹⁵ As above

Table 5: Newton-Bingham, Kingston and Cotgrave Place as eco-town locations

Progress Report Draft Eco-Towns Criteria	Indicators	Performance of Newton-Bingham Development	Performance of Kingston Development	Performance of Cotgrave Place Development
Master planning and Sustainability Action Plans	<p>All eco-towns proposals must be accompanied by a detailed master-plan and a sustainability action plan that will show how the overall target to reduce CO₂ emissions by 80 per cent and any other targets such as those on transport and jobs will be achieved and sustained.</p> <p>Core services that underpin the delivery of CO₂ targets such as public transport infrastructure and services must be delivered and be operational when the first residents move in.</p>	Master plan not included – proposal in early stages.	Master plan included but early stages – very general proposals.	Master plan included but early stages – very general proposals.
Governance	<p>Proposals must be accompanied by long term governance proposals for the development to ensure that:</p> <ul style="list-style-type: none"> • there is engagement and consultation with existing neighbouring communities • targets are met and maintained • future development continues to meet the minimum criteria • there is continued community involvement and engagement • community assets are maintained 	Site promoters involving local communities in the proposal through a series of workshops. Proposals for long term governance included but not very detailed.	Proposals for long term governance included but not very detailed.	Site promoters have prepared community engagement strategy. Proposals for long term governance included but not very detailed.
Zero Carbon	Proposals must demonstrate that over a year the net carbon dioxide emissions from all energy use within the buildings on the development are zero or below (excludes embodied carbon and emissions from transport)	Proposal includes commitment to zero carbon developments but not very detailed.	Proposal includes commitment to zero carbon developments but not very detailed.	Proposal includes commitment to zero carbon developments but not very detailed.

Table 5: Newton-Bingham, Kingston and Cotgrave Place as eco-town locations (continued)

Progress Report Draft Eco-Towns Criteria	Indicators	Performance of RAF Newton-Bingham Development	Performance of Kingston Development	Performance of Cotgrave Place Development
Transport	<p>Proposals must demonstrate that they will achieve significant reduction in the need to use private cars and that modal share should reflect the very best European examples where over 50% of trips are by other modes.</p> <p>All homes should be within a 10/15 minutes walk of core services (such as schools, local shops, health services and sports facilities) and of a frequent and high quality public transport service linking business and residential areas and the wider transport network.</p>	No detailed proposals.	No detailed proposals.	No detailed proposals.
Homes	<p>As well as being zero carbon, homes in eco town proposals:</p> <ul style="list-style-type: none"> • must all achieve Building for Life Silver Standard and Level 4 of the Code for Sustainable Homes at a minimum (unless higher standard set elsewhere) • must all meet lifetime homes standards and English Partnerships space standards • must all have real time energy monitoring and high speed broadband access with real time public transport information • at least 30% must be affordable (which includes social rented and intermediate housing) 	<p>No mention of Building for Life or lifetime home standards, energy monitoring or high speed broadband access.</p> <p>Commitment to providing at least 30% affordable housing.</p>	<p>No mention of Building for Life or lifetime home standards, energy monitoring or high speed broadband access.</p> <p>Commitment to providing at least 30% affordable housing.</p>	<p>No mention of Building for Life or lifetime home standards, energy monitoring. Mention of 'high-tech IT links'.</p> <p>Commitment to providing at least 30% affordable housing.</p>

Table 5: Newton-Bingham, Kingston and Cotgrave Place as eco-town locations (continued)

Progress Report Draft Eco-Towns Criteria	Indicators	Performance of RAF Newton-Bingham Development	Performance of Kingston Development	Performance of Cotgrave Place Development
Employment	<p>It is important to ensure that eco towns are genuine mixed use communities and that unsustainable commuter trips are kept to a minimum. Therefore proposals must ensure that there is significant provision for the creation of employment opportunities within the town. In addition proposals must be accompanied by an economic strategy that demonstrates how targets for access to jobs will be achieved. As a minimum this should be:</p> <ul style="list-style-type: none"> the provision of one job or employment opportunity per new dwelling that is easily accessible by foot, cycling or public transport. 	<p>Proposal mentions that the total number of jobs which might be created could be between 2,660 and 13,000. However, this includes the employment created by a business park within the site which already has planning permission.</p>	<p>Proposal includes the creation of 3,700 jobs plus additional jobs associated with the town centre including retail, schools, offices that would take the number to 5,000 or one job per household.</p>	<p>No detailed proposals.</p>
Service Provision	<p>Proposals must include a good level of provision of services within the eco town that is proportionate to the size of the development. This must include facilities for retail, leisure, health, education, arts and culture, sport, play etc. [The provision of services within the eco-town should enable those who choose to live as part of a community with a degree of self-containment to do so.]</p>	<p>The proposal includes providing a range of community facilities.</p>	<p>The proposal includes providing a range of community facilities.</p>	<p>The proposal includes providing a range of community facilities.</p>
Water efficiency and drainage	<p>Eco-town proposals should aspire to achieve water neutrality for the wider area around them and in particular they must:</p> <ul style="list-style-type: none"> achieve level 6 of the water element of the Code for Sustainable Homes; have Sustainable Drainage Systems (SUDS) 	<p>Proposal mentions water neutrality, water efficiency and SUDS.</p>	<p>Aspiration to achieve level 6 of the Code for Sustainable Homes.</p>	<p>No detailed proposals but aspire to level 6 of the Code for Sustainable Homes.</p>

Table 5: Newton-Bingham, Kingston and Cotgrave Place as eco-town locations (continued)

Progress Report Draft Eco-Towns Criteria	Indicators	Performance of RAF Newton-Bingham Development	Performance of Kingston Development	Performance of Cotgrave Place Development
Green Infrastructure and Biodiversity	40% of the town's total area must be allocated to green infrastructure of which at least 20% must be public and consist of a network of well managed, high quality green/open spaces which is linked to the wider countryside.	Includes proposals for green/open spaces but no information on percentages.	Includes proposals for green/open spaces but no information on percentages.	Includes proposals for green/open spaces but no information on percentages.
Waste	Eco-town proposals must set out how they will surpass the 2007 National Waste Strategy targets for 2020 and in particular: <ul style="list-style-type: none"> • all homes must achieve the maximum 4 points in the Code for Sustainable homes for storage of non-recyclable waste and recyclable household waste. • all non-residential buildings to achieve BREEAM/ CEEQUAL standards 	Proposal mentions minimising waste and waste neutrality but not great detail.	Waste management strategy mentioned in proposal but not great detail. Aspiration to achieve BREEAM standard for non-residential development.	Proposal mentions minimising waste but not great detail.

2.9 How should we monitor sustainability impacts?

- 2.9.1 The sustainability impacts of eco-towns could be monitored partly through regional and local monitoring frameworks. Both the Regional Planning Body and Local Planning Authorities are required to monitor the implementation of their spatial policies – as set out in RSSs and LDFs – and report their findings in an annual monitoring report (AMR). Both RPBs and LPAs could therefore include indicators for monitoring the sustainability performance of eco-towns in their region/district or borough within their AMRs. In light of the appraisal, we consider that indicators should include a particular focus on transport and employment – two of the most challenging issues associated with eco-towns and two of the most important determinants of their overall sustainability. Indicators could include, for example, the proportion of the resident eco-town population who travel to work by public transport, walking and cycling and the number of eco-town residents employed within the town itself.
- 2.9.2 However, it will also be important that the wider ‘lessons learned’ in the planning, development and occupancy of eco-towns are effectively captured and disseminated. This will require gathering a wider range of information including on issues such as funding and partnership working and essentially telling the story of how the town was developed, the obstacles encountered and how these were negotiated. Inspiration could be taken from the Lessons from Cambourne, an evaluation of a new settlement 10 miles west of Cambridge and the insights this provides.⁹⁶

⁹⁶ Platt, S. (2007). Lessons from Cambourne [online] available at: <http://www.inspire-east.org.uk/FileAccess.aspx?id=744> (accessed 15 August 2008)

3 Habitats Regulations Assessment

3.1 Introduction

- 3.1.1 This section sets out the Appropriate Assessment component of the Habitats Regulations Assessment (HRA) of the potential eco-town locations in Rushcliffe. Part I of this report should be referred to for details of the assumptions and principles underlying this assessment.
- 3.1.2 European sites were scoped into each Appropriate Assessment using the distance criteria set out in the Introduction to the Draft PPS or (particularly when considering water resource and quality issues) as a result of the identification of a pathway linking the eco-town with a European site.
- 3.1.3 The nearest European site to all three locations is:
- Birklands & Bilhaugh SAC, approximately 30km to the north.
- 3.1.4 There is also a long distance hydraulic connection to the Humber Estuary via the River Trent, so this European site must also be considered in the assessment.

3.2 Assessment

Urbanisation

- 3.2.1 Given that the Rushcliffe sites lie 30km from the nearest European site, it can be said that the settlement will not lead to adverse effects upon European sites as a result of the general 'urbanisation' impacts (eg arson, fly-tipping, car dumping etc) that can be suffered by those sites that lie very close to substantial settlements.

Recreational pressure

- 3.2.2 There are no European sites within the 'typical' distances that people travel to visit countryside, woodland or coastal sites for the day, according to the most recent England Day Visits Survey. There is thus no reason to assume that the population of the Rushcliffe eco-town would add materially to recreational pressure on any European sites.

Local air quality

3.2.3 As discussed in the Introduction to the SA/HRA of the Programme, this section confines itself to consideration of local air quality effects on European sites that lie within 200m of those local roads (defined for the purposes of this assessment as being those within 2km of the eco-town) that can reasonably be expected to experience a substantial increase in regular vehicle movements as a result of the general movements of the population. Since the nearest European site is 30 km distant both from the eco-town it can be concluded that there will be no such issues associated with Rushcliffe. The cumulative contribution of the eco-towns to diffuse pollution and local deposition on European sites elsewhere in the region/country are dealt with as a separate pan-regional issue within the Introduction to the SA/HRA of the Programme.

Water resources

3.2.4 All the Rushcliffe eco-town options would be serviced by Severn Trent Water (lying within its East Midlands Water Resource Zone). The Company operates a water supply system that utilises an approximately even mix of surface reservoirs, run of river abstractions and groundwater sources. Its river abstractions are from either the River Severn or River Trent (or small watercourses which ultimately drain to those major rivers). The company uses a complex water transfer network to transport water throughout its area which enables it, for example, to take water from Derbyshire to supply Warwickshire. It is noted within the most recent Water Resource Management Plan (2008) that the aquifer that provides much of the public water supply for Nottinghamshire is under pressure as a result of levels of abstraction. The East Midlands area also involves abstraction from the Rivers Dove and Derwent, both of which are tributaries of the River Trent.

3.2.5 Severn Trent Water's current preferred strategy for providing additional resources in the East Midlands WRZ in the future covers three schemes to increase the deployable output of the zone:

- increase the capacity of the Derwent Valley Aqueduct (DVA) from Kings Corner near Derby to Hallgates Reservoirs in Leicestershire and remove a current bottleneck
- increase the treatment capacity of Church Wilne WTW (which abstracts raw water from the River Trent) by 50 MI/d to bring it to a total of 185 MI/d
- rising groundwater levels in those parts of the Sherwood Sandstone aquifer underlying Nottingham have resulted in opportunities to abstract up to 30 MI/d of groundwater

- 3.2.6 Since the mechanism for supplying Rushcliffe with freshwater is not known at this stage, but it may well involve increased abstraction from the River Trent, it is not currently possible to definitively conclude that the process of supplying the development with water will not involve levels of abstraction that would inadvertently lead to an adverse effect on European sites.

Water quality

- 3.2.7 The nearest Sewage Treatment Works (STW) to which the Rushcliffe eco-town is most likely to be connected discharge to tributaries of the River Trent. The Trent does provide a hydraulic connection to the Humber Estuary.
- 3.2.8 There will be substantial dilution of any phosphates contained in treated sewage effluent discharged to the Trent from Rushcliffe due to the presence of numerous tributaries of the Trent between Rushcliffe and the Humber Estuary. However, it is reasonable to conclude that some of these watercourses may themselves carry higher levels of phosphate due to increased development within the Midlands and Yorkshire and Humberside, and cumulatively it cannot at this stage be considered unlikely that the Rushcliffe eco-town will contribute to heightened phosphate levels in the Humber Estuary SPA.

Coastal squeeze

- 3.2.9 Not applicable, since the site is 75km from the nearest coastal European site (The Wash SAC).

3.3 Conclusion

- 3.3.1 It is not possible to state that the development in Rushcliffe under the Draft Eco-Towns Policy Statement (PPS) (whether at Newton-Bingham, Cotgrave Place or Kingston) will not lead to material adverse effects on the Humber Estuary SAC/SPA & Ramsar site as a result of deteriorating water quality, or on European sites as a result of increased abstraction, without further amendments to the Planning Policy Statement.
- 3.3.2 Additional measures are therefore required within the Planning Policy Statement to provide sufficient direction (in terms of both scope and detail) to enable eco-towns to deliver the detailed site-specific measures necessary to avoid or mitigate an adverse effect. With these recommendations for mitigation and avoidance measures it is essential to bear in mind that these are recommendations for a policy in a Planning Policy Statement. As such they are constrained by the fact that individual policies cannot be tailored to specific eco-towns but must be sufficiently general to cover all the eco-towns and any future developments that will seek to acquire the 'eco-town' label.

3.4 How can we mitigate effects?

Water resources

- 3.4.1 It has not been possible to conclude with confidence that the Rushcliffe eco-town would not lead to adverse effects on European sites as a result of additional demands on water resources, when considered in combination with all other developments across the area promoted by the Regional Spatial Strategies, and other initiatives without additional measures being included within the Draft PPS. These measures are given below.
- 3.4.2 Avoiding an adverse effect is largely in the hands of the water companies (through their resource planning) and the Environment Agency (through their abstraction licensing process). However, there are actions that can be taken by local authorities and central government through the Draft PPS. The water efficiency & drainage policy in the Draft PPS does include two robust measure to maximise water efficiencies and these will contribute considerably to minimising water consumption and therefore mitigating adverse effects on European sites from the eco-towns:
- *“Eco-towns in areas of serious water stress should aspire to achieve water neutrality, ie achieving development without increasing overall water use across a wider area And set out how....*
 - *New homes will be equipped to meet the water consumption requirement of Level 5 of the Code for Sustainable Homes”*
- 3.4.3 However, it is recommended that the following additions to this Policy are incorporated:
- Specific reference should be made to the fact that the eco-town development should only take place once any new water supply infrastructure necessary to service the development is in place. The Draft PPS should also indicate how this need will be determined and delivered through interaction with other authorities (water companies, the Environment Agency etc) ie through a Water Cycle Strategy.

Water quality

- 3.4.4 It has not been possible to conclude with confidence that the Rushcliffe eco-town would not lead to adverse effects on the Humber Estuary SAC/SPA & Ramsar site as a result of deteriorating water quality from increased volumes of treated sewage effluent, when considered in combination with all other developments across the area promoted by the Regional Spatial Strategies, without additional measures being included within the Draft PPS. These measures are given below.

- 3.4.5 Avoiding an adverse effect is largely in the hands of the Water Companies (through their resource planning) and the Environment Agency (through their abstraction licensing process). However, there are actions that can be taken by local authorities and central government through the Draft PPS. The water efficiency and drainage policy in the Draft PPS does not contain any specific measures relating to water quality and it is therefore recommended that the following additions to this Policy are incorporated:
- specific reference should be made to the fact that the eco-town development should only take place once any new wastewater treatment infrastructure necessary to service the development is in place. The Policy Statement should also indicate how this need will be determined and delivered through interaction with other authorities (water companies, the Environment Agency etc) ie through a Water Cycle Strategy

The Draft Eco-towns PPS

- 3.4.6 The Draft PPS sets the standards for eco-towns at a strategic level; as such, it is important that it incorporates those mitigation and avoidance measures identified as being necessary for all the potential eco-towns. Incorporating these measures within the Draft PPS will help ensure their implementation as the eco-town proposals develop. With this in mind, the recommended mitigation and avoidance measures identified in this section are reproduced within the HRA of the Draft PPS itself (even though the need for the measures arises from the specific eco-town rather than the Draft PPS).

Further HRA/SA

- 3.4.7 This HRA/AA has been undertaken at a strategic level and is therefore necessarily broad in its assessment, conclusions and recommendations. It constitutes the first of a series of successive assessments that will be undertaken for each of the eco-towns that are taken forward. As each tier of the planning system is negotiated and the eco-town proposals are further developed, a new and more detailed HRA/AA will be required. For example, where the eco-town is included in a LDF, the proposal will be subject to HRA/AA and reappraised in the light of more detailed information that may be available and further mitigation or avoidance measures may also be suggested. Planning applications for eco-towns will also need to include a detailed HRA/AA which will demonstrate how the necessary mitigation measures will be delivered on the ground.

Glossary

Abbreviation

AA	Appropriate Assessment
AD	Anaerobic Digestion
AMR	Annual Monitoring Report
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
AWCS	Automated Waste Collection Systems
CAMS	Catchment Abstraction Management Strategies
CHP	Combined Heat and Power
CNP	Campaign for National Parks
CPRE	Campaign to Protect Rural England
CRP	Community Reference Point
DEFRA	Department for the Environment, Food and Rural Affairs
DPA	Dwellings Per Annum
DPD	Development Plan Document
EIA	Environmental Impact Assessment
EiP	Examination in Public
EP	English Partnerships
FEH	Flood Estimation Handbook
GWMU	Chalk Groundwater Management Unit
HRA	Habitats Regulations Assessment
IMD	Index of Multiple Deprivation
ISET	Institute of Sustainable Energy Technology
LCAs	Landscape Character Areas
LDF	Local Development Framework
LNR	Local Nature Reserve
LoWS	Local Wildlife Site
LPA	Local Planning Authority

MBC	Metropolitan Borough Council
MRF	Material Recycling Facility
MUSCO	Multi-Utility Supply Company
NNR	National Nature Reserve
ONS	Office of National Statistics
PDL	Previously Developed Land
PUA	Principal Urban Area
RDF	Refuse Derived Fuel
RPB	Regional Planning Body
RTR	Rapid Transit Route
SA	Sustainability Appraisal
SAC	Special Areas of Conservation
SAPs	Species Action Plans
SEA	Strategic Environmental Assessment
SEEDA	The South East England Development Agency
SFRA	Strategic Flood Risk Assessment
SINCs	Sites of Importance for Nature Conservation
SLA	Special Landscape Area
SNCI	Sites of Nature Conservation Importance
SOAs	Super Output Areas
SPA	Special Protection Areas
SRS	Sub-Regional Strategy
SSSI	Site of Special Scientific Interest
STW	Sewerage Treatment Works
SUDS	Sustainable Drainage Systems
SUE	Sustainable Urban Extension
UKCIP	UK Climate Impacts Programme
WRAP	Waste & Resources Action Programme
WRMU	Water Resource Management Units
WRZ	Water Resource Zone