



Ipswich Borough Council

Ipswich Garden Suburb SPD

Sustainability Appraisal and Strategic Environmental
Assessment

Non-Technical Summary

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ABBREVIATIONS

Abbreviation	Explanation
AQMA	Air Quality Management Area
NVQ	National Vocational Qualification
SA	Sustainability Appraisal
SEA	Strategic Environmental Assessment
SPD	Supplementary Planning Document
SuDS	Sustainable Drainage Systems
UTMC	Urban Traffic Management and Control

1 INTRODUCTION AND BACKGROUND

Ipswich Borough Council is in the process of preparing its 'Ipswich Garden Suburb' Development Brief Supplementary Planning Document (SPD). During the preparation of the SPD, the term Ipswich Northern Fringe has been used and therefore this term is retained in the report. However, the area is now referred to as Ipswich Garden Suburb; hence the change to the SA Report title.

As part of the Northern Fringe Area SPD preparation process, a combined Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) has been undertaken. The term SA shall be used to refer to the combined SA/SEA for the remainder of this report. This report presents the process and findings of the SA of the Northern Fringe Area SPD.

The Northern Fringe SPD provides guidance in respect of the requirements of the Core Strategy's Policy CS10, which identified the area as the location of major development of up to 4,500 dwellings and associated facilities. The first 1,000 homes are expected to commence prior to 2021.

The SPD has been prepared in accordance with the Town and Country Planning (Local Planning) (England) Regulations 2012 and it does not introduce any new policies. A revised Policy CS10 in the draft Core Strategy Focused Review addresses the allocation of the remaining land at the Northern Fringe and the broad amount and distribution of land uses, including specific infrastructure requirements. This emerging policy is subject to sustainability appraisal separately as part of the process of focused review of the adopted Core Strategy.

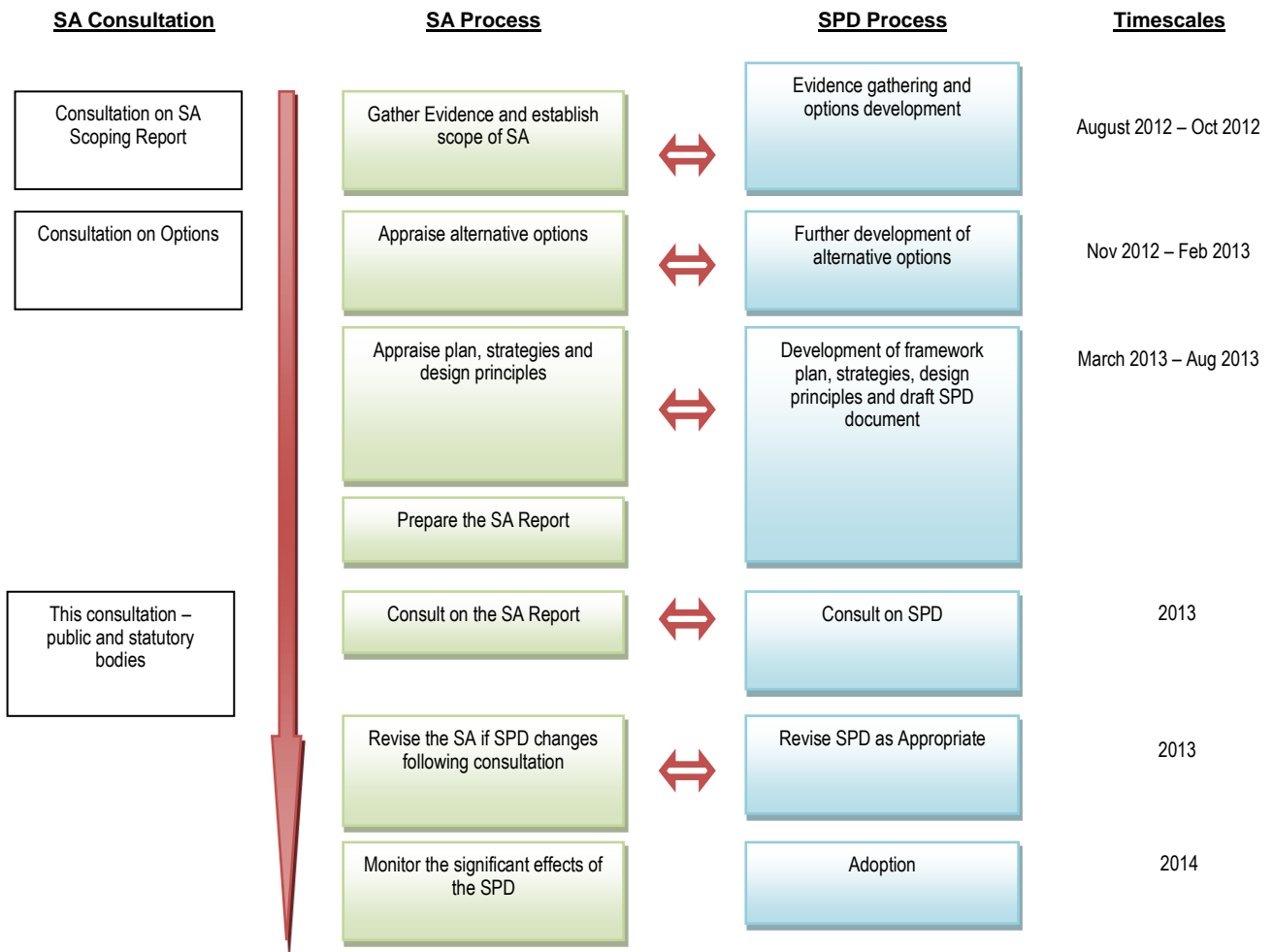
2 WHAT IS SUSTAINABILITY APPRAISAL?

SA is a process for assessing the social, economic and environmental impacts of a plan as it develops and it aims to ensure that sustainable development is at the heart of the plan-making process. SA is an iterative process and follows a series of prescribed stages in which the elements of the Northern Fringe Area SPD are appraised against Sustainability Objectives, to encourage the selection of the most sustainable options and to ultimately improve the sustainability of the development / guidance that is brought forward.

The Planning Act 2008 removed the requirement that SPDs are subject to SA. However, Ipswich Borough Council wished to undertake an SA of their Northern Fringe Area SPD and it was deemed appropriate to use a methodology that complies with the requirements of the SEA Directive and the SEA Regulations.

Good practice guidance proposes a number of prescribed stages in the SA process, each of which links with stages of the plan-making process. It is important that the SA is able to feed into the plan-making process. This involves the on-going appraisal of the plan and making recommendations to help steer its direction to avoid potentially adverse consequences. This is particularly important when considering alternative strategy options. Consultation with statutory bodies (Natural England, English Heritage and Environment Agency) and the public is also required at key stages.

A high-level chart showing the SA stages undertaken alongside the plan-making stages is presented below. It also indicates the timeline and key consultation points.



3 SCOPE OF THE APPRAISAL

The scope of the SA was determined through collecting information on the environmental, social and economic characteristics of Ipswich. This enabled key issues, opportunities and trends to be identified. A review of other relevant environmental protection objectives and policies was also undertaken. The scope of the appraisal was documented in a Scoping Report, issued for consultation with the statutory bodies in 2012.

Existing characteristics and issues in the Northern Fringe

To ensure that a robust assessment of the emerging SPD is undertaken, it is necessary to understand the existing conditions and characteristics of Ipswich, for example, the location of key environmental features like Listed Buildings, population dynamics, health, employment and the condition of housing stock and its affordability. These are detailed in the SA Report. Table 3-1 below identifies the sustainability topics covered in the SA and summarises some of the key characteristics and issues under each.

Table 3-1 Summary of key existing characteristics and issues in the Ipswich

SA Topic	Summary of key existing characteristics and issues in Ipswich
Population	Ipswich has the highest population of all the boroughs within Suffolk and has a relatively multicultural population. It is estimated that between 2010 and 2035, the population of the borough will increase by 20.8%. There are potential challenges that could arise in the future relating to the type and tenure of housing provision on offer in the borough. There is a high percentage of people under the age of 34 in Ipswich, which may have implications for provision of educational facilities, recreational facilities etc.
Education and Qualifications	Educational attainment across Ipswich is below the national average. However, the percentage population holding recognised qualifications is average across Ipswich with numbers of those with no qualifications and achieving a National Vocational Qualification (NVQ) Level 4 similar to regional and national averages.
Human Health	The health of people in Ipswich is mixed compared with the England average. Life expectancy from birth for males is slightly lower than the national average and life expectancy from birth for females is slightly higher than national averages. There is a need to reduce the incidence of diseases and health inequalities. Levels of teenage pregnancy are higher than regional and national levels and have implications for health service provision, housing and educational attainment.
Crime	30% of all crime in Suffolk happens in Ipswich and 10% of this crime happens in Ipswich Town Centre as a result of night time economy. Ipswich also has the highest prevalence of organised crime in Suffolk including people trafficking, drug dealing and prostitution. There is a need to tackle anti-social behaviour and crime rates.
Water	There are a number of water features within the Northern Fringe area including a small watercourse, ponds and ditches which may impose constraints on future development. There is a small watercourse within the Northern Fringe area located to the north of Sparrowe’s Nest Farm and south of Lower Road which is at risk of flooding.
Soil and Land Quality	The Northern Fringe area is located on Grade 2 Agricultural Land. This is considered to be the best and most versatile agricultural land. There is contaminated land (former builder’s yard) at the end of the Grove Henley Road.
Air Quality	There are four Air Quality Management Areas (AQMA) within the Ipswich borough, all of which are designated for NO ₂ levels. All of the AQMAs are located within urban Ipswich and the closest is an area incorporating the Bramford Road/Yarmouth Road/Chevallier Street junction and part of Chevallier Street.
Climatic Factors	A number of areas within Ipswich lie within the floodplain. Largely these areas are associated with the River Gipping. However, this watercourse would not affect the Northern Fringe area. There is a small watercourse within the Northern Fringe area located to the north of Sparrowe’s Nest Farm and south of

SA Topic	Summary of key existing characteristics and issues in Ipswich
	Lower Road that is at risk of flooding.
Biodiversity, Flora and Fauna	<p>There are a number of designated sites for biodiversity within the Ipswich borough; however none are located directly in or adjacent to the Northern Fringe area. The closest site appears to be The Dales Open Space Local Nature Reserve (approximately 500m south west).</p> <p>The Northern Fringe area is located on agricultural land which is home to a number of biodiversity resources. In addition, there are a number of hedgerows within the Northern Fringe area which have biodiversity value.</p>
Cultural Heritage	<p>Ipswich is home to a wealth of heritage assets including those of a national and local importance. There are several listed buildings around Sparrowe's Nest and south of Red House Farm and two registered Historic Parks and Gardens close to the Northern Fringe area; however, none are within its boundary. The Red House Farm is included on Ipswich's Local List (Buildings of Townscape Interest).</p> <p>The Northern Fringe area is located approximately 160m north of the Old and New Cemetery Registered Historic Park / Garden.</p>
Landscape/ Townscape	Ipswich is a relatively built up and urban borough and development within the Northern Fringe area would be sited on currently undeveloped agricultural fields.
Minerals and Waste	<p>There are a number of waste facilities within the borough, including, a household waste and recycling centre, a composting site and facilities for metal / end of life vehicles (not inclusive). In addition, there is an energy from waste incinerator under construction at Great Blakenham (Masons Quarry) which lies approximately 3km north of the borough boundary, therefore transport implications must be managed carefully.</p> <p>Although 42% of household waste produced in Ipswich is being sent for reuse, recycling or composting instead of to landfill, this is lower than the figure for Suffolk (53.8%).</p>
Transport	The borough is well-connected by transport infrastructure and public transport links (i.e. there is a railway line running through the middle of the Northern Fringe area), making the Northern Fringe area and other central areas relatively accessible.
Economy	<p>There is a need to improve training levels to enhance the quality of the local workforce.</p> <p>Levels of economic inactivity are lower than regional and national levels.</p>
Deprivation and Living Environment	<p>There are a number of wards within Ipswich which are considered to be in the bottom 20% most deprived nationally (Index of Multiple Deprivation). However, the Northern Fringe area largely lies within the top 20% nationally least deprived.</p> <p>Deprivation is a very complex issue and a number of different issues need to be addressed.</p>
Housing	<p>House prices have gradually increased but incomes have not matched this rate of growth, which leads to problems of housing affordability.</p> <p>The number of people presenting themselves as homeless is increasing year-on-year.</p> <p>The Council's Core Strategy sets a target to allocate land to accommodate 700 dwellings per annum (14,000 from 2001 to 2021).</p> <p>There is a need for smaller 1-2 bedroomed homes in Ipswich to meet the needs of smaller households and an ageing population, as well as a continued need for smaller 2-3 bedroomed family homes. Much of recent housing development in Ipswich, however, has been in the form of 1 and 2 bedroomed apartments and in the present economic climate there is an oversupply of flats.</p>

Policy Context

A review of other international, national, regional and local plans and environmental protection objectives that could influence the development of the SA and the SPD was undertaken and is recorded in the SA Report. The review of these documents focussed upon identifying key environmental and sustainability objectives that would need to be considered in the SA and the SPD. Over 100 documents were reviewed including the World Summit on Sustainable Development, Johannesburg (2002), relevant European Directives, the UK Sustainable Development Strategy and the National Planning Policy Framework.

The SA Framework

The SA Framework underpins the assessment methodology and comprises a series of Sustainability Objectives (covering social, economic and environmental issues) that are used to test the performance of the plan being assessed. Whilst the SEA Directive does not require the use of Sustainability Objectives, they are a recognised tool for undertaking the assessment and are aspirations/goals that an authority/organisation should work towards achieving. The SA Objectives are intended to be overarching and aspirational. The SA Objectives address the full cross-section of environmental, economic and social sustainability issues within the borough.

The Sustainability Objectives have been developed using the review of other relevant plans, programmes and environmental objectives, the baseline data and the key issues and opportunities. They were originally agreed in 2006 during the initial SA Scoping for Ipswich's Local Plan and subsequently the SA of Ipswich's now adopted Core Strategy Development Plan Document (DPD). The SA Objectives have since been reviewed and modified to reflect the requirements of the Northern Fringe Area SPD.

The SA Objectives used in the assessment of the SPD and its options is presented in Table3-2 below. Each of the Sustainability Objectives is supported by a number of indicators to add further clarity (and to assist the assessment process).

Table 3-2 SA Framework Objectives

SA Objective		Guide Questions
ET1	To improve air quality	<ul style="list-style-type: none"> ▪ To what extent would new development contribute to the protection and improvement of local air quality? ▪ To what extent would new development contribute to the impact of traffic congestion on air quality?
ET2	To conserve soil resources and quality	<ul style="list-style-type: none"> ▪ To what extent would new development protect the Northern Fringe from new contamination and exposure to existing contaminated land? ▪ To what extent would new development help to maintain and enhance soil quality where possible?
ET3	To reduce waste	<ul style="list-style-type: none"> ▪ To what extent would new development increase the proportion of waste recycling and re-use? ▪ To what extent would new development reduce the production of waste per capita? ▪ To what extent would new development reduce the proportion of waste landfilled? ▪ To what extent would new development encourage a reduced demand for raw materials? ▪ To what extent would new development promote the use of recycled and secondary materials in construction?
ET4	To reduce the effects of traffic upon the environment	<ul style="list-style-type: none"> ▪ To what extent would new development ensure that public transport services meet people's needs i.e. through new bus services? ▪ To what extent would new development ensure that highways infrastructure meets people's needs (including walking and cycling routes)? ▪ To what extent would new development promote the use of sustainable travel modes and reduce dependence on the private car?
ET5	To improve access to key services for all sectors of the population	<ul style="list-style-type: none"> ▪ To what extent would new development maintain and improve access to essential services and facilities? ▪ To what extent would new development improve access to open space?
ET6	To limit and adapt to climate change	<ul style="list-style-type: none"> ▪ To what extent would new development contribute to a reduction in greenhouse gas emissions? ▪ To what extent would new development require the inclusion of SuDS? ▪ To what extent would new development reduce the demand for energy and increase energy efficiency? ▪ To what extent would new development increase the use of renewable energy? ▪ To what extent would new development contribute to a reduction in CO₂ emissions from the transport sector? ▪ To what extent would new development reduce and manage flooding?
ET7	To protect and enhance the quality of water features and resources and reduce the risk of flooding	<ul style="list-style-type: none"> ▪ To what extent would new development ensure the protection and enhancement of ground and surface water quality? ▪ To what extent would new development encourage sustainable use of water resources? ▪ To what extent would new development encourage the inclusion of flood mitigation measures such as SuDs? ▪ To what extent would new development reduce and manage flooding?

SA Objective		Guide Questions
ET8	To conserve and enhance biodiversity and geodiversity	<ul style="list-style-type: none"> ▪ To what extent would new development protect and enhance designated sites of nature conservation importance? ▪ To what extent would new development protect and enhance wildlife especially rare and endangered species? ▪ To what extent would new development protect and enhance habitats and wildlife corridors? ▪ To what extent would new development provide opportunities for people to access wildlife and open green spaces? ▪ To what extent would new development protect and enhance geodiversity?
ET9	To conserve and where appropriate enhance areas and sites of historical importance	<ul style="list-style-type: none"> ▪ To what extent would new development protect and enhance historic buildings and sites and their setting? ▪ To what extent would new development protect and enhance historic landscape / townscape value?
ET10	To conserve and enhance the quality and local distinctiveness of landscapes and townscapes	<ul style="list-style-type: none"> ▪ To what extent would new development protect and enhance landscape character and quality? ▪ To what extent would new development protect and enhance townscape character and quality? ▪ To what extent would new development promote sensitive design in development? ▪ To what extent would new development promote local distinctiveness? ▪ To what extent would new development minimise noise pollution? ▪ To what extent would new development minimise light pollution?
HW1	To improve the health of those most in need	<ul style="list-style-type: none"> ▪ To what extent would new development improve access to health and social care services? ▪ To what extent would new development contribute to a reduction in health inequalities amongst different groups in the community? ▪ To what extent would new development promote healthy lifestyles? ▪ To what extent would new development encourage the development of strong, cohesive communities?
HW2	To improve the quality of life where people live and encourage community participation	<ul style="list-style-type: none"> ▪ To what extent would new development encourage strong, cohesive communities? ▪ To what extent would new development promote healthy lifestyles? ▪ To what extent would new development encourage community participation? ▪ To what extent would new development protect residential amenity from pollution?
ER1	To reduce poverty and social exclusion	<ul style="list-style-type: none"> ▪ To what extent would new development contribute to improved overall levels of deprivation?
ER2	To offer everybody the opportunity for rewarding and satisfying employment	<ul style="list-style-type: none"> ▪ To what extent would new development contribute to a reduction in unemployment in the areas most at need? ▪ To what extent would new development improve physical accessibility to jobs for those in greatest need? ▪ To what extent would new development ensure people are educated, trained and skilled to meet local economic needs? ▪ To what extent would new development ensure labour supply meets local economic needs?

SA Objective		Guide Questions
ER3	To help meet the housing requirements for the whole community	<ul style="list-style-type: none"> ▪ To what extent would new development ensure that there is sufficient housing to meet identified needs in all areas? ▪ To what extent would new development ensure that housing meets acceptable standards? ▪ To what extent would new development increase the availability of affordable housing?
ER4	To achieve sustainable levels of prosperity and economic growth throughout the plan area	<ul style="list-style-type: none"> ▪ To what extent would new development encourage new business formation? ▪ To what extent would new development increase and diversify employment opportunities? ▪ To what extent would new development encourage economic growth? ▪ To what extent would new development ensure sufficient land, buildings and premises are available to accommodate business start-up and growth? ▪ To what extent would new development ensure Infrastructure (including transportation) meets the needs of business?
ER5	To support vital and viable town, district and local centres	<ul style="list-style-type: none"> ▪ To what extent would new development encourage new business formation? ▪ To what extent would new development ensure that public transport services meet people's needs i.e. through new bus services? ▪ To what extent would new development maintain and improve access to essential services and facilities? ▪ To what extent would new development ensure a mix of retail units in centres?
ER6	To encourage efficient patterns of movement in support of economic growth	<ul style="list-style-type: none"> ▪ To what extent would new development ensure sufficient land, buildings and premises are available to accommodate business start-up and growth? ▪ To what extent would new development ensure Infrastructure (including transportation) meets the needs of business? ▪ To what extent would new development ensure that public transport services meet people's needs i.e. through new bus services? ▪ To what extent would new development ensure that highways infrastructure meets people's needs (including walking and cycling routes)? ▪ To what extent would new development promote the use of sustainable travel modes and reduce dependence on the private car? ▪ To what extent would new development contribute to the impact of traffic on the economy?
ER7	To encourage and accommodate both indigenous and inward investment	<ul style="list-style-type: none"> ▪ To what extent would new development encourage inward investment and new business formation? ▪ To what extent would new development support the preservation and / or development of a high quality built environment? ▪ To what extent would new development promote the development of multi-functional green infrastructure in urban areas? ▪ To what extent would new development enhance the reputation of urban areas as places to live, work and visit?
CL1	To maintain and improve access to education and skills for both young people and adults	<ul style="list-style-type: none"> ▪ To what extent would new development increase levels of participation and attainment in education for all members of society? ▪ To what extent would new development improve access to and involvement in lifelong learning opportunities? ▪ To what extent would new development improve the provision of education and training facilities?

SA Objective		Guide Questions
CD1	To minimise potential opportunities for crime and anti-social activity	<ul style="list-style-type: none"> ▪ To what extent would new development contribute to a reduction in crime levels? ▪ To what extent would new development contribute to a reduction in the fear of crime? ▪ To what extent would new development contribute to a reduction in levels of anti-social behaviour? ▪ To what extent would new development contribute to a reduction in alcohol and substance misuse? ▪ To what extent would new development encourage safety by design?

The tables below present the notations used in the assessment matrices.

Table 3-3 Notations used in the appraisals

Major Positive Impact	The option/strategy/design principle strongly supports the achievement of the SA Objective.	++
Positive Impact	The option/strategy/design principle partially supports the achievement of the SA Objective.	+
Neutral/ No Impact	There is no clear relationship between the option/strategy/design principle and / or the achievement of the SA Objective or the relationship is negligible.	0
Positive and negative outcomes	The option/strategy/design principle has a combination of both positive and negative contributions to the achievement of the SA Objective, e.g. a short term negative impact but a longer term positive impact.	+/-
Uncertain outcome	It is not possible to determine the nature of the impact as there may be too many external factors that would influence the appraisal or the impact may depend heavily upon implementation at the local level. More information is required to assess the impacts.	?
Negative Impact	The strategy/design principle partially detracts from the achievement of the SA Objective.	-
Major Negative Impact	The strategy/design principle strongly detracts from the achievement of the SA Objective.	--

The effects were also considered in terms of: time frame (long, medium or short term); whether the effects are direct or indirect; reversible or irreversible; prediction has a high, medium or low certainty; and cumulative effects.

Table 3-4 Notations to indicate time frame and other aspects of the effects

L-T	Effects likely to arise in 10-25 years of SPD implementation
M-T	Effects likely to arise in 5-10 years of SPD implementation
S-T	Effects likely to arise in 0-5 years of SPD implementation
D	Direct effects.

I	Indirect effects.
R	Effects are reversible
IR	Effects are irreversible
H/M/L	High, medium or low certainty of prediction
C	Potential to have cumulative effect with other proposals or plans on this objective

Which aspects of the SPD were appraised?

The following aspects of the SPD were appraised through the SA:

- Core Objectives
- Framework Plan
- Spatial Strategies
- General Design Principles
- Transport Strategy
- Infrastructure Strategy

Following the appraisal of the above, recommendations were presented to the plan-makers to adapt the choice of strategy or wording in order to minimise adverse effects and maximise benefits.

The appraisal follows the specific chapter headings of the SPD. Chapters 2-7, which present the objectives and strategies of the SPD were assessed in detail against the SA Objectives and the matrices are presented in Appendix F of the Main SA Report. Chapters 8, 9 and 10 were not assessed against the SA Objectives but these were considered in the overall assessment of the SPD. Chapter 8 on Community Development refers to the Community Development Strategy, which is to be devised. As such, it was therefore not appropriate to assess this chapter. Chapter 9 comprises Long Term Maintenance and Management refers to Management Arrangements, Governance Structure, Funding, Stakeholder Liaison and Monitoring, which were not considered appropriate for assessment against sustainability objectives. Chapter 10 covers requirements for planning applications, which was considered part of the mitigation measures assessed.

4 ALTERNATIVE OPTIONS APPRAISAL

4.1 General Appraisal of all Framework Options

An Initial SA was undertaken, which assessed the framework options. The three spatial options had been identified on the basis of:

- The Council's policies and objectives for the Northern Fringe, including the requirements of adopted Core Strategy policy CS10, e.g. preparing an SPD for the whole area, provision of infrastructure including a country park, maintaining the separation of Ipswich and Westerfield Village;
- The outcomes of a community workshop and a call for ideas;
- The physical constraints of the site, particularly drainage, topography, hedgerows and the relationship of the site to the railway line; and
- Best practice in urban design and place making.

Six potential options were identified by the community workshop. All of the ideas and the rationale behind them were factored into the establishment of the three options considered at issues and options stage.

At the strategic level the three alternative Framework Options largely performed well against the social and economic SA objectives. This was due to similarities between the three options. The three options all promote healthy lifestyles (through promoting more sustainable modes of transport and developing areas of green space for recreational purposes), improve accessibility throughout the Northern Fringe area to local facilities / services, encourage the development of high quality affordable new homes (which may also benefit health), provide employment opportunities through the construction and operation of new schools and neighbourhood centres and temporary positions through the construction of new homes.

Effects on the environmental SA Objectives as a result of the three options were assessed as both positive and negative. This was due to the Northern Fringe currently comprising agricultural land, which residential development would change. However, many high level mitigation measures are built into the options to alleviate adverse effects, for example through incorporating Sustainable Drainage Systems (SuDS) into new development, developing new green areas to benefit biodiversity resources, incorporating landscaping buffers to reduce impacts on local views, promoting sustainable access and increasing energy efficiency and incorporating low carbon technologies into new development.

An impact of all the options is that new development in the Northern fringe would ultimately lead to an increase in private car use due to the number of new homes anticipated to be delivered. This may also affect congestion issues and local air quality in the future, which emphasises the importance of optimising the use of sustainable transport modes. Further to this, waste management was identified as an impact within all the options as it is simply not mentioned. The SA has been carried out on the basis of a 'worst case' scenario of 4,500 dwellings as this is the potential capacity identified in the Core Strategy. The scale of development is likely to be smaller at approximately between 3,000 to 3,500 dwellings.

Due to the similarities between the three options, no option-specific recommendations were made. However, recommendations have been made to strengthen all three Framework Options. Additionally, community response and developers views informed the choice by the Council on the preferred option.

4.2 Identification of Preferred Option 2

The Council concluded that Option 2 was preferred as it will provide a central community hub including primary school, District Park, and local shops within walking distance for each neighbourhood. In addition, a centrally located district centre will be accessible from all parts of the garden suburb conveniently located especially for residents in north Ipswich who currently have limited shopping choice locally. The location of the secondary school in the eastern neighbourhood will assist in maintaining the required separation between Westerfield village and the development whilst being reasonably accessible to the whole of the garden suburb.

4.3 Preferred Option 2 Alternatives

Option 2 has been developed to embody the broad, 'balanced' land use budget now incorporated within the Core Strategy Focused Review and in the Framework Plan of the draft SPD. However, within that budget, three fundamental alternatives for how Option 2 could be delivered have been considered:

- High density urban village
- Low-medium density garden suburb
- Very low density, dispersed development.

The advantages and disadvantages of each alternative were considered and the low-medium landscape option was considered to be the only reasonable alternative based on government and local policy, such as the National Planning Policy Framework and the Core Strategy and Policies Development Plan Document, the physical characteristics of the site, stakeholder input from the Education Authority and Highways Authority, and inputs from the community throughout the development of the SPD, which focused on a landscape-led, lower density approach.

The Council is therefore satisfied that there are no reasonable alternatives to the guidance contained in the SPD that would be both policy compliant and achieve the same objectives for the sustainable urban extension.

In terms of the SA, the above alternatives were considered, taking into account stakeholder concerns. A higher density alternative would lead to adverse impacts on traffic and air quality and sustainability. The very low density alternatives would not meet housing needs in the borough and would not support the delivery of infrastructure services, which would have an adverse effect on sustainability.

The detailed proposals for the Ipswich Garden Suburb sought to deliver a sustainable, garden character development. Other alternatives would therefore not achieve those objectives and would not be considered reasonable. As such, the alternatives were not subject to SA.

5 Appraisal of the Northern Fringe Area SPD

5.1 The Vision and Core Objectives

There is an emphasis within the Vision, placed upon the need to create an 'exemplar 21st Century urban extension' which is a desirable location for people to live and do business. The Vision focuses on ensuring development within the northern Fringe area is well designed and connected to jobs and services by foot, bike and public transport. The Vision also seeks to conserve resources, ensure excellent standards of urban design and create neighbourhoods of different character that stand the test of time.

The Northern Fringe Area SPD contains four overarching Core Objectives which have been developed to help deliver the SPD. Each of the four Core Objectives has been divided into a number of sub-Core Objectives to further aid the delivery of the SPD. The Core Objectives include Character, Community, Connectivity and Climate Change.

On the whole the Core Objectives and the SA Objectives either complemented each other or there were no links between the two. The Core Objectives seek to create a well-designed sustainable high quality new development that appeals to all sectors of the community and that is accessible to jobs services and recreational opportunities. All of which would benefit the social, economic and environmental SA Objectives. No potential conflicts were identified in the compatibility matrix.

Compatibility was assessed as uncertain against SA Objective ET7 as the Community Core Objective states that a varied housing offer (which includes high quality social, affordable, and market homes) will be provided within the Northern Fringe area. This would increase demand on local water resources and potentially exacerbate current flood risk issues within the area. However, the Core Objectives should be read as a whole and not individually, therefore water resources and flood risk would both be protected through the Climate Change Core Objective that seeks to ensure development includes comprehensive facilities for domestic waste recycling and that the Code for Sustainable Homes Level 5 / 6 is achieved.

Compatibility was assessed as uncertain against SA Objective ET9, as whilst the Character and Community Core Objectives seek to ensure new development is well integrated with respect to landscape and townscape character, historic setting is not explicitly mentioned within the Core Objectives.

5.2 Appraisal of the Framework Plan

The framework plan establishes the main parameters for the masterplanning of the Ipswich Garden Suburb at the outline planning stage. It presents the following components:

- Land uses;
- Public open space and green infrastructure;
- Residential;
- District Centre;
- Local Centres;
- Schools; and
- Access

The framework plan was assessed against the SA Objectives and Table F-1 in Appendix F of the main SA Report presents the detailed assessment.

As a whole, the framework plan performed well against social objectives by providing a mix of houses, community facilities, local centres and a district centre. The provision of walking and cycling routes and green spaces may also have indirect health benefits. The provision of access and connectivity in the plan is also beneficial in terms of community cohesiveness and social inclusion.

Positive effects were recorded against the following SA Objectives:

- ET5 *'To improve access to key services for all sectors of the population'*
- ET9 *'To conserve and where appropriate enhance areas and sites of historical importance'*

- ET10 *'To conserve and enhance the quality and local distinctiveness of landscapes and townscapes'*
- HW1 *'To improve the health of those in most need'*
- HW2 *'To improve the quality of life where people live and encourage community participation'*
- ER1 *'To reduce poverty and social exclusion'*
- ER3 *'To help meet the housing requirements for the whole community'*
- ER4 *'To achieve sustainable levels of prosperity and economic growth throughout the plan area'*
- ER5 *'To support vital and viable town, district and local centres'*
- ER6 *'To encourage efficient patterns of movement in support of economic growth'*
- ER7 *'To encourage and accommodate both indigenous and inward investment'*
- CL1 *'To maintain and improve access to education and skills for both young people and adults'*.

There will be some employment opportunities in the local and district centres but it is envisaged that the majority of residents would be employed in the town centre and other areas in Ipswich or nearby boroughs. The contribution to economic objectives in terms of employment would therefore be limited. However, the creation of the country park may encourage visitors to the area and contribute to the vitality of the district centre.

Positive and negative effects were recorded for the following SA Objectives:

- ER2 *'To offer everybody the opportunity for rewarding and satisfying employment'*
- ET4 *'To reduce the effects of traffic upon the environment'*
- ET6 *'To limit and adapt to climate change'*
- ET7 *'To protect and enhance the quality of water features and resources and reduce the risk of flooding'*
- ET8 *'To conserve and enhance biodiversity and geodiversity'*
- CD1 *'To minimise potential opportunities for crime and anti-social activity'*.

In terms of environmental objectives, it is expected that there will be an increase in traffic in Henley Road, Westerfield Road, Valley Road and other nearby roads due to the increase in population in the area. These in turn may affect local air quality. However, the Northern Fringe is not adjacent to any Air Quality Management Areas. The framework plan seeks to reduce these potential effects by promoting sustainable transport – the use of the rail connection from Westerfield, introduction of bus services and provision of cycle and walking routes.

There are positive contributions to the environment and biodiversity through the provision of the country park, public parks, open spaces, street trees and the retention of hedgerows (where possible) and trees.

A system of SuDs is proposed for the area, which would help reduce surface run off and reduce flood risk.

An adverse impact of the framework plan is the loss of Grade 2 agricultural land. Therefore, a negative impact was recorded against ET2 *'To conserve soil resources and quality'*. A negative effect was also recorded against ET3 *'To reduce waste'* since there will be an increase in waste generation. To reduce the potential negative effects on ET2, the SPD proposes areas of food production, including allotments for rent by local people, community gardens and community orchards. To reduce potential negative effects on ET3, the SPD requires developments to produce waste management plans and to include household waste recycling facilities.

5.3 Appraisal of the Spatial Strategies

The Spatial Strategies proposed in the Northern Fringe SPD address the following key elements:

- Place Making to achieve Walkable Neighbourhoods;
- Landscape and Open Space;
- Movement and Access; and
- Sustainable Drainage.

The four spatial strategies were subject to a Sustainability Appraisal to test their ability to help deliver the sustainable development criteria set out in the Core Strategy. Table F-2 in Appendix F of the main SA Report provides detailed assessment of potential effects as a result of each strategy. The spatial strategies largely performed well against the social and economic SA objectives. They promote healthy lifestyles (through encouraging walking and cycling, and developing areas of green space for recreational purposes), improve accessibility throughout the Northern Fringe area to local facilities / services, improve the quality of life, encourage community participation, and provide employment opportunities through the construction and operation of new schools and neighbourhood centres and temporary positions through the construction of new homes.

Starting with the social and economic sustainability objectives, neutral or positive effects were recorded in the assessment of Place Making to achieve Walkable Neighbourhoods, Landscape and Open Space, Access and Movement and Sustainable Drainage against the following:

- ET5 *'To improve access to key services for all sectors of the population'*
- HW1 *'To improve the health of those in most need'*
- HW2 *'To improve the quality of life where people live and encourage community participation'*
- ER1 *'To reduce poverty and social exclusion'*
- ER2 *'To offer everybody the opportunity for rewarding and satisfying employment'*
- ER3 *'To help meet the housing requirements for the whole community'*
- ER5 *'To support vital and viable town, district and local centres'*
- ER6 *'To encourage efficient patterns of movement in support of economic growth'*
- ER7 *'To encourage and accommodate both indigenous and inward investment'*
- CL1 *'To maintain and improve access to education and skills for both young people and adults'*

Place Making to Achieve Walkable Neighbourhoods and Movement and Access scored positively against ER4 *'To achieve sustainable levels of prosperity and economic growth throughout the plan area'*. The effect of Landscape and Townscape against ER4 was assessed

as uncertain since a green and attractive environment could encourage investment. Sustainable drainage was recorded as having a neutral impact on ER4.

Positive and negative effects were recorded by Place Making to Achieve Walkable Neighbourhoods, Landscape and Open Space and Access and Movement against CD1 '*To minimise potential opportunities for crime and anti-social activity*'. Adverse impacts would result from a general increase in population; however, designing development with crime and safety in mind would mitigate those impacts. The Sustainable Drainage strategy was recorded as having no impact on CD1.

Effects on the environmental SA Objectives as a result of the spatial strategies were assessed as both positive and negative. Place Making to Achieve Walkable Neighbourhood and Access and Movement were recorded as having positive and negative effects against ET1 '*To improve air quality*' and ET4 '*To reduce the effects traffic upon the environment*', while Landscape and Open Space and Sustainable Drainage were recorded as having positive or neutral effects. The negative effects on ET1 arise from increased road traffic, however creating walkable neighbourhoods and a network of non-vehicular routes will have some positive impacts. Neutral impacts were recorded for each of the four strategies against ET3 '*To reduce waste*'.

Positive effects were recorded by Place Making to Achieve Walkable Neighbourhoods, Landscape and Open Space, and Sustainable Drainage against ET6 '*To limit and adapt to climate change*'. However, Access and Movement was recorded as having both positive and negative effects against this objective. The movement network will support the inclusion of SuDS, but additional roads would be added to the web of routes to support movement in all directions. That will lead to increased road traffic which is the main source of air pollution.

Against ET7 '*To protect and enhance the quality of water features and resources and reduce the risk of flooding*', positive effects were recorded for the Landscape and Open Space, Access and Movement and Sustainable Drainage strategies. However, Place Making to Achieve Walkable Neighbourhoods was recorded to have positive and negative effects. The demand for water will increase due to new developments but the SPD also requires developments to meet the Code Sustainable Homes standards, which promotes sustainable water use.

Against ET8 '*To conserve and enhance biodiversity and geodiversity*' positive effects were recorded on Landscape and Open Space and Sustainable Drainage. Both positive and negative effects were recorded on Place Making to Achieve Walkable Neighbourhoods and Access and Movement. Development will result in the loss of agricultural land which is home to biodiversity resources, but in the longer term with the retention of hedgerows and creation of open spaces there would be benefits to biodiversity.

Against ET9 '*To conserve and where appropriate enhance areas and sites of historical importance*', Place Making to achieve Walkable Neighbourhoods scored both positive and negative effects while Landscape and Open Space scored positive effects. The SPD should require detailed archaeological assessments to be carried out at 6 planning application stage to avoid negative impacts. The other strategies were recorded as having neutral or no effects.

Against ET10 '*To conserve and enhance the quality and local distinctiveness of landscapes and townscapes*', all strategies were recorded as having positive and negative effects. The development of the Northern Fringe would permanently change landscape views and character. However, the strategies incorporate elements of green infrastructure and retention of hedgerows and trees, landscaping and tree planting, which should provide buffers between new and existing development and soften view changes from existing receptors.

The most significant adverse effect was due to the loss of agricultural land in the Northern Fringe. Against ET2 '*To conserve soil resources and quality*', Place Making to Achieve Walkable

Neighbourhoods and Access and Movement scored both positive and negative effects while Landscape and Open Space and Sustainable Drainage scored positive effects. Good quality agricultural land will be lost and soil compacted during construction works. Sustainable drainage and the Landscape and Open Space strategy will have positive effects in providing allotments and open spaces and reducing surface water run-off.

The new development in the Northern fringe would ultimately lead to an increase in private car use due to the number of new homes anticipated to be delivered, and the location of employment sites outside the Northern Fringe Area. This may also affect congestion issues and local air quality in the future, which emphasises the importance of optimising the use of sustainable transport modes.

Many high level mitigation measures are built into the strategies to alleviate adverse effects, for example, through incorporating SuDS into new development, developing new green areas to benefit biodiversity resources and soil, incorporating landscaping buffers to reduce impacts on local views, promoting sustainable access and increasing energy efficiency and incorporating low carbon technologies into new development.

5.4 Appraisal of Design Principles

The Design Principles address how each neighbourhood should be designed to embed garden suburb principles whilst maximising local distinctiveness. The distinguishing features within the neighbourhoods of Henley Gate, Fonnereau and Red House highlight help to create distinctive neighbourhoods. The design of Garden Suburb Streets outlines the plans for the design of primary, secondary and tertiary streets which largely seek to convey the character and components of streets whilst incorporating landscape.

The Guiding Principles generally performed well against the social and economic SA Objectives. A strong positive score was recorded against SA Objective ER3 *'To help meet the housing requirements for the whole community'*, as development types will be diverse centred around Block Types 1-8 which offer of housing types including homes for the elderly and the provision of appropriate parking. For individual homes and plot design the Core Strategy Policy DM3, Provision of Private Outdoor Amenity Space in New and Existing Development outlines the requirements for houses bungalows, apartments and upper floor maisonettes to have a specified minimum measurement for a rear garden, or private amenity space. In addition, the council has agreed to a minimum spacing between dwellings to ensure adequate privacy and amenity for individual dwellings which contributes positively to meeting housing requirements for the community.

The Guiding Principles address how blocks should be designed to be as small as practicably possible in order to maximise the permeability of development and support connections to existing streets whilst incorporating landscaping into design in order to create attractive and scenic routes, which will encourage residents to use more sustainable means of travel such as cycling and walking. The provision of a new country park, open spaces and outdoor sports facilities will contribute towards improving health, promoting healthier lifestyles and encouraging community participation. The provision of a new district centre within Fonnereau and local centres within the neighbourhoods of Henley Gate and Red House will provide clustered facilities and services and the delivery of four new schools will support the vitality and viability of the Northern Fringe. It will also promote the area as a place live and work; this will positively affect economic growth and may indirectly contribute towards attracting people as well as indigenous and inward investment.

In addition to the positive effect on SA Objective ER3, positive effects were also recorded against the following SA Objectives:

- HW1 *'To improve the health of those in most need'*
- HW2 *'To improve the quality of life where people live and encourage community participation'*
- ER1 *'To reduce poverty and social exclusion'*
- ER4 *'To achieve sustainable levels of prosperity and economic growth throughout the plan area'*
- ER5 *'To support vital and viable town, district and local centres'*
- ER6 *'To encourage patterns of movement in support of economic growth'*
- ER7 *'To encourage and accommodate both indigenous and inward investment'*
- CL1 *'To maintain and improve access to education and skills for both young people and adults'*
- ET5 *'To improve access to key services for all sectors of the population'*
- ET9 *'To conserve and where appropriate enhance areas and sites of historical importance'*
- ET10 *'To enhance and conserve the quality and local distinctiveness of landscapes and townscapes'*

Positive and negative effects were recorded against the following SA Objectives:

- ET1 *'To improve air quality'*
- ET4 *'To reduce the effects of traffic upon the environment'*
- ET6 *'To limit and adapt to climate change'*
- ET7 *'To protect and enhance the quality of water features and resources and reduce the risk of flooding'*
- ET8 *'To conserve and enhance biodiversity and geodiversity'*
- CD1 *'To minimise potential opportunities for crime and anti-social activity'*

Negative effects were recorded against the following SA Objectives:

- ET2 *'To conserve soil resources and quality'* due to the loss of agricultural land
- ET3 *'To reduce waste'* due to the increase in waste production.

The Northern Fringe will ultimately see the development of up to 4,500 new dwellings which would lead to a loss of Grade 2 Agricultural Land and an increase in population and influx of private cars. This will also lead to an increase in waste production, affect soil resources and local air quality and may result in increased flood risk over the long term. However, the Guiding Principles aim to maximise opportunities for sustainable travel, which should contribute towards adapting to climate change and partially mitigating against the increase in greenhouse gas levels.

There was only one SA Objective which recorded the effect as uncertain. This was against ER2 *'To offer everybody the opportunity for rewarding and satisfying employment'*, since opportunities for rewarding and satisfying employment are not directly addressed in the Guiding Principles; the creation of jobs would arise as a result of the development of a well designed new district centre, local centres and schools but the employment opportunities within the Northern Fringe would be limited.

The detailed assessment is presented in Table F-3 in Appendix F of the main SA Report.

5.5 Appraisal of the Transport Strategy

The transport strategy seeks to ensure that Ipswich Garden Suburb meets travel demand within the new development whilst encouraging sustainable travel modes. The provision of a comprehensive cycle and pedestrian network within the Ipswich Garden Suburb, enhanced signed cycle routes from North Ipswich to the town centre, new cycle routes on-road where traffic speeds will be controlled and bus stops within 400m walking distance from homes will collectively serve to encourage people to use walking and cycling as sustainable transport alternatives. These measures will help to reduce reliance on private cars and improve local air quality and contribute towards improving health of people. It will also make the Garden Suburb a more accessible place, which will support the vitality and viability of the district centre and local centres and may contribute partially towards economic growth within the Northern Fringe. Improvements to transport links will make services and facilities such as the new district centre and local centres, country park, open spaces and schools more accessible to residents, which will contribute towards improving quality of life and improving access to education for young people and adults.

Positive effects have been recorded against the following SA Objectives:

- ET4 'To reduce the effects of traffic upon the environment'
- ET5 'To improve access to key services for all sectors of the population'
- ET10 'To conserve and enhance the quality and local distinctiveness of landscapes and townscapes'
- HW1 'To improve the health of those most in need'
- ER4 'To achieve sustainable levels of prosperity and economic growth throughout the plan area'
- ER5 'To support vital and viable town, district and local centres'
- ER6 'To encourage efficient patterns of movement in support of economic growth'
- ER7 'To encourage and accommodate both indigenous and inward investment'
- CL1 'To maintain and improve access to education and skills for both young people and adults'

The development of 4,500 new homes within the Northern Fringe may have the potential to increase flood risk and the associated influx of private cars may affect greenhouse gas levels and quality of life. However, the provision of convenient and frequent bus travel within the Garden Suburb will offer some mitigating effects in offering residents an alternative convenient and more sustainable travel option.

As a result, positive and negative effects were recorded against SA Objective ET1 '*To improve air quality*', SA Objective 5 ET6 '*To limit and adapt to climate change*', and SA Objective HW2 '*To improve the quality of life where people live and encourage community participation*' .

Neutral scores were recorded against the following SA Objectives:

- ET2 'To conserve soil resources and quality'
- ET3 'To reduce waste'
- ET7 'To protect and enhance the quality of water features and resources and reduce the risk of flooding'
- ET8 'To conserve and enhance biodiversity and geodiversity'

- ET9 'To conserve and where appropriate enhance areas and sites of historical importance'
- ER1 'To reduce poverty and social exclusion'
- ER3 'To help meet the housing requirements for the whole community'
- CD1 'To minimise potential opportunities for crime and anti-social activity'

5.6 Appraisal of the Infrastructure

The Infrastructure Strategy outlines the approach to the delivery of development within the Ipswich Garden Suburb. Largely positive scores were recorded against the SA Objectives. The detailed assessment is presented in Table F-5 in Appendix F of the main SA Report.

The strategic infrastructure requirements for Ipswich Garden Suburb outline access and transport improvements including improvements to strategic town centre and east-west footpaths and cycleways and improvements to bus links and services, which will serve to improve access to key services for all sectors of the population and encourage the use of sustainable transport. These measures will help to reduce the effects on air quality and climate change that will occur as a result of the early phase development within Fonnereau. The provision of a health centre and community facilities and open spaces will help to improve health within the community and will benefit quality of life.

The delivery of 1,000 dwellings in Fonnereau Village will be expected to commence prior to 2021 with some development assumed to potentially begin on site in 2015, which in the relatively short to medium term, will have strong positive benefits for SA Objective ER3 'To help meet the housing requirements for the whole community'.

Positive effects were also recorded for the following SA Objectives:

- ET5 'To improve access to key services for all sectors of the population'
- HW1 'To improve the health of those most in need'
- HW2 'To improve the quality of life where people live and encourage community participation'
- ER1 'To reduce poverty and social exclusion'
- ER4 'To achieve sustainable levels of prosperity and economic growth throughout the plan area'
- ER5 'To support vital and viable town, district and local centres'
- ER6 'To encourage efficient patterns of movement in support of economic growth'
- ER7 'To encourage and accommodate both indigenous and inward investment'
- CL1 'To maintain and improve access to education and skills for both young people and adults'
- CD1 'To minimise potential opportunities for crime and anti-social activity'

The design of infrastructure within the Northern Fringe should help to provide natural surveillance which will benefit SA Objective CD1 'To minimise potential opportunities for crime and anti-social activity'. The provision of a Police Office potentially as part of the community centre within the District Centre may also serve to act as a deterrent to criminal activity.

Infrastructure delivery will help to ensure that each neighbourhood is as self-sufficient as possible in terms of infrastructure and this will support residents as well as the vitality and

viability of neighbourhoods. Traffic Management schemes for Westerfield village, The Crofts and other locations and the neighbourhood infrastructure requirements for Fonnereau Village, Henley Gate and Red House Village outline access and transport improvements including the development of travel plans and connection to the Urban Traffic Management and Control (UTMC) system. These will each contribute towards encouraging efficient patterns of movement and may encourage movement into district and local centres, which in turn may support inward investment and economic growth.

The delivery of 1,000 dwellings in Fonnereau Village could potentially begin in 2015, which would lead to a short term increase in construction vehicles followed by an influx of people and private cars in the long term which would affect traffic and local air quality. The development would also lead to a loss of Grade 2 Agricultural Land, increased waste, may increase flood risk, may affect biodiversity and may affect local historical sites of importance and local distinctiveness. However, partial mitigation will be offered to local air quality and increasing traffic levels in the form of the design of development, which will aim to maximise opportunities for the use of sustainable travel means. Over the long term, the delivery of the Ipswich Garden Suburb will see the provision of a new country park and tree planting, which will provide biodiversity benefits. The provision of household waste facilities will also address waste reduction.

Positive and negative effects were recorded against the following SA Objectives:

- ET1 'To improve air quality'
- ET3 'To reduce waste'
- ET4 'To reduce the effects of traffic upon the environment'
- ET6 'To limit and adapt to climate change'
- ET7 'To protect and enhance the quality of water features and resources and reduce the risk of flooding'
- ET8 'To conserve and enhance biodiversity and geodiversity'
- ET9 'To conserve and where appropriate enhance areas and sites of historical importance'
- ET10 'To conserve and enhance the quality and local distinctiveness of landscapes and townscapes'
- ER2 'To offer everybody the opportunity for rewarding and satisfying employment'

The comprehensive development of the Northern Fringe may increase flood risk, surface water run off and demand for water resources. The Anglian Water Resources Management Plan (2010) identifies a deficit for 2036/37 - resulting in adverse effects if not properly managed. SuDS features should be incorporated into new development in accordance with the NPPF and Core Strategy Policy DM4. The strategic infrastructure requirements also outline improvements to water supply and the sewerage system as required. It should be noted that upgrading would be required to increase sewerage capacity.

A negative effect was recorded against SA Objective ET2 '*To conserve soil resources and quality*'. The delivery of infrastructure for the extensive development of dwellings on the Northern Fringe would lead to a loss of Grade 2 Agricultural Land (considered to be 'best and most versatile' for food production); therefore adverse effects would arise on soil resources. However the strategic infrastructure requirements for Ipswich Garden Suburb will see the provision of a new country park, strategic playing fields and other outdoor recreation facilities. The neighbourhood infrastructure requirements for Fonnereau Village, Henley Gate and Red House Village will provide neighbourhood parks, allotments and open spaces with equipped sports and play facilities. These features will provide some mitigation to protect soil resources.

The approach taken to infrastructure delivery is to ensure that each neighbourhood is supported by infrastructure while providing some flexibility in the development sequencing. Triggers for strategic infrastructure requirements and for each neighbourhood are set out. This approach should ensure that social and economic objectives are met during the early stages of development.

5.7 Cumulative Impacts

The Northern Fringe plan has been assessed for its individual impacts but there may be cumulative effects which could occur as a result of the SPD being implemented. Potential positive cumulative effects include the following:

- Provision of better quality homes and diversity of housing types which will contribute to the long-term housing needs of the borough.
- Improvement in health.
- Improvement in access to and provision of services and facilities.
- Provision of suitable open areas for recreation.
- Improvement of public realm through open spaces provision and regeneration.

However, potential adverse cumulative effects can result from growth and development contained in policies, which include:

- Increase in use of resources from water and energy consumption.
- Increase in waste.
- Increase in road traffic and reduction in air quality.
- Loss of good quality agricultural land

6 CONCLUSIONS

6.1 Main Findings

As a whole, the SA recorded positive effects against most of the social and economic SA objectives in the appraisal of SPD objectives, the Framework Plan, spatial strategies, design guiding principles, transport strategy and infrastructure strategy. Strong positive effects were recorded against SA Objective ER3 *'To help meet the housing requirements for the whole community'*. Other positive impacts were recorded against SA Objectives relating to health, education, access to services and landscape. However, there were some SA Objectives where positive and negative effects were recorded. These included SA Objectives relating to air quality, traffic, climate change, water resources, biodiversity and crime. The main adverse impact of the SPD would be on ET2 *'To conserve soil resources and quality'*, due to the loss of Grade 2 Agricultural Land.

Development proposed by the SPD would have other negative impacts. These include an increase in road traffic and reduction in air quality in the surrounding area, increased waste, potentially increased flood risk, impacts on biodiversity from habitat loss and disturbance, and possible effects on the setting of local historical sites of importance and local distinctiveness. However, partial mitigation will be offered in relation to local air quality and increasing traffic levels through the SPD, which aims to maximise opportunities for the use of sustainable travel means. Existing hedgerows and trees are being retained and, over the long term, the delivery of Northern Fringe will see the provision of a new country park and tree planting, which will provide

biodiversity benefits. SuDs are being proposed, which would reduce flood risk and the provision of household waste facilities will also address waste reduction. These mitigation measures are to be implemented through requirements during the planning application stage, as set out in Chapter 10 of the SPD. Measures required by the SPD at the planning application stage to improve the sustainability of the Ipswich Garden Suburb include: Sustainability and Energy Assessment, Traffic and Transport Assessment and Environmental Impact Assessment.

6.2 Mitigation and Recommendations

The following mitigation measures have been identified through the SA process in order to strengthen the sustainability performance of the SPD:

<p>Framework Plan</p>	<ul style="list-style-type: none"> ▪ Opportunities for district heating and CHP should be explored. ▪ Reference to seeking opportunities for habitat creation within proposed green spaces should be made. ▪ More information should be provided on how the framework plan took into account the existing trees, hedgerows and woodland. ▪ Reference to the proposals for Red House Farm should be included in the framework plan chapter. ▪ A requirement should be included for a detailed noise assessment in relation to the Westerfield Railway to be carried out at planning application stage in order to determine noise impacts to residents. ▪ A requirement should be included for a detailed air quality assessment to be carried out at planning application stage to determine air quality impacts from the development. ▪ The framework plan chapter should include references to sustainability measures (e.g. reduce water use, use of grey water) energy efficiency measures and ensure that Code for Sustainable Homes and BREEAM standards are achieved. Achieving high levels (5 or 6) of the Code for Sustainable Homes (Core Strategy Policy DM1) would serve to minimise any increase in carbon emissions associated with new development.
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Spatial Strategies	<ul style="list-style-type: none"> ▪ Developments should be encouraged to include sustainable design principles, energy efficiency and the incorporation of renewables e.g. the inclusion of solar panels and low carbon technologies. ▪ Creating a connected network of streets will result in some fragmentation of the area and it is crucial to ensure that all existing wildlife corridors are retained and identify opportunities for enhancement. ▪ It should be ensured that safety by design principles are required to be incorporated into new development.
Design Principles	<ul style="list-style-type: none"> ▪ Developer contributions for enhanced public transport provision are required at the Northern Fringe. In addition, options should be explored with public transport providers for a potential cross town route linking the Northern Fringe with larger employment areas in Ipswich and looking at the potential for cycle route improvements off site. This would provide further benefits to local air quality over the long term. ▪ New development within the Northern Fringe area should provide opportunities for local residents to fully adopt the waste hierarchy (prevention, re-use, recycle / compost, energy recovery, disposal), e.g. through providing recycling hubs. In addition, developers should be encouraged to maximise the use of recycled and secondary materials in construction. ▪ The SPD should require developer contributions for enhanced public transport provision. Achieving high levels (5 or 6) of the Code for Sustainable Homes (Core Strategy Policy DM1) would also serve to minimise any increase in carbon emissions associated with new development. ▪ Clear reference to the use of SuDS features should be made within this chapter. ▪ Reference to seeking opportunities for habitat creation within proposed green spaces should be made.
Transport Strategy	<ul style="list-style-type: none"> ▪ The development of Travel Plans and 'smarter choices' programmes is encouraged and can reduce reliance on the private car, encourage walking, public transport, cycling and car sharing and can reduce demand for travel.

Infrastructure Strategy	<ul style="list-style-type: none"> ▪ Further reference to waste facilities should be included such as providing opportunities for local residents to fully adopt the waste hierarchy (prevention, re-use, recycle / compost, energy recovery, disposal), e.g. through providing recycling hubs. In addition, developers should be encouraged to maximise the use of use of recycled and secondary materials in construction. ▪ Reference to seeking opportunities for habitat creation within proposed green spaces should be made. ▪ Infrastructure requirements where possible should incorporate sustainability measures (e.g. reduce water use, use of grey water) energy efficiency measures and ensure that BREEAM standards are achieved. ▪ Upgrade of sewerage infrastructure to increase capacity should be considered.
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7 MONITORING

Monitoring is an on-going process, integral to the implementation of the SPD and a requirement of the SA process. The proposed monitoring framework was designed to focus on significant sustainability effects identified during the SA.

A monitoring framework is presented in the SA Report which identifies the effects that should be monitored, by whom and when. Monitoring should occur throughout the lifetime of the SPD.

8 WHAT NEXT?

The draft SPD and this SA Report will be consulted upon in January-February 2014. Please see the Ipswich Borough Council website for details: www.ipswich.gov.uk/northernfringe.

Responses to this consultation should be sent to:

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