



# **Sustainable Urban Extensions (SUEs) Selection Evidence Report**

**October 2015**

# 1. Introduction

- 1.1 A joint Local Plan for the Central Lincolnshire area is being produced which will set the framework for how development will be considered across the districts of the City of Lincoln, North Kesteven and West Lindsey to 2036.
- 1.2 This Evidence Report assists in the justification for selection of the Sustainable Urban Extensions (SUEs), as proposed in the Further Draft Local Plan, October 2015.
- 1.3 This Report should not be read in isolation. Other evidence material is relevant to the matter of site selection, including, but not exclusively:
  - The Integrated Impact Assessment (IIA), October 2015
  - The Lincoln Strategy Area Growth Study, October 2015
  - The Gainsborough Strategy Area Growth Study, October 2015
  - The Residential Allocations Evidence Report, October 2015
- 1.4 The purpose of this Evidence Report is to take the broad conclusion arising from other evidence (namely, that large scale growth on or near the edge of Central Lincolnshire's three main settlements is the most appropriate and sustainable solution, in principle), and take the next step of identifying in a broad sense where such SUEs should be located. The purpose of this report does not extend to the detailed boundary setting of such SUEs, or the detailed policy proposals for each SUE proposed.
- 1.5 This Evidence Report therefore proposes a three step method:

Step 1: In a broad sense, which directions of growth ('segments') leading out of the three main settlements, might be suitable candidates for accommodating one or more SUEs.

Step 2: Following the conclusions of Step 1, of the possible directions of growth, more specific locations ('zones') for accommodating SUEs can be considered and appraised.

Step 3: Conclude which zones should be considered for detailed allocation as a SUE.

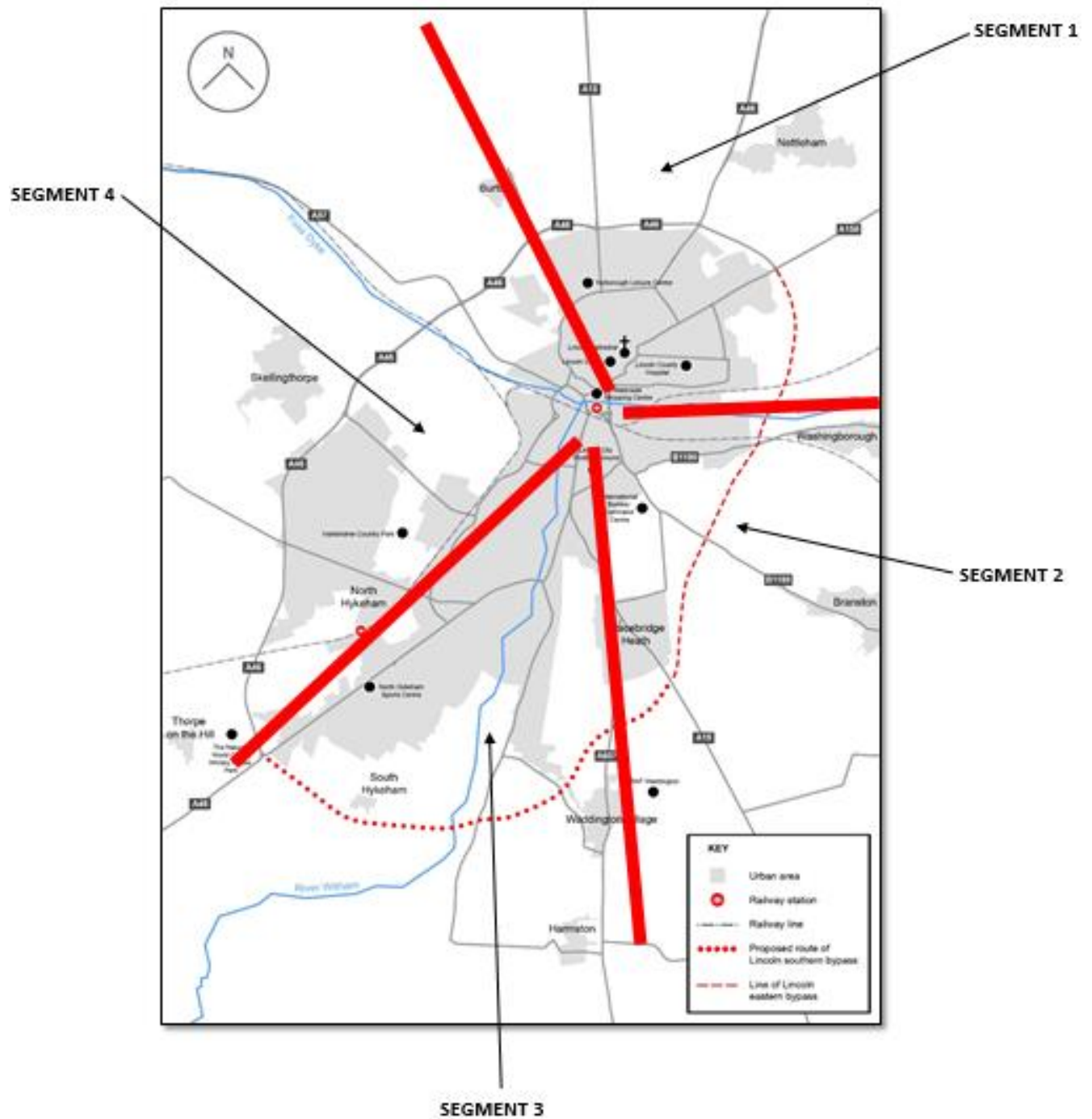
## 2 Step 1: Consideration of Broad Direction of Growth

### Introduction

- 2.1 This stage aims to establish, in a broad sense, whether certain directions leading out of a settlement could be considered in further detail for accommodating one or more Sustainable Urban Extensions (SUEs). To do this, each settlement follows the same process, as follows.
- 2.2 First, a map of the settlement is presented, with the settlement and the adjoining countryside dissected into four 'segments'. The dividing line between each segment is roughly along key geographical features on the ground, such as ridge lines, major transport routes or river corridors, with each subsequent segment created being (in a very broad sense) of a certain character.
- 2.3 Second, each segment is then described in terms of its features, both natural and man-made. These features could include, but are not restricted to:
  - Whether the landscape is flat or rolling?
  - Agricultural use?
  - Major rivers / flood plain?
  - Any villages?
  - Any large areas of protected natural environment?
  - Any prominent historical features, such as prominent listed buildings?
  - Any major physical barriers, such as rail lines or major roads?
  - What, in a very broad sense, is the character of the urban area to which the countryside in the segment adjoins e.g. is it largely suburbia? Or large employment areas? Or mixed use? Are there any distinct strategic 'edges' between the urban edge and the countryside (eg a bypass)
  - Has there been significant interest from developers for major development (500+ homes)?
  - Any other important features for that area (eg major constraints, such as flight paths)
- 2.4 Third, each segment is tested against the Sustainability Appraisal (SA) objectives, as established in the Integrated Impact Assessment (IIA) process (see those IIA reports for full details).
- 2.5 Finally, taking account of the evidence gathered for that segment, a broad conclusion is reached as to whether the segment has high, some, limited or nil potential for accommodating one or more Sustainable Urban Extensions.
- 2.6 Once all segments for a settlement have been complete, a further conclusion for that settlement as a whole is reached, which will then enable Step 2 to proceed.

## Step 1 - Lincoln

2.7 The map below identifies 4 segments at Lincoln for consideration.



## **Lincoln Segment 1: Brief Description of area**

Segment 1 is an area located broadly along the North-East axis radiating from the centre of the City. The Eastern axis line runs broadly along the River Witham corridor towards the village of Washingborough whilst the North-West axis runs along what is locally called the Burton Ridge.

### Landscape and general character

In terms of topography, from the City Centre to the east the landscape is flat following along the line of the River Witham Corridor towards the village of Washingborough. North from the river, the topography changes and rises steeply up to the high point of Lincoln Cathedral/Castle Square/Bailgate area of the City. Going along the North-West axis, Burton Ridge is an open area of land along the north escarpment, which, along with West Common to the south and Burton Fields to the north west, forms part of Lincoln's western rural fringe.

### Built Environment

Within the City of Lincoln boundary, segment 1 is a predominantly urban, built-up environment consisting of the City Centre services, residential properties, employment areas, retail and leisure provision. Towards the outer edge of the City boundary the urban form is characterised by suburban type form. This segment contains the major historic buildings within Lincoln most notably Lincoln Cathedral, Lincoln Castle and the many other listed buildings in and around the Bailgate area.

### Natural Environment (including rivers)

The segment includes the River Witham and associated flood risk areas along the Eastern axis as well as a number of national and local designations such as the SSSI at Greetwell quarry and Local wildlife site adjacent to Greetwell quarry. In the built-up area of the segment there are a number and range of open spaces including play areas, a historic park (The Arboretum) and school playing fields as well as green wedges. Once out of the built-up area of the segment, the area is characterised by open countryside and villages such as Nettleham to the North-East and Burton to the North-West .

### Relationship to surrounding area

The A46 forms a definitive Northern and eastern edge to segment 1 and the City of Lincoln itself, with the area 'outside' of this road being characterised by countryside and village development and the area inside the A46 forming the urban, built-up area of the City. The exception to this is the area between the River Witham and A158 which does not have a round forming a definitive boundary between the build-up area of Lincoln and countryside.

### Interest from developers for major development

The Church Commissioners have aspirations to develop the site around Greetwell Quarry for a proposed Urban Extension of up to 1,400 houses which is known as the North East Quadrant. A planning application for Phase 1 of the development this area has been submitted to West Lindsey District Council for approximately 500 houses which is yet to be determined. The University of

Lincoln have aspirations to develop their Riseholme site (off the A15 approximately 3 miles North of Lincoln).

## **Lincoln Segment 2: Brief Description of area**

Segment 2 is an area located broadly along the South-East axis radiating from the centre of the City. The Eastern axis line runs broadly along the River Witham corridor towards the village of Washingborough whilst the Southern axis runs follows broadly the line of the A15 running South of the City towards Bracebridge Heath and eventually to Sleaford.

### Landscape and general character

In terms of topography, from the City Centre to the east the landscape is flat following along the line of the River Witham Corridor towards the village of Washingborough. South from the river, the topography changes and rises steeply most notably once past South Common following the A15 up Canwick Hill towards Bracebridge Heath. South Common plays a critical role in reinforcing the setting of Lincoln as an urban area closely linked to its rural surroundings.

### Built Environment

Within the City of Lincoln boundary, segment 1 is a predominantly an urban environment consisting of the City Centre services, residential properties, employment areas, retail and leisure provision.

### Natural Environment (including rivers)

Within this segment there is the South Common which is a large area of common land on the south-eastern boundary of the city, bridging the gap between the built-up area and agricultural fields beyond. There is also the smaller and less well known common called the Cow Puddle Long which is a fairly narrow area of land on the east of the City that for the most part is bounded to the north by an active railway line and to the south by Washingborough Road.

### Relationship to surrounding area

The River Witham forms a definitive Northern boundary to segment 2 whilst the Southern boundary of the segment roughly follows the A15 from the City Centre, up Canwick Hill and towards Bracebridge Heath. The clear urban/rural boundary is largely formed by the South Common in part of Segment 2.

### Interest from developers for major development

A large area of land between the villages of Canwick and Bracebridge Heath in this segment has been put forward by a developer as a proposed Urban Extension which has a physical capacity to accommodate up to a maximum of approximately 6,000 houses.

## **Lincoln Segment 3 Brief Description of area**

Segment 3 is an area located broadly along what is known as the River Witham Corridor as, at its centre is the River Witham flowing in a Northerly direction past the village of South Hykeham before

moving towards North Hykeham and then directly into the City Centre where it merges with the Fosdyke Canal at the Brayford Pool.

#### Landscape and general character

Segment 3 is largely low lying with the River Witham forming a corridor through the centre of the segment. However the easterly edge of the segment does rise up roughly following the route of the A15 toward Sleaford and A607 towards Waddington. The segment contains a mixture of rural and built up areas stretching from the City Centre through to North Hykeham before becoming less built-up and more rural at the outskirts of the City.

#### Built Environment

Within the City of Lincoln boundary, segment 3 is a predominantly urban, built-up environment consisting of the City Centre services, residential properties, employment areas, retail and leisure provision. Newark Road forms a spine running north/south through the centre of the segment towards the city centre. Towards the outer edge of the City boundary the urban form is characterised by suburban type form. The segment also includes some significant employment sites and key transport infrastructure including North Hykeham railway station.

#### Natural Environment (including rivers)

The most significant natural feature in segment 3 is the River Witham as previously mentioned forming a corridor through the centre of the segment. Open land in the area forms part of a green wedge that separates North Hykeham from South Hykeham. There are views out from the east of the area to the limestone escarpment and long-ranging views within much of the segment.

#### Relationship to surrounding area

The A15 and A607 form an eastern boundary to segment 3 whilst the railway line forms a westerly boundary. At the southerly end of the segment the area is a mixture of rural and small villages including South Hykeham and Waddington before the area starts to form the edge of the built-up area of the City at North Hykeham to the West and coming down the A15 towards South Common and the junction of Newark Road and the southern end of the High Street.

#### Interest from developers from developers for major development

Developer interest has been shown in the North Hykeham area at Grange Farm for a major development of up to 2,000 houses.

### **Lincoln Segment 4 Brief Description of area**

Segment 4 is an area located to the North-West of city centre and at its northerly axis roughly follows the Burton Ridge and at its westerly axis follows the railway line from the City centre towards North Hykeham and then following the direction of the A46 towards Newark.

#### Landscape and general character

Segment 4 is largely low lying and contains a mixture of rural and built up areas stretching from the City Centre through to North Hykeham and stretching directly West of the city centre (approximately 1.5 km from city centre) there is a large open area of agricultural fields. Following the A57 and Fossdike Canal the area is largely rural once beyond the A46 bypass. The topography does rise steeply from the City centre following the Burton Cliff road.

#### Built Environment

Within the City of Lincoln boundary, segment 4 contains a mixture of urban, built-up environment consisting of the City Centre services, residential properties, employment areas, retail and leisure provision. The segment does contain a railway line and key road infrastructure most notably the A46 which forms a westerly edge creating an urban/rural edge to the segment. The segment also contains the A57 following the course of the Fossdike Canal.

#### Natural Environment (including rivers)

A significant natural feature in segment 4 is the Foss Dyke Canal flowing in a easterly direction from the West of the segment through to the City Centre. The West Common is also a key natural feature of the segment and which is a large area of common land to the west of the city centre that is bisected by Saxilby Road. The proximity of this rural landscape to the centre of the city is a key characteristic of Lincoln. The segment also contains Burton Ridge which is an open area of land along the north escarpment, which, along with West Common to the south and Burton Fields to the north west, forms part of Lincoln's western rural fringe.

#### Relationship to surrounding area

The A46 forms a distinctive boundary through the middle of the segment and is generally regarded as the boundary between the built-up and rural edge of the city. Beyond the A46 the area is predominantly rural with the large village of Skellingthorpe located in the North West of the segment. The segment forms an important entrance into the City from the west off the A46 down Carholme Road into the City centre.

#### Interest from developers from developers for major development

The area known as Western Growth Corridor which is a large greenfield site situated approximately 1.5 km to the West of the City Centre has long been considered as a potential site for major development. In 2006 a planning application was submitted to the City of Lincoln Council and North Kesteven District Council for a mixed-use development approximately 4,500 houses.



## Lincoln Segments Appraisal against Sustainability Appraisal Objectives (see Appendix 1 for scoring criteria)

IIA Objectives	Segment 1		Segment 2		Segment 3		Segment 4	
	Score	Commentary	Score	Commentary	Score	Commentary	Score	Commentary
<b>1. Housing</b>	✓✓	<p>By directing significant new growth to this area, it is likely that a range of market and affordable housing will be provided to meet the current and future housing needs for local people living in the Lincoln area</p> <p>Overall, this option is expected to have a significant positive impact on this objective.</p>	✓✓	Same as Segment 1	✓✓	Same as Segment 1	✓✓	Same as Segment 1.
<b>2. Health</b>	✓/X	<p>In the short term, large scale new housing and business growth is expected to generate localised negative effects with respect to this objective due to increase in noise, dust and emissions associated with on site construction works and increased HGV movements.</p> <p>An urban extension in this potential growth area would have access to existing health facilities in Lincoln. There is a risk that new residential development could put existing health care services and facilities under increasing pressure as the population of the Lincoln area increases. However, significant new development in this area is likely to generate the need for new healthcare services and facilities which would be accessible to existing Lincoln residents as well as</p>	✓/X	Same as Segment 1.	✓/X	Same as Segment 1	✓/X	Same as segment 1

		<p>new residents</p> <p>Development may impact negatively on local air quality exacerbating respiratory illness.</p> <p>Provision of new jobs will impact positively on both physical and mental health.</p> <p>Part of this potential growth area sits within an existing or proposed bypass. The bypass could act as a barrier for pedestrians and cyclists. Living in close proximity to a bypass may also have an impact on health in relation to respiratory illness.</p> <p>New development in this location provides opportunities for new green infrastructure and links to the countryside required by other policies plan which will help improve the health and well being of new residents by promoting physical activity.</p> <p>Overall, this option is likely to have mixed positive/negative effects in relation to this objective.</p>						
<b>3. Social Equality and Community</b>	-	At this strategic level of assessment, it is not possible to identify any positive or negative effects on this objective.	-	Same as Segment 1.	-	Same as Segment 1.	-	Same as Segment 1.
<b>4. Biodiversity and Green Infrastructure</b>	X/?	In the short term, built infrastructure development may cause some disruption over the construction phases of the development, which may disrupt habitat linkages. Development in this area will lead to a loss of habitat, especially if natural features	X/?	<p>Same as first two paragraphs of Segment 1.</p> <p>This potential area is in close proximity to the</p>	?	<p>Same as first two paragraphs of Segment 1.</p> <p>Overall, at this strategic scale, the effects are</p>	X/?	<p>Same as first two paragraphs of Segment 1.</p> <p>Development could have an impact on water quality at</p>

		<p>such as trees, hedgerows and ditches are lost. Growth could lead to fragmentation of habitats.</p> <p>However, through masterplaning, high quality new green infrastructure and biodiversity improvements could be created.</p> <p>There is a SSSI at Greetwell Hollow and nearby wildlife site within this segment, which could be affected. There could be cumulative impacts on biodiversity if the proposed eastern bypass also comes forward.</p> <p>Overall, at this strategic scale, the effects are uncertain, with potential negative effects.</p>		<p>South Common which contributes to the green infrastructure network in this part of the Lincoln. Depending on the scale of development, the South Common could be subjected to additional recreational pressure from new residents which could lead to adverse impacts if left unmanaged.</p> <p>Overall, at this strategic scale, the effects are uncertain, with potential negative effects.</p>		<p>uncertain, though this segment looks least likely to result in possible negative effects.</p>		<p>Swanholme Lakes SSSI or lead to additional recreational pressure on Boultham Mere Nature Reserve and Hartsholme Country Park.</p> <p>Overall, at this strategic scale, the effects are uncertain, with potential negative effects.</p>
<b>5. Landscape and Townscape</b>	<b>X / ?</b>	<p>This growth area lies in an area classified as the Unwooded Vales in the East Midlands Regional Landscape Character Assessment (EMRLCA).</p> <p>This area abuts and includes the following character areas identified in LTA: Bunkers Hill North Lincoln Ribbon Development, South Witham East and Greetwell Quarry. Views of the Cathedral are possible from this area but the foreground is formed by the back of industrial units and new housing developments.</p>	<b>X / ?</b>	<p>The Lincoln Cliff is a limestone escarpment and a prominent landscape feature in this area, defining the setting of Lincoln. This area is classified as Limestone Scarps and Dipslopes in the EMRLCA.</p>	<b>X / ?</b>	<p>This growth area lies in an area classified as the Unwooded Vales in the East Midlands Regional Landscape Character Assessment (EMRLCA).</p> <p>There is a risk of coalescence</p>	<b>X / ?</b>	<p>This growth area lies in an area classified as the Unwooded Vales in the East Midlands Regional Landscape Character Assessment (EMRLCA).</p> <p>Depending on the scale of development, there</p>

		<p>This potential growth area is largely in a hollow and is on brownfield land in part. There are opportunities to integrate Hawthorn Road into any new development but there is a risk of coalescence with Cherry Willingham and possibly Reepham.</p> <p>Growth outside the bypass could lead to coalescence issues with existing villages, as well as more significant landscape implications</p> <p>Overall, this option has been assessed as having uncertain impact, but potential for negative impact on this objective.</p>		<p>Depending on the scale of development, there is a risk of coalescence. Potential impact on green wedge land.</p> <p>Overall, this option has been assessed as having uncertain impact, but potential for negative impact on this objective.</p>		<p>between South and North Hykeham. Depending on the scale of development.</p> <p>There is a risk of erosion to the green wedge by developing in this area.</p> <p>Overall, this option has been assessed as having uncertain impact, but potential for negative impact on this objective.</p>		<p>is a risk of coalescence. Potential impact on green wedge land.</p> <p>The current green wedge in this area contributes to the setting of uphill Lincoln, including views from the Cathedral, Bishop's palace and the Castle. Views towards the uphill Lincoln area are also important.</p> <p>The Lincoln Townscape Assessment's main character areas relating to this area are Skewbridge and Boultham Mere. The assessment highlights the contribution of the area to Lincoln's green infrastructure and in forming part of the rural foreground to historic views of the Cathedral and north escarpment from the south and west.</p> <p>Overall, this option has been assessed as having uncertain impact, but potential for negative impact</p>
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								on this objective.
<b>6. Built and Historic Environment</b>	<b>X/?</b>	<p>Within this potential growth area there is a scheduled monument (Greetwell Medieval Village) and 6 listed buildings associated with Greetwell Hall and church (Grade I).</p> <p>In nearby settlements, Cherry Willingham has 3 listed buildings and in Reepham there is a Conservation Area and 6 listed buildings. In Riseholme there is a registered historic park and various listed buildings. Growth could impact on the character and setting of these settlements.</p> <p>Exact impacts on archaeology are unknown at this stage.</p> <p>Overall, this option is assessed as having a mixed negative/uncertain effect until more details on the location and scale of development are known.</p>	<b>X/?</b>	<p>The relationship of a large scale Sustainable Urban Extension to heritage assets in the area (8 listed buildings) and Bracebridge Heath (St John's Hospital for example) needs to be considered. Depending on the scale and design of new development, there could be an adverse impact on the setting and character of these features.</p> <p>Large scale development at this location could have an adverse impact on the views of Lincoln Cathedral from the south. The extent of change would be great as there is no built development in this area at present. The Limestone ridge defines the setting of Lincoln and should be</p>	<b>X/?</b>	<p>There are 2 designated heritage assets in this area; 2 listed buildings at South Hykeham.</p> <p>Exact impacts on archaeology are unknown at this stage.</p> <p>Overall, this option is assessed as having a mixed negative/uncertain effect until more details on the location and scale of development are known.</p>	<b>X/?</b>	<p>This area has been identified as archaeologically significant. Some of the archaeology is likely to be of national importance. Development in this growth area may result in a loss of archaeology.</p> <p>The Skellingthorpe Duck Decoy Scheduled Monument is located in this area and development could impact on its rural setting.</p> <p>Overall, this option is assessed as having a mixed negative/uncertain effect until more details on the location and scale of development are known.</p>

				<p>protected.</p> <p>Exact impacts on archaeology is unknown at this stage.</p> <p>Overall, this option is assessed as having a mixed negative/uncertain effect until more details on the location and scale of development are known.</p>				
<b>7. Water</b>	<b>X / ?</b>	<p>Any housing growth will increase water consumption and sewage disposal, both in the short term during construction and in the longer term once new housing and businesses are occupied/are operational. Impermeable materials would lead to increased water runoff which could impact negatively on local water quality.</p> <p>The Central Lincolnshire Water Cycle Study identifies existing constraints on the foul and sewerage system in north Lincoln and concludes that an urban extension in this area would require Anglian Water to provide a new trunk sewer from the site with a direct connection to Canwick treatment works. Development in this area presents an opportunity to alleviate the constraints on the foul and combined sewerage system in North Lincoln.</p> <p>Overall, whilst impacts are uncertain at this scale, this segment appears to</p>	<b>X / ?</b>	<p>Same as segment 1, para 1</p> <p>According to the Water Cycle Study, the location of this growth area is such that development would need to be accompanied by new water supply and sewerage infrastructure. The area has a small fluvial flood risk and therefore surface water drainage could be an issue however the study concluded that this area was one of the most</p>	<b>- / ?</b>	<p>Same as segment 1, para 1</p> <p>The Central Lincolnshire Water Cycle Study reported no major problems in relation to water supply and foul sewage networks in this area.</p> <p>Overall, whilst impacts are uncertain at this scale, this segment appears to have low potential for negative impacts.</p>	<b>X</b>	<p>Same as segment 1, para 1</p> <p>The Central Lincolnshire Water Cycle Study reported no major problems in relation to water supply and foul sewage networks in this area.</p> <p>Overall, whilst impacts are uncertain at this scale, this segment appears to have low potential for negative impacts.</p>

		have some potential for negative impacts		sustainable in terms of its impact on the water cycle.  Overall, whilst impacts are uncertain at this scale, this segment appears to have some potential for negative impacts				
<b>8. Pollution</b>	<b>X</b>	Noise pollution is most likely to occur in the short to medium term during the infrastructure and construction stages. By the end of the plan period, this effect will have reduced as the development nears completion.  Potential for increased light pollution.  Lincoln has 2 existing AQMAs. Growth will lead to increased road traffic which may impact on local air quality on Wragby Road, Outer Circle Road and Greetwell Road.  Overall, this option has been assessed as having a negative impact on this objective.	<b>X</b>	Same as Segment 1	<b>X</b>	Same as Segment 1	<b>X</b>	Same as Segment 1
<b>9. Land Use and Soils</b>	<b>XX</b>	Whilst there are some brownfield elements in this segment, on the whole the area is Greenfield leading to a loss of soil quantity and quality through vegetation removal, soil sealing, soil compaction and the transportation of soil away from the site (i.e. topsoil). There could also be a loss of soils containing archaeological features due	<b>XX</b>	Same as segment 1	<b>XX</b>	Same as segment 1	<b>XX</b>	Same as segment 1

		<p>to increase soil sealing.</p> <p>Development will use new aggregates. This will be most significant in the medium to long term as more phases of development occur.</p> <p>Overall, large scale development in this area is likely to have a negative impact against this objective.</p>						
<b>10. Waste</b>	<b>X</b>	<p>New development in this area will result in a net increase in household and business waste and therefore a negative effect against this objective. In the short term, this will be from construction related waste and in the medium to long term once dwellings and businesses are occupied.</p> <p>Overall, this option is expected to have a negative effect against this objective</p>	<b>X</b>	Same as Segment 1	<b>X</b>	Same as Segment 1.	<b>X</b>	Same as Segment 1
<b>11. Climate Change Effects and Energy</b>	<b>X</b>	<p>New development in this potential growth area will lead in an increase in the demand for energy and therefore increased emissions from dwellings. Mixed use development that includes services, facilities and jobs should help to reduce traffic related greenhouse gas emissions.</p> <p>Development within the bypass is more likely to lead to more sustainable modes of travel, shorter journeys as well as the potential for combined heat and power plants linked to the existing urban area. But at this stage of the appraisal, it is too early to reach conclusions.</p> <p>Overall, this option has been assessed as having a likely negative impact on</p>	<b>X</b>	Same as Segment 1	<b>X</b>	Same as Segment 1.	<b>X</b>	Same as Segment 1



		this objective.						
<b>12. Climate Change Adaptation and Flood Risk</b>	✓	<p>This potential growth includes Greetwell Beck. Overall the Flood Zones indicate that the fluvial flood risk to development in this area is minimal.</p> <p>Overall, this option has been assessed as having no likely flood risk impact, and therefore scores positively against this objective</p>	✓	<p>This area lies within Flood Zone 1 and therefore fluvial flood risk is likely to be minimal.</p> <p>To the east this potential growth area crosses a tributary of Heighington Beck, upstream of Branston. Development of the site will therefore have to ensure any risk is managed appropriately.</p> <p>Overall, this option has been assessed as having no likely flood risk impact, and therefore scores positively against this objective</p>	✓	<p>This area lies within Flood Zone 1 and therefore fluvial flood risk is likely to be minimal.</p> <p>Overall, this option has been assessed as having no likely flood risk impact, and therefore scores positively against this objective</p>	XX / ✓	<p>Much of the area to the West of Lincoln is in Flood Zone 2 and 3 and is generally low lying. The Lincoln Policy Area Strategic Flood Risk Assessment (SFRA) concludes that this area is at high risk from fluvial flooding. Development in these flood zones without mitigation would have a significant negative impact on reducing the risk of flooding. The scale of mitigation required is also likely to be significant and generate a significant carbon footprint.</p> <p>In the long term however, development in this area offers the opportunity to provide flood mitigation for wider Central Lincoln through measures that could increase flood resilience and lower flood risk to the City.</p>

								Overall, this option has been assessed as having a significant negative impact on this objective, though with potential for some positive impacts.
<b>13. Transport and Accessibility</b>	<b>?</b>	<p>At this strategic assessment stage, it is not possible to determine the likely negative or significant effects on this objective, as it would depend on precise locations of growth and the proposals for transport infrastructure.</p> <p>However, if growth took place in this segment outside the bypass, then this is likely to have a greater negative impact.</p>	<b>?</b>	Same as Segment 1	<b>?</b>	Same as Segment 1	<b>? / ✓</b>	<p>Whilst at this strategic assessment stage, it is not possible to determine the likely negative or significant effects on this objective, as it would depend on precise locations of growth and the proposals for transport infrastructure, it is evident that potential locations for growth in this segment are in close proximity to Lincoln city centre and should, in comparison to other segments, result in a more positive effect on this objective by locating development close to existing facilities and services, reducing the need to travel by car.</p> <p>Overall, whilst still</p>

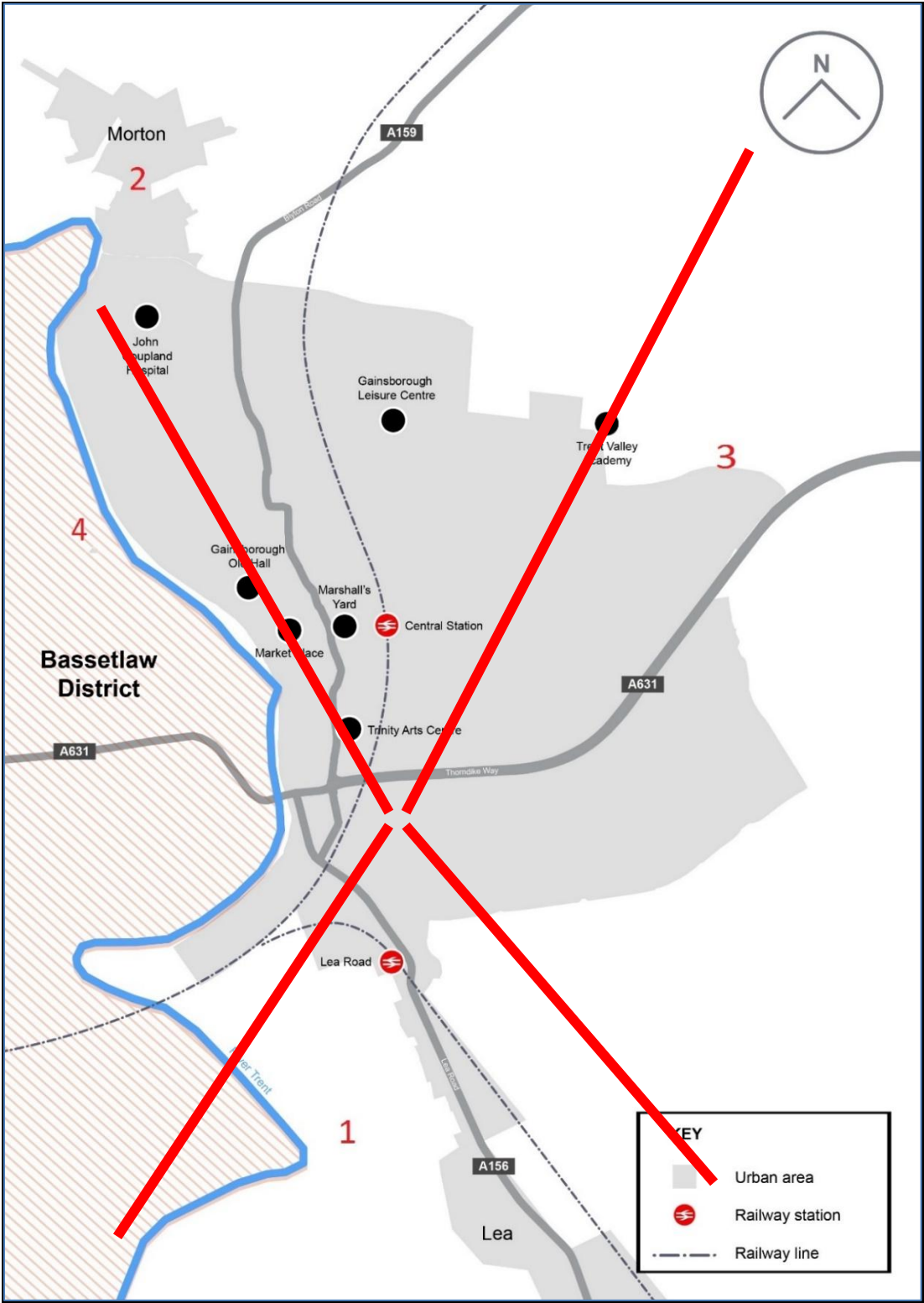
								uncertain, is felt to have the greatest potential for significant positive benefit on this objective.
<b>14. Employment</b>	✓	Development itself, plus the potential for employment land provision, means it is likely growth in this segment will have a positive effects against this objective.	✓	Same as segment 1	✓	Same as segment 1	✓	Same as segment 1
<b>15. Local Economy</b>	✓	Development itself, plus the potential for employment land provision, means it is likely growth in this segment will have a positive effects against this objective.	✓	Same as segment 1	✓	Same as segment 1	✓	Same as segment 1
<b>Summary of Significant Effects</b>	At this provisional, strategic assessment stage, the appraisal highlights a large degree of uncertainty as to the effects of locating development in this Segment. A mix of positive and negative effects are highlighted.  There is very limited difference between Segment 1-3 in terms of impacts, with all having the potential to accommodate growth with positive effects, but equally potential for harm.		Same as Segment 1		Same as Segment 1		Whilst very similar to Segment 1 in most respects, this segment differs in that it has the potential for greater negative effects in terms of flood risk, but also the potential for greater positive effects due to part of this segment having available land very close to the city centre (and the consequential benefits which arise as a result).	

### Overall Step 1 Conclusion for Lincoln

Following this initial assessment, it is concluded that all four segments in and around Lincoln have the potential for accommodating one or more Sustainable Urban Extensions, and therefore all four segments progress to Step 2 for more detailed appraisal.

# Step 1 - GAINSBOROUGH

The map below identifies 4 segments at Gainsborough for consideration in Step 1



## **Gainsborough Segment 1 (south segment): Description of area and its key features**

### **Description:**

This segment is located south of Gainsborough, astride the A156, around the neighbouring village of Lea. It is the option furthest away from existing facilities in the centre of Gainsborough and provides fewer opportunities for easy connectivity to the town centre and existing cultural, recreational and sporting facilities (e.g. Trinity Arts Centre).

### **Key Features:**

Growth in this area would likely result in the village of Lea significantly increasing in size. Existing services and facilities in this area are at present extremely limited and extensive improvements to the existing infrastructure would be necessary to accommodate growth in this location.

### **Water:**

Development growth increases water resources consumption; sewage production; and also surface water run-off - impacting on water quality. Whilst the Gainsborough Water Cycle Study does not consider water resources and supply to be a constraint to development, it does however conclude there is *insufficient* sewage treatment capacity to accommodate and cater for the development of all potential urban extensions growth in the area, a major negative impact. Mitigation measures identified include requirement for new sewage infrastructure.

### **Land and soil:**

This area is predominantly agricultural land, woodland and growth in this area is likely to result in a significant loss of countryside greenfield land, and soil quantity.

### **Food risk:**

Much of this area is situated with Flood Risk Zone 3 and Functional Floodplain (land to west), where there is a high probability of fluvial and possibly tidal flooding. Also, the scale of development associated with an urban extension on greenfield land could substantially increase the rate of water run-off and potentially lead to, or exacerbate, flood risk. Overall therefore large new growth development here could be in area at high risk of flooding, although impact depends on exact location and development design.

### **Biodiversity and green infrastructure:**

This area includes Lea Wood (south of Lea) which is classified as a Historic Park and Garden, and part of Lea Marsh (to the west) which is an SSSI.

### **Health:**

Large scale growth offers the positive opportunity to masterplan growth areas with a development scheme mix including new green infrastructure, walking and cycling facilities, and space for new health care units. Whilst this segment is furthest away from existing health facilities in Gainsborough town centre, a suitable quantum of growth could create a critical mass of population to support its own new facilities. However, concentrated development growth in this location would increase dependency on car use, which may impact negatively on local air quality.

**Social equality and community:**

This segment includes Lea Ward which is classified as deprived for access to housing and services. Directing growth here could provide housing, employment and health benefits to existing residents in deprivation. It will also provide opportunities for development of a mix of new housing and accessible employment opportunities, assisting existing and new residents, and contributing to creating socially diverse and cohesive communities. However, this depends on the development scheme design for the growth area, an overall mixed positive/uncertain effect.

**Employment:**

New development to the south of Gainsborough would be away from the main employment areas in the town and the planned areas for further expansion of employment sites.

**Landscape and townscape:**

Built development growth in this location could impact negatively on the 2 landscape character areas it cuts across - Wooded Vales and Floodplain Valleys, and distinctiveness of this open countryside area. Most of the segment lies within an Area of Great Landscape Value designated in Local Plan, an area vulnerable to built development, and is also adjacent to the Lea Marsh SSSI and SNCI. Growth here could also potentially impact negatively on these biodiversity and landscape assets. Growth could lead to loss of character and local distinctiveness of Lea village. However, the exact impact depends on detailed design and location of schemes, an overall mixed negative/uncertain effect.

**Heritage assets:**

This segment includes, or is adjacent to, Lea Park, a historic park and garden, and is close to a Scheduled Monument – Hermit Dam Moated Site, and adjacent to Lea village which has 11 listed buildings. Also, given the historic character of Gainsborough, the potential impact of substantial growth on other archaeological, or other potential, historic assets should be considered. Again, however, the exact impact depends on detailed design and location of schemes, an overall mixed negative/ uncertain effect.

**Developer Interest**

Two large sites capable of accommodating a combined total of well over 500 homes are located in this quadrant. Both have been submitted in previous calls for sites for land south of Lea, straddling either side of the A156 (SHELAA Reference numbers CL1324 & CL1325)

**Gainsborough Segment 2 (north segment): Description of area and its key features****Description:**

This segment consists of the most northern edge of Gainsborough and land surrounding the neighbouring village of Morton. Development in this location would effectively extend the built footprint of the town, and significantly reduce the separate identity of Morton

**Key Features:**

The land available for growth in this area means that an urban extension positioned here could make a significant contribution to the overall provision of new housing in the Gainsborough area. This option would provide growth in close proximity to the existing built up area of Morton and Gainsborough and therefore ensure suitable access, by alternative modes to the car to existing employment, cultural and recreational facilities and services in the town centre.

Directing growth to the north of Gainsborough would help generate market interest in one of the most deprived areas in West Lindsey, providing housing, employment and health benefits to existing residents in multiple deprivation. It will also provide opportunities for development of a mix of new housing and accessible employment opportunities, assisting existing and new residents, and contributing to creating socially diverse and cohesive communities.

Proximity to the town centre should promote alternatives to using the private car, including walking, cycling and public transport schemes, hence reducing the need to travel by car, a positive impact on the local environment.

### **Water**

Development increases water resources consumption, sewage production and surface water run off - impacting on water quality. Whilst the Gainsborough Water Cycle Study does not consider water resources and supply to be a constraint to development in this location, it does conclude there is *insufficient* sewage treatment capacity to accommodate large scale growth in this area. Mitigation measures identified include requirement for new sewage infrastructure.

### **Landscape**

In terms of impact on the existing landscape, this segment is predominantly greenfield land at present. Large parts of this area are situated within Flood Zone 3, and therefore development here will be in area at risk of flooding, and is likely to exacerbate surface water flood risk - although impact depends on exact location and development design.

### **Health**

Development offers the positive opportunity to masterplan growth areas with a development scheme mix including new green infrastructure, walking and cycling facilities, health care units, and links in with existing facilities; to reduce health inequalities and promote and support healthy lifestyles. However, concentrated development and increased car use may impact negatively on local air quality exacerbating respiratory illness.

### **Biodiversity and green infrastructure**

Development using greenfield land may also involve the loss of habitats and land of biodiversity value. However, large scale urban extensions also provide the opportunity to enhance existing green infrastructure and provide new open spaces and improved linkages and wildlife corridors

### **Employment**

This segment offers the potential to provide a new local employment/neighbourhood centre and support the local Gainsborough economy. However, the exact impact depends on detailed design and location of schemes so as not to detract overall from the Strategic Employment sites or town centre retail offer.

### **Landscape and townscape**

Built development in this location could impact negatively on the landscape character (wooded vales) and distinctiveness of this open countryside area. It could potentially also cause harm to the local distinctiveness and townscape of Morton, by merging Morton and Gainsborough together, removing the settlement gap.

#### **Heritage assets,**

There is an Ancient Monument on land to the east of Morton, and Morton has 10 listed buildings. Growth in the vicinity may impact on the setting of these historic assets and therefore development of a SUE in this location would need to sensitively account for their presence.

#### **Developer Interest**

One large site capable of delivering 500+ homes has been submitted in previous calls for sites (SHELAA Ref. CL1349).

### **Gainsborough Segment 3 (East Segment): Description of area and its key features**

**Description:** This segment covers the land to the East of Gainsborough, split to the north and south of the dual A631, a major highway artery that connect the town in all directions north, south, east and west.

**Key Features:** Situated within this area is the land that has previously been formally identified for three Sustainable Urban Extensions to support the regeneration of the town. Growth Point status was awarded to the town in 2008, and confirmed in the now abolished East Midlands Regional Spatial Strategy. That growth was predicated on large scale expansion of the town adjacent to the eastern boundary. Since that time the council have continued to positively plan for the delivery of these new growth area to support ambitious regeneration plans for the town, to stimulate market interest in town centre brownfield sites.

The Gainsborough Regained Masterplan set out the long term vision for SUE-led growth and concentrated on integrating new growth in this location with the existing town centre.

Of the three proposed Urban Extensions, the first 'Southern Neighbourhood' (land south of Foxby Lane) gained outline planning permission in August 2010. This Outline consent is valid for an extended period of 12 years and a Reserved Matters application is currently being developed for the first phase. Under previous growth proposals for the town the development of two further SUEs adjacent to the southern extension (the proposed northern extension, and longer term the eastern extension) would combine to provide a strategic location for long-term growth of the town that together could double the population of Gainsborough.

The area is in close proximity to the existing built up area and town centre of Gainsborough

#### **Employment**

Area is close to the large employers currently within the town.

#### **Water**



In terms of drainage the Gainsborough Water Cycle Study does not consider water resources and supply to be a constraint to development in this area, it does however conclude there is *insufficient* sewage treatment capacity to accommodate all potential growth in the area. Mitigation measures identified include requirement for new sewage infrastructure.

### **Flooding**

The area is free of fluvial and tidal flood risk and is identified as Flood Zone 1, where there is a low probability of flooding. This area is entirely Greenfield land and therefore development must be designed to suitably manage to risk of surface water run-off and the flood risk this aspect could cause. The area does contain drains under the management of Internal Drainage Boards who should be consulted to understand whether there are specific constraints or existing known surface water within this quadrant.

### **Biodiversity and green infrastructure**

As a greenfield site, growth in this area would have an impact on, and possible loss of, habitats and land of high biodiversity value, particularly, White's Wood, Birchwood and Hornby/Somerby woods, which are classified as Ancient Woodland. It would certainly lead to the loss of what is predominantly open countryside and woodland at present. The full impact should be further examined and growth in this area suitably designed to accommodate green assets, as far as possible, rather than replace them.

### **Landscape**

The whole growth location site lies within an area designated in the existing West Lindsey Local Plan as an 'Area of Great Landscape Value'. No heritage assets are situated in this area, although one proposed SUE area is adjacent to Somerby Hall, a designated Historic Park and Garden in the existing Local Plan.

### **Health**

In terms of health, the potential scale of this growth location offers the positive opportunity to masterplan growth areas with a development scheme mix including new green infrastructure, walking and cycling facilities, health care units, and links in with existing facilities; to reduce health inequalities and promote and support healthy lifestyles. Integrating this area with existing public transport could reduce car dependency and reduce the impact of the development in terms of local air quality and local amenity.

### **Deprivation**

This area to the east of Gainsborough is one of the most deprived areas in England and growth in this location could therefore provide direct housing, employment and health benefits to existing residents, contributing to the creation of socially diverse and cohesive sustainable communities.

### **Developer Interest**

The three previously identified urban extensions are within this segment.

## **Gainsborough Segment 4 (west segment): Description of area and its key features**

**Description:** This segment considers the possibility of locating large scale growth to the West of the town, positioned on the opposite bank of the River Trent. This area falls outside the border of both the district of West Lindsey and the County of Lincolnshire and is situated in Basset Law, North Nottinghamshire.

At present this area is accessible only via A631, the main road that crosses through Gainsborough East-West, by way of the single River Trent crossing at Trent Bridge. Access to this bridge is limited by single carriageway roads and controlled by traffic lights at a cross-road on the Gainsborough side of the river.

The village of Beckingham is the nearest settlement to this growth area, situated around 3.5km to the West of the River Trent crossing.

The land between Beckingham and Gainsborough contains two small oil wells and is predominantly flat greenfield land maintained either as grassland or in agricultural use. With the exception of the A631 there is no built development in this quadrant, other than a small number of farm buildings.

From the Gainsborough side of the River Trent, this area to the west offers unrestricted views across open countryside from the town, and enhances the appeal and attractiveness of the town's riverside area.

### **Flooding**

Reference to the flood maps identifies that this area of land is entirely at very high risk from tidal and fluvial flooding and, unlike the banks on the Gainsborough side of the River Trent where a substantial flood wall is in place, it is defended from flood risk only by natural features and a raised grass flood bank. The land behind the flood bank is considerably lower and acts a functional flood plain when the River Trent is breached. Flood risk, the low level of the land and the requirement for this area to act as floodplain (and thus increase protection to Gainsborough) presents significant constraints.

### **Transport**

The absence of any development or arterial roads within this area means that there is currently no connection to public transport, although buses do travel between Gainsborough and Beckingham and beyond into Basset Law.

### **Utilities**

It is presumed that this area currently has no utility provision in place and that entirely new connections, as well as infrastructure, would be necessary in order to facilitate any form of development within this quadrant.

### **Developer interest**

No major development is planned or currently being promoted in this area, predominantly due to the high flood risk and limited connectivity to Gainsborough. No requests to consider SUEs in this quadrant have been raised by either local authority under the Duty to Cooperate requirements.

**Gainsborough Segments Appraisal against Sustainability Appraisal Objectives (see Appendix 1 for scoring criteria)**

IIA Objectives	Segment 1		Segment 2		Segment 3		Segment 4	
	Score	Commentary	Score	Commentary	Score	Commentary	Score	Commentary
<b>1. Housing</b>	✓✓	By directing significant new growth to this area, it is likely that a range of market and affordable housing will be provided to meet the current and future housing needs for local people living in the Gainsborough area  Overall, this option is expected to have a significant positive impact on this objective.	✓✓	Same as Segment 1	✓✓	Same as Segment 1	✓✓	Same as Segment 1.
<b>2. Health</b>	✓/X	In the short term, large scale new housing and business growth is expected to generate localised negative effects with respect to this objective due to increase in noise, dust and emissions associated with on site construction works and increased HGV movements.  An urban extension in this potential growth area would have access to existing health facilities in Gainsborough. There is a risk that new residential development could put existing health care services and facilities under increasing pressure as the population of the Gainsborough area increases. However, significant new development in this area is likely to generate the need for new healthcare services and facilities which would be accessible to existing	✓/X	Same as Segment 1.	✓/X	Same as Segment 1	✓/X	Same as segment 1

		<p>Gainsborough residents as well as new residents</p> <p>Development may impact negatively on local air quality exacerbating respiratory illness.</p> <p>Provision of new jobs will impact positively on both physical and mental health.</p> <p>New development in this location provides opportunities for new green infrastructure and links to the countryside required by other policies plan which will help improve the health and well being of new residents by promoting physical activity.</p> <p>Overall, this option is likely to have mixed positive/negative effects in relation to this objective.</p>						
<b>3. Social Equality and Community</b>	-	At this strategic level of assessment, it is not possible to identify any positive or negative effects on this objective for this segment.	-	Same as Segment 1.	✓	<p>Similar to Segment 1.</p> <p>However, the most deprived parts of Gainsborough are to the east, and therefore this growth location has the greatest potential to address such issues.</p>	X	This segment is detached from Gainsborough, and development here could compound deprivation issues which exist in eastern Gainsborough.
<b>4. Biodiversity and Green Infrastructure</b>	X/?	In the short term, built infrastructure development may cause some disruption over the construction phases of the development, which may disrupt habitat linkages.	X/?	<p>Same as first two paragraphs of Segment 1.</p> <p>Overall, at this</p>	X/?	<p>Same as first two paragraphs of Segment 1.</p> <p>Possible impact</p>	X/?	<p>Same as first two paragraphs of Segment 1.</p> <p>Overall, at this</p>

<b>cture</b>		<p>Development in this area will lead to a loss of habitat, especially if natural features such as trees, hedgerows and ditches are lost. Growth could lead to fragmentation of habitats.</p> <p>However, through masterplaning, high quality new green infrastructure and biodiversity improvements could be created.</p> <p>Possible impacts on Lea Wood (south of Lea) which is classified as a Historic Park and Garden, and part of Lea Marsh (to the west) which is an SSSI</p> <p>Overall, at this strategic scale, the effects are uncertain, with potential negative effects.</p>		strategic scale, the effects are uncertain, with potential negative effects.		<p>on, and possible loss of, habitats and land of high biodiversity value, particularly, White's Wood, Birchwood and Hornby/Somerby woods, which are classified as Ancient Woodland. It would certainly lead to the loss of what is predominantly open countryside and woodland at present.</p> <p>Overall, at this strategic scale, the effects are uncertain, with potential negative effects.</p>		strategic scale, the effects are uncertain, with potential negative effects.
<b>5. Landscape and Townscape</b>	<b>X / ?</b>	<p>Built development growth in this location could impact negatively on the 2 landscape character areas it cuts across - Wooded Vales and Floodplain Valleys, and distinctiveness of this open countryside area. Most of the growth location site lies within an Area of Great Landscape Value designated in Local Plan, an area vulnerable to built development, and is also adjacent to the Lea Marsh SSSI and SNCI. Growth here could also potentially impact negatively on these biodiversity and landscape assets. This option could also lead to a</p>	<b>X / ?</b>	<p>This growth option is predominantly greenfield land and includes the most northern edge of Gainsborough and land surrounding the neighbouring village of Morton. Development in this location would effectively extend the built footprint of the town, and</p>	<b>X / ?</b>	<p>The whole growth location site lies within an area designated in the existing West Lindsey Local Plan as an 'Area of Great Landscape Value'</p> <p>As a greenfield site, growth in this area would have an impact on what is predominantly open countryside</p>	<b>X / ?</b>	<p>This area is characterised by functional flood plain.</p> <p>It is predominantly flat greenfield land maintained either as grassland or in agricultural use. With the exception of the A631 there is no built development in this quadrant, other than a small number of</p>

		<p>substantial size extension to Lea (at least doubling its size) which could lead to loss of character and local distinctiveness of Lea village. However, the exact impact depends on detailed design and location of schemes, an overall mixed negative/uncertain effect.</p> <p>Overall, at this strategic scale, the effects are uncertain, but likely potential negative effects.</p>		<p>significantly reduce the separate identity of Morton</p> <p>Built development growth in this location could impact negatively on the landscape character (wooded vales) and distinctiveness of this open countryside area.</p> <p>Overall, at this strategic scale, the effects are uncertain, but likely potential negative effects.</p>		<p>and woodland at present.</p> <p>Overall, at this strategic scale, the effects are uncertain, but likely potential negative effects.</p>		<p>farm buildings</p> <p>The village of Beckingham is the nearest settlement to this growth area, situated around 3.5km to the West of the River Trent crossing.</p> <p>From the Gainsborough side of the River Trent, this area to the west offers unrestricted views across open countryside from the town, and enhances the appeal and attractiveness of the town's riverside area, which would be lost if development took place in this segment.</p> <p>Overall, at this strategic scale, the effects are uncertain, but likely potential negative effects.</p>
<b>6. Built and Historic Environment</b>	<b>X/?</b>	<p>This growth option includes, or is adjacent to, Lea Park, a historic park and garden, and is close to a Scheduled Monument – Hermit Dam Moated Site, and adjacent to Lea village which has 11 listed buildings. This growth could detrimentally impact</p>	<b>X/?</b>	<p>There is an Ancient Monument on land to the east of Morton, and Morton has 10 listed buildings.</p>	<b>-/?</b>	<p>Implications for heritage assets appear limited this area, although Somerby Hall, a designated Historic Park and</p>	<b>✓</b>	<p>No known significant heritage implications.</p> <p>Overall, this option</p>

		<p>on these historic assets. Also, given the historic character of Gainsborough, the potential impact of substantial growth on other archaeological, or other potential, historic assets should be considered. Again, however, the exact impact depends on detailed design and location of schemes, an overall mixed negative/ uncertain effect.</p> <p>Overall, this option is assessed as having a mixed negative/uncertain effect until more details on the location and scale of development are known.</p>		<p>Growth in the vicinity may impact on the setting of these historic assets and therefore development of a SUE in this location would need to sensitively account for their presence</p> <p>Overall, this option is assessed as having a mixed negative/uncertain effect until more details on the location and scale of development are known</p>		<p>Garden is in the vicinity.</p> <p>Overall, this option is assessed as not likely having an impact, but this remains uncertain until more details on the location and scale of development are known</p>		<p>is considered to have a positive effect, due to the lack of impact of development in this locality in relation to this objective.</p>
<b>7. Water</b>	<b>X / ?</b>	<p>Any housing growth will increase water consumption and sewage disposal, both in the short term during construction and in the longer term once new housing and businesses are occupied/are operational. Impermeable materials would lead to increased water runoff which could impact negatively on local water quality.</p> <p>Whilst the Gainsborough Water Cycle Study does not consider water resources and supply to be a constraint to development, it does however conclude there is <i>insufficient</i> sewage treatment capacity to accommodate and cater for the</p>	<b>X / ?</b>	Same as segment 1	<b>X / ?</b>	Same as segment 1	<b>X / ?</b>	Same as segment 1



		<p>development of all potential urban extensions growth in the area, a major negative impact. Mitigation measures identified include requirement for new sewage infrastructure.</p> <p>Overall, whilst impacts are uncertain at this scale, this segment appears to have some potential for negative impacts</p>						
<b>8. Pollution</b>	<b>X</b>	<p>Noise pollution is most likely to occur in the short to medium term during the infrastructure and construction stages. By the end of the plan period, this effect will have reduced as the development nears completion.</p> <p>Potential for increased light pollution.</p> <p>Overall, this option has been assessed as having a negative impact on this objective.</p>	<b>X</b>	Same as Segment 1	<b>X</b>	Same as Segment 1	<b>X</b>	Same as Segment 1
<b>9. Land Use and Soils</b>	<b>XX</b>	<p>This area is predominantly agricultural land and woodland and growth in this area is likely to result in a significant loss of countryside, greenfield land, and soil quantity</p> <p>Overall, large scale development in this area is likely to have a negative impact against this objective.</p>	<b>XX</b>	Same as segment 1	<b>XX</b>	Same as segment 1	<b>XX</b>	Same as segment 1
<b>10. Waste</b>	<b>X</b>	<p>New development in this area will result in a net increase in household and business waste and therefore a negative effect against this objective. In the short term, this will be from construction related waste and in the medium to long term once dwellings and businesses are occupied.</p>	<b>X</b>	Same as Segment 1	<b>X</b>	Same as Segment 1.	<b>X</b>	Same as Segment 1

		Overall, this option is expected to have a negative effect in against this objective						
<b>11. Climate Change Effects and Energy</b>	<b>X</b>	<p>New development in this potential growth area will lead in an increase in the demand for energy and therefore increased emissions from dwellings. Mixed use development that includes services, facilities and jobs should help to reduce traffic related greenhouse gas emissions.</p> <p>Overall, this option has been assessed as having a likely negative impact on this objective.</p>	<b>X</b>	Same as Segment 1	<b>X</b>	Same as Segment 1.	<b>X</b>	Same as Segment 1
<b>12. Climate Change Adaptation and Flood Risk</b>	<b>X/?</b>	<p>This option is may have a significant negative effect because large areas are situated within Flood Risk Zone 3 and Functional Floodplain (land to west), where there is a high probability of fluvial and possibly tidal flooding. Also, the scale of development associated with an urban extension on greenfield land could substantially increase the rate of water run-off and potentially lead to, or exacerbate, flood risk. Overall therefore new development here could be in an area at high risk of flooding, although impact depends on exact location and development design, assessed as major negative impacts on this objective</p> <p>Overall, this option has been assessed as having likely flood risk impact, and therefore scores negatively (albeit uncertain) against this objective</p>	<b>XX</b>	<p>Large parts of this area are situated within Flood Zone 3, and therefore development here will be in area at risk of flooding, and is likely to exacerbate surface water flood risk - although impact depends on exact location and development design.</p> <p>Overall, in terms of accommodating a large scale development (SUE scale) this option has been assessed as having highly</p>	✓	<p>The area is free of fluvial and tidal flood risk and is identified as Flood Zone 1, where there is a low probability of flooding. This area is entirely Greenfield land and therefore development must be designed to suitably manage the risk of surface water run-off. The area does contain drains under the management of Internal Drainage Boards.</p> <p>Overall, this option has been assessed as having no likely</p>	<b>XX</b>	This area of land is entirely at very high risk from tidal and fluvial flooding and, unlike the banks on the Gainsborough side of the River Trent where a substantial flood wall is in place, it is defended from flood risk only by natural features and a raised grass flood bank. The land behind the flood bank is considerably lower and acts as a functional flood plain when the River Trent is breached. Flood risk, the low level of the land and the requirement for this area to act as floodplain (and thus

				likely flood risk impact, and therefore scores negatively against this objective		flood risk impact, and therefore scores positively against this objective		increase protection to Gainsborough) presents what are highly likely to be insurmountable constraints.  Overall, this option has been assessed as having a major significant negative impact on this objective, with no likely practical mitigation possible.
<b>13. Transport and Accessibility</b>	<b>X/?</b>	At this strategic assessment stage, it is not possible to determine the likely negative or significant effects on this objective, as it would depend on precise locations of growth and the proposals for transport infrastructure, though it is likely the scale of transport infrastructure needed is greater in this segment than would be the case for segment 3. Growth in this locality is also likely to be more remote than Segment 3.  Overall, therefore, whilst uncertain, it has the potential for negative effects.	<b>X/?</b>	Same as Segment 1	<b>- / ?</b>	Whilst similar to Segment 1, this area has the greater potential to be accessible to Gainsborough, as well as likely demand less major transport infrastructure.  The effects are therefore mixed and uncertain.	<b>X</b>	With an extremely limited transport infrastructure in place in this area, and the major constraint of the River, the cost of introducing suitable and sustainable transport measures in this locality would be of such significance as to be unlikely to be deliverable.  This area therefore scores negatively against this objective.
<b>14. Employment</b>	<b>✓</b>	Development itself, plus the potential for employment land provision, means it is likely growth in this segment will have a positive effects against this objective.	<b>✓</b>	Same as segment 1	<b>✓</b>	Same as segment 1	<b>✓</b>	Same as segment 1

<b>15. Local Economy</b>	✓	Development itself, plus the potential for employment land provision, means it is likely growth in this segment will have a positive effects against this objective.	✓	Same as segment 1	✓	Same as segment 1	✓	Same as segment 1
<b>Summary of Significant Effects</b>	At this provisional, strategic assessment stage, the appraisal highlights a large degree of uncertainty as to the effects of locating development in this Segment. A mix of positive and negative effects are highlighted.  This segment scores less favourably than 3 on a number of important counts, including flooding, accessibility, heritage and social equality and community.		Very similar to Segment 1, though the flood risk in this segment is considerably worse and effectively rules out this segment as a candidate to accommodate significant growth		This segment has the potential for negative effects, but compares more favourably than all other three segments, and perhaps most crucial of all lacks the flooding constraints which exist in the other segments.		This Segment differs from the others in terms of sustainability appraisal, but the flood risk implications of this segment effectively rules out this segment as a candidate for significant growth	

## **Overall Step 1 Conclusion for Gainsborough**

**Segment 3** has, from a sustainability appraisal perspective, clearly the most realistic potential for accommodating one or more Sustainable Urban Extensions. Growth in this location is less constrained by essential features such as flood risk and is more likely to deliver growth which extends directly from the existing built-up part of the town with direct access to major employment sites, cultural services and retail provision.

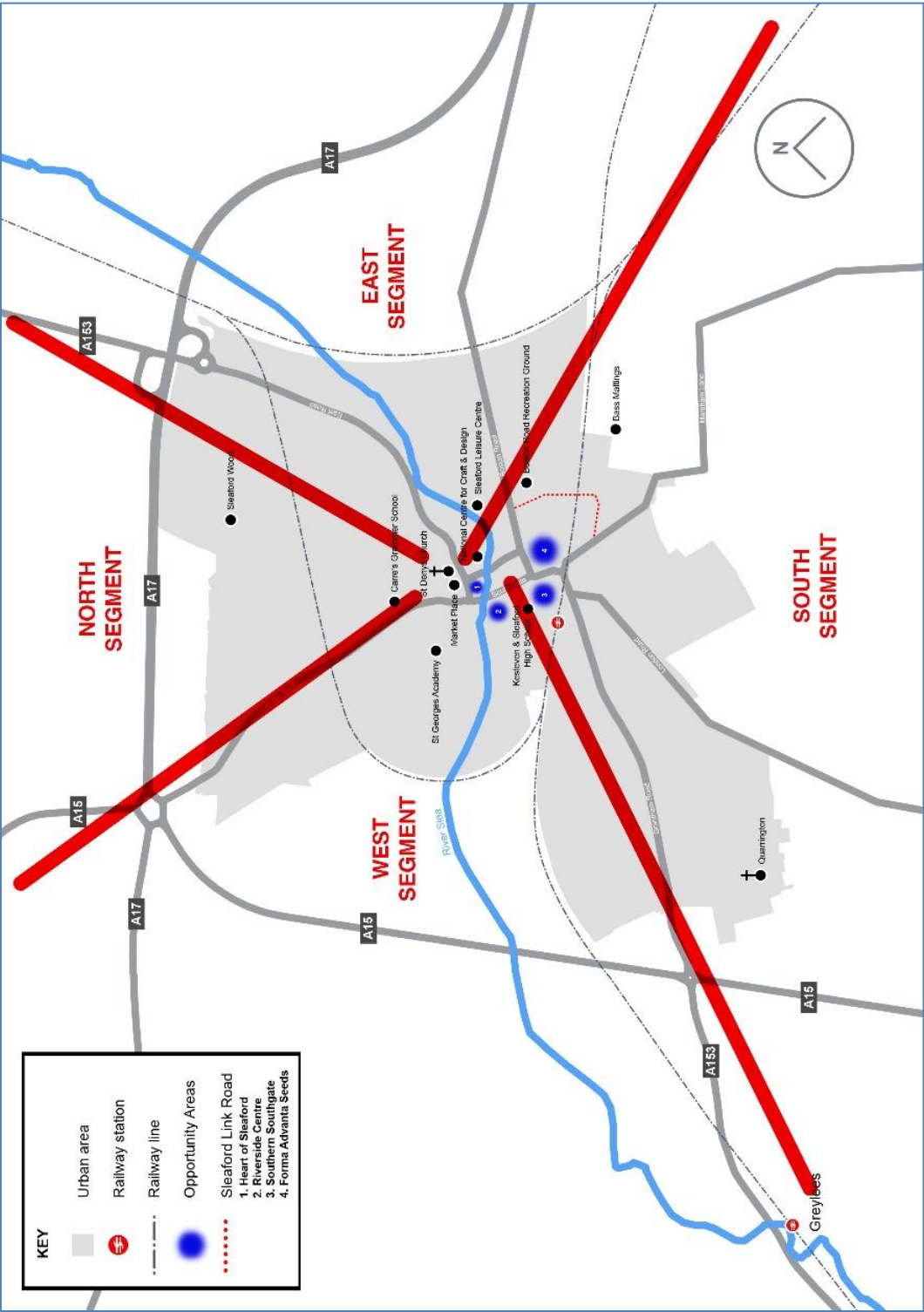
A further major consideration is that located within this quadrant is a SUE that already benefits from an Outline planning permission, comprising 2,500 homes with employment land and a new neighbourhood centre.

Segments 2 (north) and 4 (west) are severely constrained by flood risk, as well as performing poorly on other aspects. For the purposes of accommodating a SUE-scale development site, these two areas are therefore ruled out from further investigation – it would not be ‘reasonable’ to explore these areas in more detail.

Segment 1 (south) has the potential for considerable negative effects, and more so than segment 3 (east). However, for the purpose of this report, both segment 1 and 3 will be considered in Step 2.

# Step 1 - SLEAFORD

The map below identifies 4 segments at Sleaford for consideration in Step 1



## **Sleaford Segment 1 (North)**

### **Brief Description of area**

Segment 1 is an area to the North of Sleaford extending beyond the Sleaford / Holdingham boundary either side of the A17

### **Key Features**

#### Landscape and general character

In terms of topography the area is generally flat land open landscape. The land is predominantly in agricultural use, over the entirety of the segment, with large areas of agricultural land bounded by hedging. The Holdingham Beck, a riparian watercourse runs through the middle of the segment north to south.

The area includes good quality grade 3 agricultural

#### Built Environment

The area lies to the north of Sleaford/ Holdingham built up area and to the South of the village of Leasingham, which is to the north west above the segment. The character of Sleaford/ Holdingham's built environment is predominantly residential development. The character is a mix of the historic settlement of Holdingham and recent development comprising the affordable housing scheme at Holdingham Mead and the permitted Persimmon Homes site immediately south of the A17. There is allocated employment to the East of the Segment (South of the A17) and an anaerobic digestion facility is under construction between the A17 and Leasingham village.

#### Natural Environment (including rivers)

The segment is predominantly farmed agricultural use with tree and hedge row boundaries. The Holdingham beck runs through the centre of the segment. It is a riparian watercourse.

#### Relationship to surrounding area

The A17 runs east to west through this area and forms a hard physical boundary to Sleaford. To the east of the segment the A153 runs north and forms a physical boundary. To the west of the segment the A15 Lincoln Road forms a boundary.

#### Interest from developers for major development

Areas within the segment have been put forward for potential allocation as part of the SHEELAA

## **Sleaford Segment 2 (East)**

### **Brief Description of area**

Segment 2 is an area located to the East of Sleaford, predominantly on the eastern side of the railway line. The area is a location for playing fields and sports facilities that serve the town and along the A1121 Boston Road is the Sleaford Renewable Energy Plant. Much of the area is in the parish of Kirkby la Thorpe, the village being situated in the East beyond the segment, on the northern side of the A17 but the parish boundary extends over the railway line and adjoins the built up area of Sleaford.

### **Key features**

#### Landscape and general character

The landscape is generally flat and in agricultural use with fields bounded by hedges and trees. The river Slea runs along the Northern part of the segment with associated flood plain. Archeology is present with recent finds following development on the eastern edge of Sleaford adjacent to the railway line and the segment

#### Built Environment

The eastern edge of the Sleaford /Kirkby la Thorpe built up area is predominantly residential /suburban development bounded by the railway line. There is a road underpass for the Boston Road under the railway line which facilitates the only existing access into and out of Sleaford.

Immediately after the railway line moving east into the segment from Sleaford are some presumed former railway cottages and the Sleaford Town Football Club pavilion and pitches. Beyond this after sports pitches and fields is the renewable energy plant to the east of the segment.

Electricity pylons run to the east of the segment. The A17 forms a physical barrier to the north and east of the segment and railway line to the west and south.

#### Natural Environment (including rivers)

The segment is generally flat and agricultural farm land. The river Slea runs to the North East forming a natural boundary to the area.

#### Relationship to surrounding area

The segment is located adjoining the A1121 which leads to the A17. This is the only access over the railway line, which runs along the eastern boundary of the existing Sleaford built up area.

#### Interest from developers for major development

Areas within the segment have been put forward for potential allocation as part of the SHEELAA



## **Sleaford Segment 3 (South)**

### **Brief Description of area**

Segment 3 is a large area South of Sleaford, running either side of the Mareham Lane on the eastern side up to the A15 on the western edge. The A15 forming a hard physical boundary to the Western edge of the segment.

### **Key features**

#### Landscape and general character

Segment 3 is largely flat / gently sloping land in agricultural use, with hedgerows and tree planting. The segment is also bounded to the north with the urban fringe of Sleaford. The landscape on the eastern edge is particularly open affording open views towards Sleaford and the Bass Maltings

#### Built Environment

The Sleaford boundary is predominantly residential in nature. To the north eastern edge of the segment is older development area of Sleaford including the Bass Maltings, Grade II listed building which is prominently sited overlooking open farm land to the south of the Maltings, into the segment . To the south and western edges of the town the segment is bounded by newer residential development (Southfields) and Quarrington village which has expanded in the last 20 years with residential growth.

#### Natural Environment (including rivers)

The segment is predominantly open farm land with hedgerows and trees forming field boundaries. The Moor Drain runs through part of the area east to West to the South of the Segment. Land generally slopes from North West to South East.

Mareham Pastures is a local wildlife site and is situated in the segment in the eastern side.

#### Relationship to surrounding area

The segment to the South of Sleaford is a large area. The eastern area forms an open access into Sleaford with largely uninterrupted views of the Maltings. Both the East and Southern areas have a border the Mareham pastures nature reserve. The Western area is further from the town centre but there is significant existing development in the Quarrington area. The A15 forms a physical boundary to the west. Grantham Road Mareham lane and London Rd form radial routes to the town centre Sleaford railway station is at the intersection of these routes to the northern boundary of the segment

#### Interest from developers from developers for major development

The landowners submitted an application for a SUE development of 1450 homes to the south of the London Road. This has been Approved. Other interest has been shown for development of land.

## **Sleaford Segment 4 (West)**

### **Brief Description of area**

Segment 4 is in an area located to the West of Sleaford – bounded by the A15 to its Western edge, the River Slea runs to the South and the historic settlement of Holdingham to the North. The site is bounded by urban edge on the Eastern side and partially by the railway line

### **Key features**

#### Landscape and general character

The area is generally flat / gently sloping to the South to the River Slea. The land is currently predominantly in agricultural use. Allotments are situated in the south eastern corner near to the river Slea. Land to the South of the River Slea is partly in the floodplain and partly in use as informal green corridor bounded by a footpath which links Sleaford with Greylees. There is a local wildlife site

#### Built Environment

The segment is bounded on the east by the existing Sleaford urban edge and partially by the railway line. To the north of the segment is Holdingham old village, which is more rural and historic in character. There are a few residential dwellings in the area. There is a former poultry building and a disused pumping station.

#### Natural Environment (including rivers)

The landscape is predominantly flat/sloping with fields ditches and hedging. The River Slea runs to the South of the segment with floodplain. There is a local wildlife site immediately south of the Slea.

Designated public footpaths run along route of former Sleaford to Cranwell light railway line and the River Slea.

#### Relationship to surrounding area

The A15 forms a distinctive boundary to the Western edge of the segment. To the North is Holdingham old village, there is not a direct vehicle access to the old village but a public footpath exists. Direct vehicle access to Sleaford currently is via the Drove. There is no existing access or through route from the A15 into the segment. There are a number of residential development roads (e.g. St Denys, Stokes Drive and Covell Road which run up to the edge of the area.)

#### Interest from developers from developers for major development

There has been interest for development in this segment.

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## Sleaford Segments Appraisal against Sustainability Appraisal Objectives (see Appendix 1 for scoring criteria)

Appraisal of Sleaford Segments								
IIA Objectives	Segment 1 North		Segment 2 East		Option C South		Option D West	
	Score	Commentary	Score	Commentary	Score	Commentary	Score	Commentary
<b>1. Housing</b>	✓✓	<p>By directing significant new growth to this area, it is likely that a range of market and affordable housing will be provided to meet the current and future housing needs for local people living in the Lincoln area</p> <p>Overall, this option is expected to have a significant positive impact on this objective.</p>	✓✓	Same as Segment 1	✓✓	Same as Segment 1	✓✓	Same as Segment 1.
<b>2. Health</b>	✓/X	<p>In the short term, large scale new housing and business growth is expected to generate localised negative effects with respect to this objective due to increase in noise, dust and emissions associated with on site construction works and increased HGV movements.</p> <p>An urban extension in this potential growth area would have access to existing health facilities in Sleaford. There is a risk that new residential development could put existing health care services and facilities under increasing pressure as the population of the Sleaford area increases. However, significant new development in this area is likely to generate the need for new healthcare services and facilities which would be accessible to existing Sleaford residents as well as new residents</p> <p>Development may impact negatively on</p>	✓/X	<p>Same as segment 1, para's 1-4</p> <p>This location allows positive potential to link into any existing cycleways and footpaths in Sleaford town centre, and to increase and improve health (walking and cycling).</p> <p>Railway provides a physical barrier limiting options for access to town centre health facilities</p>	✓/X	<p>Same as segment 1, para's 1-4</p> <p>This allows positive potential to link into any existing cycleways and footpaths in Sleaford town centre, and to increase and improve health (walking and cycling). The segment has access to, and is geographically near, existing central health centres and open space facilities in</p>	✓/X	<p>Same as segment 1, para's 1-4</p> <p>This location allows opportunity to link into any existing cycleways and footpaths routes into Sleaford town centre through existing residential/built-up areas, the segment has access to, and is relatively geographically near, existing central health centres and open space facilities in central Sleaford</p> <p>Location adjoining a busy road A15 could</p>

		<p>local air quality exacerbating respiratory illness.</p> <p>Provision of new jobs will impact positively on both physical and mental health.</p> <p>This location allows positive potential to link into existing cycleways and footpaths (e.g. Leasingham to Sleaford), and to increase and improve health (walking and cycling) and access to existing central health centres and facilities in central Sleaford.</p> <p>The location's proximity to existing major use roads (A17/A15) could lead to detrimental health impacts to future occupiers due to car and air pollution. Development may impact negatively on local air quality exacerbating respiratory illness.</p> <p>Overall, this option is likely to have mixed positive/negative effects in relation to this objective.</p>		<p>Growth here could take advantage of River Sleas as a green corridor linking to town centre.</p> <p>Location adjoining a busy railway line and a busy road is likely to lead to air pollution and noise disturbance issues for future occupiers, if developed, having a negative effect on health issues for users of the segment.</p> <p>Overall, this option is likely to have mixed positive/negative effects in relation to this objective..</p>		<p>central Sleaford</p> <p>Railway line and level crossing provides a physical barrier to easy access to town centre health, open space and sports facilities and services located north of the railway line, making access to health facilities more difficult.</p> <p>The Southern Sleaford area is bounded on the East by the railway line and West by A15. Development near these locations could be affected by air pollution and noise disturbance issues for future occupiers, if developed, having a negative effect on health issues for users of the segment.</p> <p>Overall, this option is likely to have mixed positive/negative effects in relation to this objective.</p>	<p>lead to air pollution and noise disturbance issues for future occupiers, if developed, having a minor potential negative effect on health issues for users of the segment.</p> <p>Overall, this option is likely to have mixed positive/negative effects in relation to this objective.</p>
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3. <b>Social Equality and Community)</b>		<p>At this strategic level, it is predominantly uncertain as to the effects on this objective.</p> <p>The existing leisure/cultural facilities offer in this area is focused in Sleaford town centre.</p> <p>This growth location is some distance from the centre, with severance from centre caused by A17</p> <p>Overall, an uncertain impact on this objective.</p>		<p>Same as Segment 1, para 1-2</p> <p>This growth location, on the north side of Boston Road, is relatively close to the centre, for access to cultural and recreational facilities there. However, as the segment straddles the railway line, the section on the east side of the railway, in the countryside, has relative severance from the main urban area.</p> <p>Overall, an uncertain impact on this objective.</p>		<p>Same as Segment 1, para 1-2</p> <p>This growth location, off of Mareham Lane, and along London Road is geographically closer to the town centre at the South Eastern end, for access to cultural and recreational facilities there.</p> <p>Overall, an uncertain impact on this objective.</p>		<p>Same as Segment 1, para 1-2</p> <p>This growth location, off of London Road is some distance from the town centre, for access to cultural and recreational facilities there. Severance from the centre caused by the railway line and Quarrington' s 'radial' roads - London Road and Grantham Road (B1517) only running to a point south of the railway, requiring a level crossing to reach the town centre.</p> <p>Overall, an uncertain impact on this objective.</p>
4. <b>Biodiversity and Green Infrastructure</b>	O	<p>In the short term, built infrastructure development may cause some disruption over the construction phases of the development, which may disrupt habitat linkages. Development in this area will lead to a loss of habitat, especially if natural features such as trees, hedgerows and ditches are lost. Growth could lead to fragmentation of habitats.</p> <p>However, through masterplaning, high quality new green infrastructure and biodiversity improvements could be created.</p>	O	<p>Same as Segment 1</p>	?	<p>Similar to segment 1, however this segment includes Mareham Pastures Local Nature Reserve (LNR), offering green infrastructure opportunities, and GI care responsibilities, from adjacent new development.</p>	O	<p>Similar to segment 1.</p> <p>The river Slea forms effectively a boundary to the South edge of the segment</p> <p>However, no major impacts are highlighted at this strategic stage.</p>

		However, no major impacts are highlighted at this strategic stage.				This makes the impact uncertain at this stage.		
<b>5. Landscape and Townscape</b>	<b>X</b>	<p>This area lies in a landscape area north of Sleaford classified as the Limestone Scarps and Dip slopes, a Regional Landscape Character Type, in the East Midlands Regional Landscape Character Assessment (EMRLCA).</p> <p>Subject to scale of development in this segment, and the major nearby roads (A15 to west, and A17 to south) acting as a natural barrier, urban growth here could detrimentally impact on landscape setting of Leasingham village and other landscape character/setting to north of the segment. To south, growth building up to the A17 road is not considered to have as much effects on setting due to road barrier</p> <p>There is also a risk of coalescence and integration between north Sleaford</p> <p>Overall, this option has been assessed as having a negative impact on this objective.</p>	<b>X</b>	<p>This area lies in a landscape area east of Sleaford classified as the Fen and Marsh Margin Farmlands, a Regional Landscape Character Type, in the East Midlands Regional Landscape Character Assessment (EMRLCA).</p> <p>Subject to scale of development on this growth location segment, and the railway line acting as a natural barrier, growth here in this countryside location beyond the existing settlement could detrimentally impact on the open landscape setting of this east side of Sleaford</p> <p>It could impact negatively on the landscape</p>	<b>X</b>	<p>This area lies in a landscape area east of Sleaford classified as the Fen and Marsh Margin Farmlands, a Regional Landscape Character Type, in the East Midlands Regional Landscape Character Assessment (EMRLCA).</p> <p>Subject to scale of development on this growth location segment, urban growth here in this countryside location beyond the existing settlement could detrimentally impact on the open landscape setting and to the south-east side of Sleaford, and also the local townscape setting, which includes the Sleaford Maltings</p>	<b>X</b>	<p>This area lies in a landscape area west of Sleaford classified as the Limestone Scarps and Dipslopes, a Regional Landscape Character Type, in the East Midlands Regional Landscape Character Assessment (EMRLCA).</p> <p>Subject to scale of development on this growth location segment, mixed use urban growth here in this countryside location beyond the existing settlement could detrimentally impact on the open landscape</p> <p>Overall, this option has been assessed as having a negative effect and impact on this objective.</p>

				<p>character and local distinctiveness, depending on the detailed design and type of development</p> <p>Overall, this option has been assessed as having a negative impact on this objective.</p>		<p>Listed Buildings complex.</p> <p>Overall, this option has been assessed as having a negative effect and impact on this objective.</p>		
<b>6. Built and Historic Environment (Heritage Assets)</b>	<b>?</b>	<p>Leasingham has 11 listed buildings, including the Grade II*Manor House and Grade I church. There is also 1 listed building on the northern edge of Sleaford that could be affected by growth in this area.</p> <p>Whilst there is no conservation area in Leasingham, this option may result in historically distinct village of Leasingham being integrated into an extended Sleaford town.</p> <p>Exact impacts on undesignated archaeology are unknown at this stage.</p> <p>Overall, this option has been assessed as having an uncertain effect and impact on this objective.</p>	<b>?</b>	<p>Sleaford Conservation area ends to the north-west of the segment. Development in this growth area could therefore potential have an impact on the setting of this Conservation Area. There are no listed buildings in the vicinity.</p> <p>Exact impacts on undesignated archaeology are unknown at this stage.</p> <p>Overall, this option has been assessed as having an uncertain effect and impact on this objective.</p>	<b>xx</b>	<p>This eastern edge of this growth option location lies in proximity to the large Sleaford Maltings Listed Buildings complex on Mareham Lane, The Sleaford Maltings are an iconic, nationally and locally important set of listed buildings, viewable from a distance across open countryside on this south east side of Sleaford. It is highly likely that development will interrupt the long views of the Maltings complex, and adversely affect the setting of these listed</p>	<b>?</b>	<p>There is a Scheduled Ancient Monument (AM338) at the north end of this potential growth area, south of Holdingham roundabout, known as 'Settlement and Enclosure, Holdingham' (AM338).</p> <p>Exact impacts on undesignated archaeology are unknown at this stage.</p> <p>Overall, this option has been assessed as having an uncertain effect and impact on this objective.</p> <p>.</p>

						<p>buildings</p> <p>To the centre and western boundary there are no nearby conservation areas but there are 5 known listed buildings, including a Grade II* church at Quarrington and views to Silk Willoughby church.</p> <p>Exact impacts on archaeology are unknown at this stage.</p> <p>Overall, the South east is assessed has been assessed as having a <b>major negative</b> effect and impact on this objective.</p>		
<b>7. Water</b>	<b>x</b>	<p>Any housing growth will increase water consumption and sewage disposal, both in the short term during construction and in the longer term once new housing and businesses are occupied/are operational. Impermeable materials would lead to increased water runoff which could impact negatively on local water quality.</p> <p>On capacity, the Water Cycle Studies which cover Central Lincolnshire identify sewage capacity as an issue for Sleaford</p> <p>On water quality, in short term construction phase could detrimentally</p>	<b>x</b>	Same as Segment 1	<b>x</b>	Same as Segment 1, para 1	<b>x</b>	Same as Segment 1, para 1



		<p>affect water quality. Impermeable materials would lead to increased water run-off in medium to long term from permanent development, potentially adversely affecting water quality.</p> <p>However, overall, growth in this segment is expected to have a negative impact on this objective.</p>						
<b>8. Pollution (Natural Resources – Air and Light)</b>	<b>X</b>	<p>Noise pollution is most likely to occur in the short to medium term during the infrastructure and construction stages. By the end of the plan period, this effect will have reduced as the development nears completion.</p> <p>Potential for increased light pollution.</p> <p>Overall, this option has been assessed as having a negative impact on this objective.</p>	<b>X</b>	Same as Segment 1	X	Same as Segment 1	X	Same as Segment 1
<b>9. Land Use and Soils</b>	<b>XX</b>	<p>No significant elements of brownfield land in this locality. Development in this segment will result in a significant loss of greenfield land leading to a loss of soil quantity and quality through vegetation removal, soil sealing, soil compaction and the transportation of soil away from the site (i.e. topsoil). There could also be a loss of soils containing archaeological features due to increase soil sealing.</p> <p>Development will use new aggregates. This will be most significant in the medium to long term as more phases of development occur.</p> <p>Overall, large scale development in this area is likely to have a negative impact against this objective.</p>	<b>XX</b>	Same as segment 1	XX	Same as segment 1	XX	Same as segment 1

<b>10. Waste</b>	<b>X</b>	<p>New development in this area will result in a net increase in household and business waste and therefore a negative effect against this objective. In the short term, this will be from construction related waste and in the medium to long term once dwellings and businesses are occupied.</p> <p>Overall, this option is expected to have a negative effect in against this objective</p>	<b>X</b>	Same as Segment 1	<b>X</b>	Same as Segment 1.	<b>X</b>	Same as Segment 1
<b>11. Climate Change Effects and Energy</b>	<b>X</b>	<p>New development in this defined growth area will lead in an increase in users and population and the demand for energy, and also increased emissions from buildings, negative effects. However, mixed use development that includes services, facilities and jobs should help to reduce traffic related greenhouse gas emissions.</p> <p>Overall, this option is expected to have a negative effect against this objective.</p>	<b>X</b>	Same as segment 1	<b>X</b>	Same as segment 1	<b>X</b>	Same as segment 1
<b>12. Climate Change Adaptation and Flood Risk</b>	<b>✓</b>	<p>This Segment is not identified as being within a high risk flood zone (source: NK SFRA) – therefore no negative effect or impact on this flooding objective</p> <p>Overall, this option has been assessed as having a minor positive impact against this objective.</p>	<b>?</b>	<p>Part of the potential growth location is identified as being within a high risk flood zone - a small part of segment is in Flood Zone 3 (source: NK SFRA).</p> <p>Overall, this option has been assessed as having an uncertain impact against this objective, due to the presence of some high risk</p>	<b>✓</b>	Same as segment 1	<b>✓</b>	Same as segment 1

				flood areas.				
<b>13. Transport and Accessibility</b>	<b>X/✓</b>	<p>New development in this area, in proximity to existing major roads, therefore offers opportunities to use the existing transport infrastructure and new cycle route and bridge across A17 to provide linkages with Sleaford centre.</p> <p>Overall, this option is expected to have mixed positive and negative impacts against this objective, on accessibility and transport provision.</p>	<b>X/✓</b>	<p>New development in this area, in proximity to an existing major main route into town (Boston Road - A1121 via A17) therefore offers opportunities to use the existing transport infrastructure, including new cycle routes to provide linkages with Sleaford centre.</p> <p>Overall, this option is expected to have mixed positive and negative impacts against this objective.</p>	<b>X/✓</b>	<p>New development in this area, in proximity to an existing busy route into town (Mareham Lane and London Road) as well as A17 offers opportunities to use the existing transport infrastructure, including new cycle routes to provide linkages with Sleaford centre.</p> <p>Overall, this option is expected to have mixed positive and negative impacts against this objective.</p>	<b>X/✓</b>	<p>New development in this growth location is in proximity to existing major busy roads into town and around Sleaford A15, A17, B1518), offering good connectivity. This growth option therefore offers opportunities to use and improve the existing transport infrastructure, including potential new cycle routes, to provide linkages with Sleaford centre.</p> <p>Overall, this option is expected to have mixed positive and negative impacts against this objective.</p>
<b>14. Employment</b>	<b>✓</b>	Development itself, plus the potential for employment land provision, means it is likely growth in this segment will have a positive effects against this objective.	<b>✓</b>	Same as segment 1	<b>✓</b>	Same as segment 1	<b>✓</b>	Same as segment 1
<b>15. Local Economy</b>	<b>✓</b>	Development itself, plus the potential for employment land provision, means it is likely growth in this segment will have a positive effects against this objective.	<b>✓</b>	Same as segment 1	<b>✓</b>	Same as segment 1	<b>✓</b>	Same as segment 1
<b>Summary of Significant</b>	At this provisional, strategic assessment stage, the appraisal highlights a large degree of uncertainty as to the effects of locating development in this Segment. A mix of positive		Same as Segment 1		Same as Segment 1		Same as Segment 1	

<b>Effects</b>	and negative effects are highlighted.  There is very limited difference between Segment 1-4 in terms of impacts, with all having the potential to accommodate growth with positive effects, but equally potential for harm.			
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## **Overall Step 1 Conclusion for Sleaford**

Following this initial assessment, it is clear that the four segments in and around Sleaford have varying potential for accommodating one or more Sustainable Urban Extensions.

All potential segments can demonstrate many positive and negative impacts in equal measure, such as housing growth and economic activity as positives and pollution and biodiversity as negatives. There is no apparent fundamental constraint or sustainability issue which warrants any particular segment to be rejected at this Step 1 stage. All four therefore move to Step 2.

### **3 Step 2: Consideration of each Segment in more detail**

#### **Introduction**

- 3.1 This step again takes each settlement in turn, and then looks in more detail at identified 'zones' within each of the segments, with each zone being a reasonable area for such detailed consideration. The aim is to establish how many, if any, genuine Sustainable Urban Extension candidates there are, and the relative merits of each.
- 3.2 It is important to note that this stage does not look at detailed boundaries of candidate Sustainable Urban Extensions; the process is still more strategic than that.

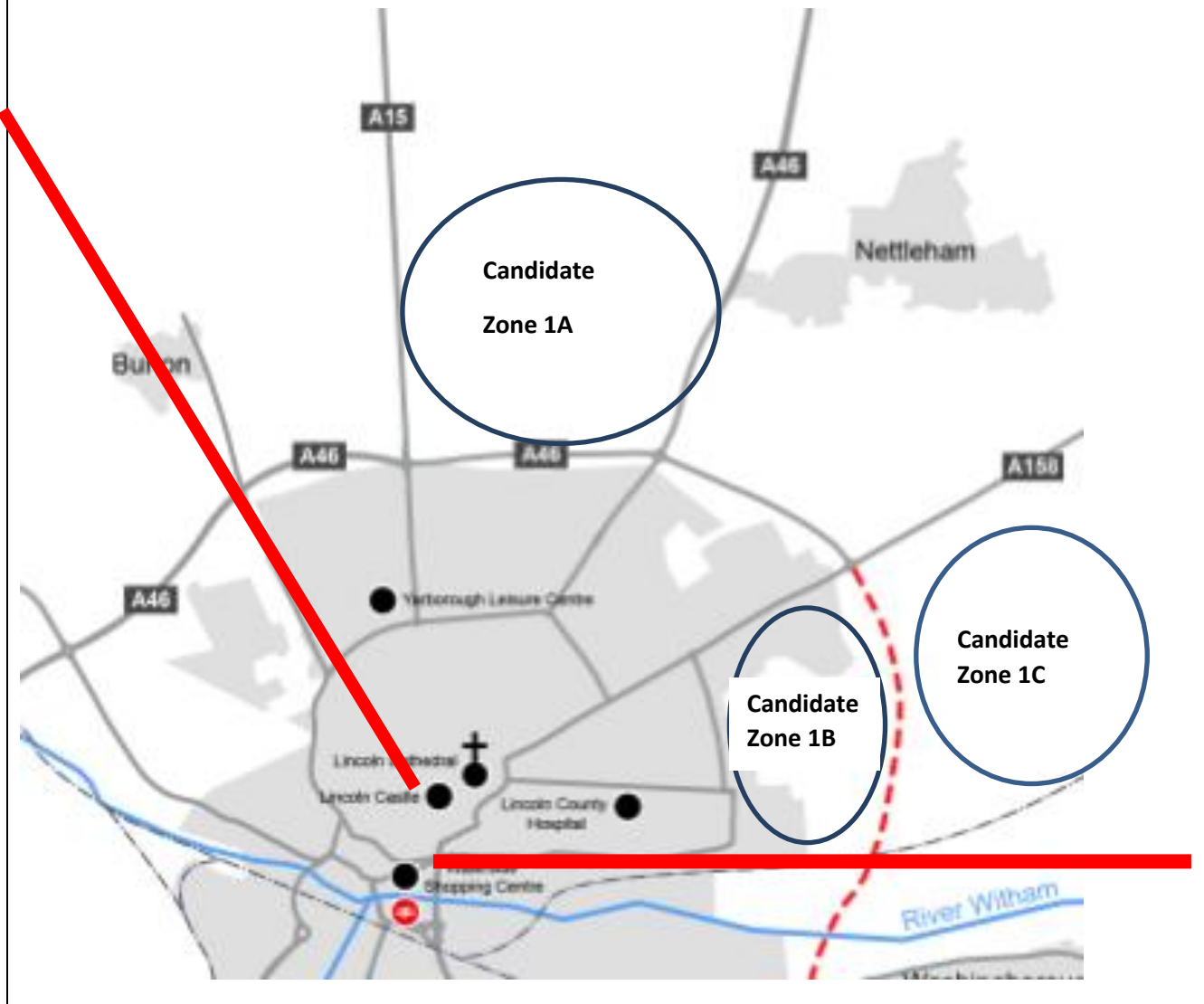
## **Step 2 for Lincoln**

- 3.3 Step 1 of this report determined that all four Segments within the Lincoln area have the potential for accommodating one or more Sustainable Urban Extensions.
- 3.4 These segments are now tested in more detail, in order to narrow down areas of search for Sustainable Urban Extensions. This process is largely drawn from known developer interest, but it does not exclude the potential for an area to be looked at which, to date, has had no known developer interest.

### **Lincoln Segment 1 – Step 2**

- 3.5 Within Segment 1, it is considered there are three candidate zones where it is reasonable to consider whether a SUE would be appropriate (see map). Zone 1A includes the Riseholme Campus, an area with known developer interest. Zone 1B is land around the former quarry at Greetwell where the Church Commissioners own land and have long standing proposals for a Sustainable Urban Extension of up to 1,200 houses (North East Quadrant) and a where a planning application has been submitted for approximately 500 houses as a potential first phase of this SUE development. Zone 1C is adjacent to zone 1B, but outside the bypass. Again, there is interest by developers in large parts of this zone.
- 3.6 Elsewhere, a zone was not considered reasonable to explore, such as between Lincoln and Nettleham, where it is immediately obvious that landscape and coalescence issues would render large scale growth in this locality 'unreasonable'.

### Lincoln Segment 1: candidate SUE zones:



#### Candidate Zone 1A Description

- 3.7 This segment is located directly North of the City and sits between the A15 and A46 and forms part of Lincoln's rural hinterland. The area is in agricultural use, and is bordered on all sides by road infrastructure which serves to disconnect it from the built up area of the city to the south. A small number of residential houses are located in the northwest and southwest of the area.
- 3.8 Within this segment sits the University of Lincoln's Riseholme Campus which is largely composed of the campus of an agricultural college associated with the University of



Lincoln set within the former parkland of the 18<sup>th</sup> century Riseholme Hall. Buildings at the core of the campus are large and are built in a variety of architectural styles, ranging from Georgian and Post-modern. The focal point of the campus is Riseholme Hall, a large stone built country house with associated stable blocks, walled garden and lodges, and St Mary's church. Elsewhere in the area, residential development has occurred along Riseholme Lane from the Post-War Period. Apart from the campus and residential buildings, the Character Area has large areas of managed grassland and woodland, formerly of the park.

#### Candidate Zone 1B Description

- 3.9 This zone lies to the east of the built up area of Lincoln and falls within the line of the proposed Lincoln Eastern Bypass. The area is predominantly agricultural land, with the exception of part of a disused quarry in the west of the area. There is a disused quarry in the segment which is a Site of Special Scientific Interest (SSSI) for its geological importance. The location of the area between Lincoln and its outlying commuter towns, gives this area a sense of transition between the urban fringe and the open rural hinterland. The Quarry, although currently wasteland, is increasingly being used for informal recreation and being gradually integrated into neighbouring residential areas both for the views that it offers and the recreational opportunities it provides.

#### Candidate Zone 1C Description

- 3.10 This zone also lies to the east of the built up area of Lincoln but falls outside the line of the proposed Lincoln Eastern Bypass and is bounded to the East by the village of Cheery Willingham and to the North by North Greetwell. The area is predominantly agricultural land.

## Sustainability Appraisal of Lincoln Zones 1A, 1B and 1C

IIA Objectives	Zone 1A		Zone 1B		Zone 1C	
	Score	Commentary	Score	Commentary	Score	Commentary
1. Housing	✓✓	See step 1 commentary for Segment 1. No further comments.	✓✓	See Zone 1A commentary.	✓✓	See Zone 1A commentary.
2. Health	X/✓	Zone 1A is more removed from the Lincoln urban area, therefore limiting access to health facilities, as well as limiting the number of healthy journeys (walk / cycle) that will be made. However, its more rural location may have better air quality, though this is negated somewhat if any development in this zone is located near the A15 or A46.	✓	Due to its relatively close proximity to the Lincoln Urban area there are clear opportunities for healthy journeys (walk/cycle) as well as new viable public transport e.g. bus routes. Its location just outside the Lincoln Urban Area may mean that air quality is likely to be better than being directly located within the Lincoln Urban area.	X/✓	Zone 1C is more removed from the Lincoln urban area, therefore limiting access to health facilities, as well as limiting the number of healthy journeys (walk / cycle) that will be made. However, its more rural location may have better air quality, though this is negated somewhat if any development in this zone is located near the eastern bypass.
3. Social Equality and Community	X	Due to its physical distance from the existing built-up area of Lincoln this area is unlikely to have a positive impact unless the development is of sufficient scale to provide facilities. Unlikely to foster cohesion with existing communities due to its more remote location, and the A46 barrier.	✓	Development could provide, and improve access to, social and community facilities in the adjacent area, and better integrate with existing communities	X	Due to its physical distance from the existing built-up area of Lincoln this area is unlikely to have a positive impact unless the development is of sufficient scale to provide facilities. Unlikely to foster cohesion with existing communities due to its more remote location, and the eastern bypass barrier.
4. Biodiversity and Green Infrastructure	X/?	See step 1 commentary for Segment 1. No further comments.	X/?	See step 1 commentary for Segment 1. No further comments.  The SSSI at Greetwell Hollow could lead to a negative impact on this national designation,	X/?	See Zone 1A commentary

				<p>though this designation is for geological rather than flora and fauna reasons.</p> <p>This zone offers a greater potential to create new infrastructure which is accessible to more than just new residents.</p>		
<b>5. Landscape and Townscape</b>	<b>XX</b>	Development proposals at this location will have a negative impact in respect of landscape as it is located in an area recognised as important to protect as open (Green Wedge) and could impact on long views coming into the City.	<b>X</b>	<p>Views of the Cathedral may be impacted by development in this location.</p> <p>The SSSI at Greetwell Hollow could lead to a negative impact on this national designation, it's designation being due to the visual geological features.</p>	<b>XX</b>	Views of the Cathedral may be impacted by development in this location and there is a considerable risk of coalescence with Cherry Willingham.
<b>6. Built and Historic Environment</b>	<b>X</b>	Development could have a negative impact on heritage assets in the area such as those in the Riseholme Hall and campus.	<b>✓</b>	No immediately obvious impacts	<b>X</b>	Development could have a negative impact on heritage assets in the area such as Greetwell Hall and Church
<b>7. Water</b>	<b>X/✓</b>	See step 1 commentary for Segment 1. No further comments.	<b>X/✓</b>	See zone 1A commentary	<b>X/✓</b>	See zone 1A commentary
<b>8. Pollution</b>	<b>XX</b>	<p>Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. The area's relative isolation and likely greater use of the motorcar, would also likely lead to greater pollution than a more integrated site.</p> <p>Other pollution issues as per step 1 commentary for Segment 1</p>	<b>X</b>	<p>Development could lead to increased pollution levels but growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development.</p> <p>Other pollution issues as per step 1 commentary for Segment 1</p>	<b>XX</b>	<p>Development could lead to increased pollution levels. The area's relative isolation and likely greater use of the motorcar, would also likely lead to greater pollution than a more integrated site.</p> <p>Other pollution issues as per step 1 commentary for Segment 1</p>

<b>9. Land Use and Soils</b>	<b>XX</b>	See step 1 commentary for Segment 1. No further comments.	<b>X/✓</b>	Area contains a mix of brownfield (quarry) and greenfield, hence a mixed impact	<b>XX</b>	See zone 1A commentary
<b>10. Waste</b>	<b>X</b>	See step 1 commentary for Segment 1. No further comments.	<b>X</b>	See zone 1A commentary	<b>X</b>	See zone 1A commentary
<b>11. Climate Change Effects and Energy</b>	<b>XX</b>	See step 1 commentary for Segment 1.  However, this Zone lies outside the bypass and therefore is likely to generate greater reliance on car use, and will have less ability to integrate to infrastructure (existing or future) found in Lincoln	<b>X</b>	See step 1 commentary for Segment 1.  However, this Zone lies inside the bypass and therefore is likely to generate less reliance on car use, and will have greater ability to integrate to infrastructure (existing or future) found in Lincoln, which could minimise its impact on issues relating to climate change.	<b>XX</b>	See step 1 commentary for Segment 1.  However, this Zone lies outside the bypass and therefore is likely to generate greater reliance on car use, and will have less ability to integrate to infrastructure (existing or future) found in Lincoln
<b>12. Climate Change Adaptation and Flood Risk</b>	<b>✓</b>	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.	<b>✓</b>	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.	<b>✓</b>	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.
<b>13. Transport and Accessibility</b>	<b>XX</b>	The development would require significant new road infrastructure. Due its physical separation from the built-up area of Lincoln, and the physical barrier of the A46, access is likely to be private car for most journeys.	<b>✓</b>	The development would require new road infrastructure but it is in close proximity to the existing built up area of Lincoln and therefore sustainable modes of travel are more likely to have a positive impact.	<b>XX</b>	The development would require significant new road infrastructure. Due its physical separation from the built-up area of Lincoln, and the physical barrier of the eastern bypass, access is likely to be private car for most journeys.
<b>14. Employment</b>	<b>✓</b>	The development has the opportunity to provide some limited levels of local employment	<b>✓</b>	The development has the opportunity to provide levels of employment given its proximity to existing employment areas	<b>✓</b>	The development has the opportunity to provide some limited levels of local employment

<b>15. Local Economy</b>	?	The effect is uncertain, as it would depend whether employment land was forthcoming within this zone.  Commentary in Step 1 for Segment 1 would also apply	?	See zone 1A commentary	?	See zone 1A commentary
<b>Summary of Significant Effects</b>	All zones have a mix of positive and negative effects, but Zone 1B clearly scores better, primarily due to it being located inside the bypass and adjacent to the urban edge of Lincoln. Zones 1A and 1C have the significant constraint of being located outside the bypass, with development in the zones likely to be relatively isolated from the Lincoln urban area, with the negative consequences which arise.					

### **Overall Step 2 Conclusion for Lincoln Segment 1-Zones 1A, 1B and 1C**

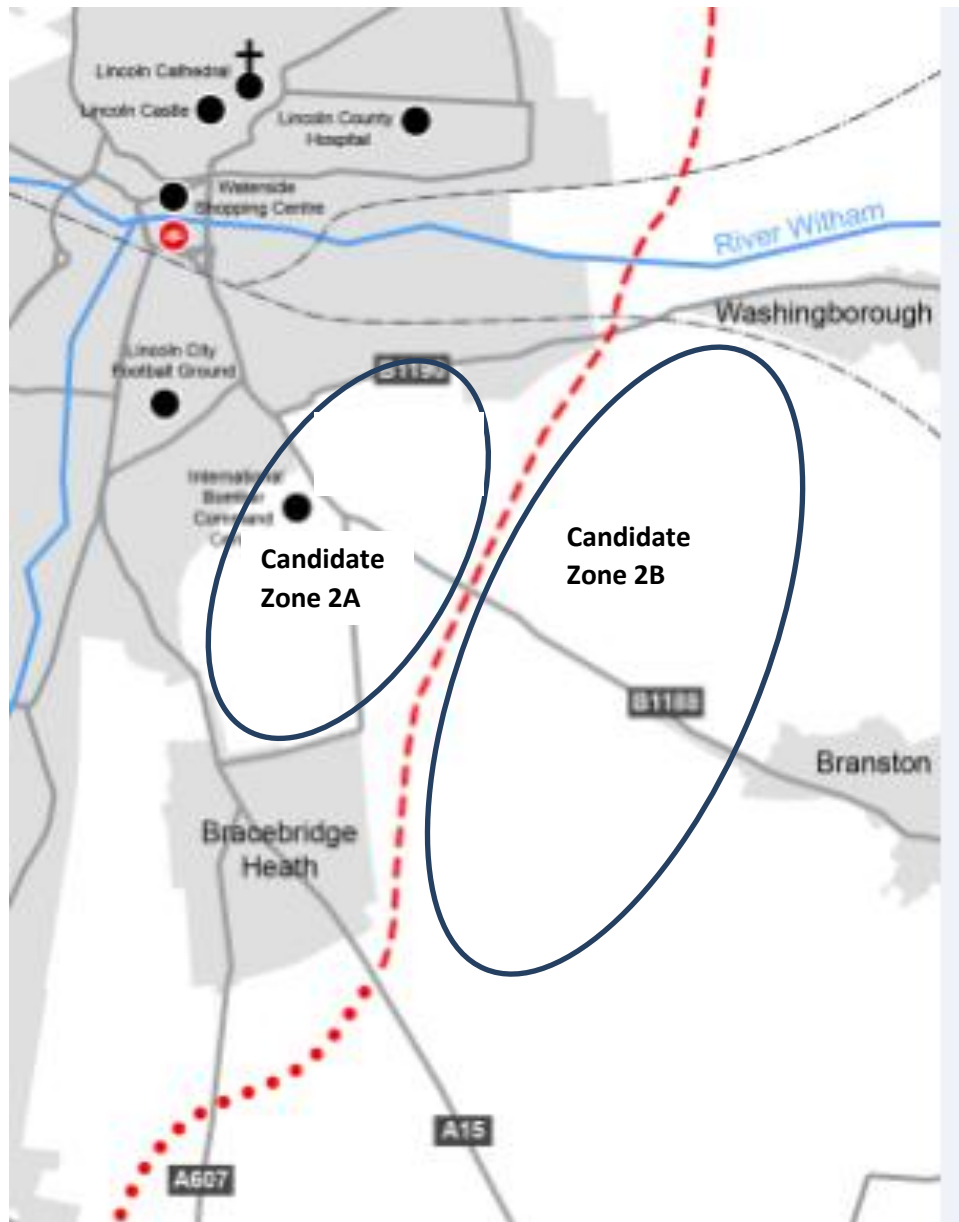
Zone 1B, appears to offer a clear opportunity for accommodating major growth (subject to address any issues arising from the SSSI and other nature designations), in the form of a sustainable urban extension. Zones 1A and 1C are clearly less favourable, primarily due to their relative isolation / bypass barrier.

Zones 1A and 1C should not, therefore, be considered for major growth. Detailed consideration of sites in these two zones are, therefore, not deemed necessary, as it is not considered a reasonable location for growth.

## Lincoln Segment 2 – Step 2

- 3.11 Within Segment 2, it is considered there are 2 candidate zones where it is reasonable to consider whether a SUE would be appropriate, labelled 2A (inside the eastern bypass) and 2B (outside the eastern bypass). Area 2A between the villages of Bracebridge Heath and Canwick has been put forward by developers for some considerable time for a proposed Sustainable Urban Extension (South East Quadrant) for up to 6,000 houses. The two areas are shown on the map below.

**Lincoln Segment 2: candidate SUE zones:**



### Candidate Zone 2A: Description

- 3.12 This segment is an expansive rural area located 4km south of the city of Lincoln. It occupies gently undulating land on top of the south escarpment. The majority of the area comprises arable agricultural land divided into a regular pattern of large rectangular fields but there is one area of woodland that provides a habitat for a range of wildlife. Buildings within the Character Area include a dispersed number of farmsteads established alongside or shortly after the area had been enclosed. A number of roads traverse the Character Area, including the A15 and A607 which are two major routes into the south of Lincoln. Main roads also connect the area with villages to the east and there are a number of interconnecting lanes and roads.
- 3.13 Lying between the villages of Canwick, Branston, Waddington and Bracebridge Heath, the area is part of Lincoln's rural hinterland and setting. At the city boundary, the area joins with the open space of South Common, and forms part of an open and undeveloped fringe around the south of Lincoln. Views to the north include Lincoln Cathedral which is a landmark building seen from all parts of the area.

### Candidate Zone 2B: Description

- 3.14 This zone is located in an expansive rural area located approximately 6 km South-east of the City of Lincoln outside of the proposed Lincoln Eastern Bypass and is bounded by the villages of Branston to the South-East and Washingborough to the North. The majority of the area comprises arable agricultural land divided into a regular pattern of large rectangular fields. A number of roads traverse the area, including the A15 and A607 which are two major routes into the south of Lincoln.

## Sustainability Appraisal of Lincoln Zone 2A and 2B

IIA Objectives	Zone 2A		Zone 2B	
	Score	Commentary	Score	Commentary
<b>1 Housing</b>	✓✓	See step 1 commentary for Segment 2. No further comments	✓✓	See zone 2A commentary
<b>2 Health</b>	✓	Due to its relatively close proximity to the Lincoln Urban area there are clear opportunities for healthy journeys (walk/cycle) as well as new viable public transport e.g. bus routes. Its location just outside the Lincoln Urban Area may mean that air quality is likely to be better than being directly located within the Lincoln Urban area.	X/✓	Zone 2B is more removed from the Lincoln urban area, therefore limiting access to health facilities, as well as limiting the number of healthy journeys (walk / cycle) that will be made. However, its more rural location may have better air quality, though this is negated somewhat if any development in this zone is located near the proposed bypass.
<b>3 Social Equality and Community</b>	✓	Development could provide and improve access to social and community facilities in the adjacent communities area.	X	Due to its physical distance from the existing built-up area of Lincoln this area is unlikely to have a positive impact unless the development is of sufficient scale to provide facilities. Unlikely to foster cohesion with existing communities due to its more remote location, and the bypass barrier.
<b>4 Biodiversity and Green Infrastructure</b>	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat but the close proximity to South Common is a mitigating factor in terms of provision to existing Green Infrastructure. However through masterplanning, high quality new green infrastructure and biodiversity improvements could be created.	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat. However through masterplanning, high quality new green infrastructure and biodiversity improvements could be created.
<b>5 Landscape and Townscape</b>	X/?	The impact of development on the Lincoln Cliff escarpment and on nearby Canwick village and risk of losing its distinct identity is a negative impact. However through careful masterplanning e.g. particular consideration of buffer zone between new development and the South Common these impacts	XX	Development in this location in an open rural landscape would have a negative effect on this criteria



		could be mitigated.		
<b>6 Built and Historic Environment</b>	<b>X</b>	Development could have a negative impact heritage assets in the area such as former St. John's hospital and views of Lincoln Cathedral from the South.	<b>✓</b>	No known significant impacts
<b>7 Water</b>	<b>X/✓</b>	See step 1 commentary for Segment 2. No further comments.	<b>X/✓</b>	See zone 2A commentary
<b>8 Pollution</b>	<b>X</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. However, growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development Other pollution issues as per step 1 commentary for segment 2.	<b>XX</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. The area's relative isolation and likely greater use of the motorcar, would also likely lead to greater pollution than a more integrated site.  Other pollution issues as per step 1 commentary for Segment 2
<b>9 Land Use and Soils</b>	<b>X</b>	See step 1 for Segment 2. No further comments.	<b>X</b>	See zone 2A commentary
<b>10 Waste</b>	<b>X</b>	See step 1 for Segment 2. No further comments.	<b>X</b>	See zone 2A commentary
<b>11 Climate Change Effects and Energy</b>	<b>X</b>	See step 1 commentary for Segment 2.  However, this Zone lies inside the bypass and therefore is likely to generate less reliance on car use, and will have greater ability to integrate to infrastructure (existing or future) found in Lincoln, which could minimise its impact on issues relating to climate change.	<b>XX</b>	See step 1 commentary for Segment 2.  However, this Zone lies outside the bypass and therefore is likely to generate greater reliance on car use, and will have less ability to integrate to infrastructure (existing or future) found in Lincoln
<b>12 Climate Change Adaptation and Flood Risk</b>	<b>✓</b>	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.	<b>✓</b>	See zone 2A commentary
<b>13 Transport and</b>	<b>✓</b>	The development would require significant new road infrastructure but it is in relative close proximity to the	<b>XX</b>	The development would require significant new road infrastructure. Due its physical separation from the built-

<b>Accessibility</b>		existing built up area of Lincoln and therefore sustainable modes of travel are more likely to have a positive impact.		up area of Lincoln, and the physical barrier of the bypass, access is likely to be private car for most journeys.
<b>14 Employment</b>	✓	The development has the opportunity to provide levels of employment given its proximity to existing employment areas	✓	See zone 2A commentary
<b>15 Local Economy</b>	?	The effect is uncertain, as it would depend whether employment land was forthcoming within this zone.  Commentary in Step 1 for Segment 2 would also apply.	?	See zone 2A commentary
<b>Summary of Significant Effects</b>	<p>Overall, both zones have a mix of positive and negative effects, though zone 2B has a considerably greater number of likely negative effects.</p> <p>Zone 2B has the significant constraint of being located outside the bypass, with development in the zone likely to be relatively isolated from the Lincoln urban area, with the negative consequences which arise.</p>			

### Overall Step 2 Conclusion for Lincoln Segment 2, zones 2A and 2B

3.15 In conclusion, in sustainability terms, there are demonstrable positive effects of locating a SUE in zone 2A, whilst the weight of negative effects for zone 2B suggests it would be inappropriate, in sustainability terms, to identify a SUE in this location. On the basis of the above information Zone 2A is therefore recommended to be taken forward as a clear opportunity for accommodating major growth in the form of a Sustainable Urban Extension. Zone 2B should not, therefore, be considered for major growth. Detailed consideration of sites in Zone 2B are, therefore, not deemed necessary, as it is not considered a reasonable location for growth.

## **Lincoln Segment 3 – Step 2**

- 3.16 Within Segment 3, are three candidate zones where it is reasonable to consider whether a SUE would be appropriate. Zone 3A is a significant area of land the between the edge of the built up area of North Hykeham and the village of South Hykeham. It has been put forward by a developer as a proposed Sustainable Urban Extension (South West Quadrant-Grange Farm) for up to 2,000 houses. Zone 3B is south of the proposed southern bypass. Interest has been shown by developers to take forward land in this area. The areas are shown on the map overleaf. Zone 3C

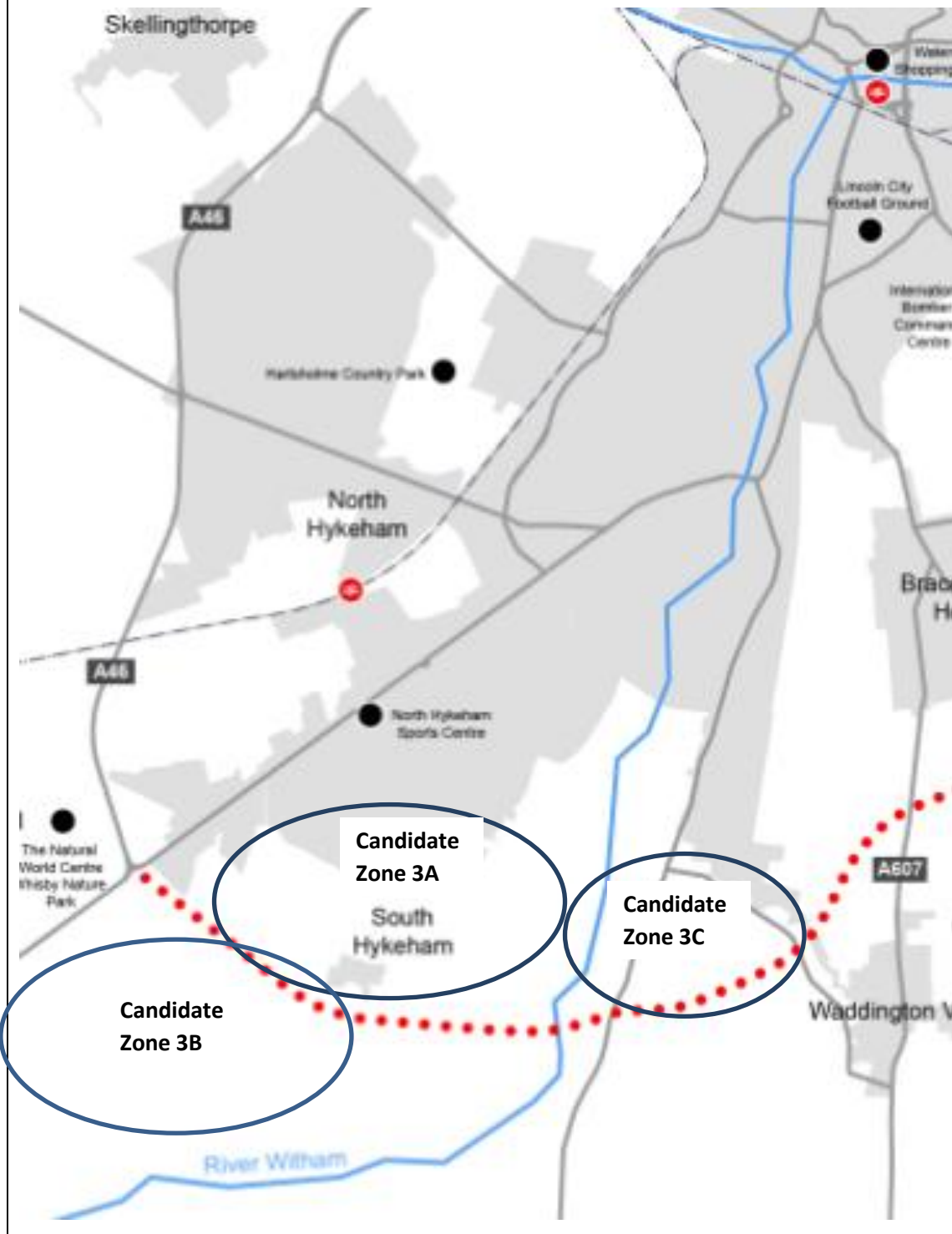
### Candidate Zone 3A: Description

- 3.17 This segment is predominantly an area of open agricultural land extending outwards from the south and southwest fringes of the town of North Hykeham. The topography is generally level with a slight slope down towards the River Witham to the east of the area. In addition to its largely agricultural character, the segment also contains two residential developments and commercial properties, as well as a service area just off the A46, a cemetery and a sewage works.
- 3.18 There are views out from the east of the area to the limestone escarpment and long-ranging views within much of the segment. Mature planting along road verges often leads to short-ranging linear views in rural areas (e.g. along Boundary Lane).

### Candidate Zone 3B Description

- 3.19 This zone is located further out from the south and southwest fringes of the town of North Hykeham and falls outside of the line of the Lincoln Southern Bypass were it to be constructed. This zone is predominantly an area of open agricultural land bounded to the South by the River Witham.

**Lincoln Segment 3: candidate SUE zones:**



## Sustainability Appraisal of Lincoln Zone 3A and 3B

IIA Objectives	Zone 3A		Zone 3B		Zone 3C	
	Score	Commentary	Score	Commentary	Score	Commentary
<b>1 Housing</b>	✓✓	See step 1 commentary for Segment 3. No further comments	✓✓	See zone 3A commentary	✓✓	See step 1 commentary for Segment 3. No further comments
<b>2 Health</b>	✓	Due to is relatively close proximity to the Lincoln Urban area there are clear opportunities for healthy journeys (walk/cycle) as well as new viable public transport e.g. bus routes. Its location just outside the Lincoln Urban Area may mean that air quality is likely to be better than being directly located within the Lincoln Urban area.	X/✓	Zone 3B is more removed from the Lincoln urban area, therefore limiting access to health facilities, as well as limiting the number of healthy journeys (walk / cycle) that will be made. However, its more rural location may have better air quality, though this is negated somewhat if any development in this zone is located near the proposed bypass.	✓	Due to is relatively close proximity to the Lincoln Urban area there are clear opportunities for healthy journeys (walk/cycle) as well as new viable public transport e.g. bus routes. Its location just outside the Lincoln Urban Area may mean that air quality is likely to be better than being directly located within the Lincoln Urban area.
<b>3 Social Equality and Community</b>	✓	Development could provide and improve access to social and community facilities in the adjacent communities area.	X	Due its physical distance from the existing built-up area of Lincoln this area is unlikely to have a positive impact unless the development is of sufficient scale to provide facilities. Unlikely to foster cohesion with existing communities due to its more remote location, and the bypass barrier.	✓	Development could provide and improve access to social and community facilities in the adjacent communities area.
<b>4 Biodiversity and Green Infrastructure</b>	X/?	See step 1 commentary for Segment 3. No further comments.	X/?	See zone 3A commentary	X/?	See step 1 commentary for Segment 3. No further comments.

<b>5 Landscape and Townscape</b>	<b>X/?</b>	There is a risk of coalescence between North Hykeham and South Hykeham depending on the scale of development however this could be mitigated through careful masterplanning of the site.	<b>XX</b>	Development in this location in an open rural landscape would have a negative effect on this criteria	<b>X/?</b>	High valued landscape / green wedges in this vicinity, which might limit potential options and could be impacted upon.  No coalescence issues.  Probably dependent on by pass to ensure clear urban edge created.
<b>6 Built and Historic Environment</b>	<b>X/?</b>	Development could have a negative impact heritage assets in the area but this could be potentially mitigated.	<b>✓</b>	No known heritage assets in the area	<b>X/?</b>	Development could have a negative impact heritage assets in the area but this could be potentially mitigated.
<b>7 Water</b>	<b>X/✓</b>	See step 1 commentary for Segment 3. No further comments	<b>X/✓</b>	See zone 3A commentary	<b>X/✓</b>	See step 1 commentary for Segment 3. No further comments
<b>8Pollution</b>	<b>X</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. However, growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development Other pollution issues as per step 1 commentary for segment 3.	<b>XX</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. The area's relative isolation and likely greater use of the motorcar, would also likely lead to greater pollution than a more integrated site.  Other pollution issues as per step 1 commentary for Segment 3	<b>X</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. However, growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development Other pollution issues as per step 1 commentary for segment 3.

<b>9 Land Use and Soils</b>	<b>X</b>	See step 1 commentary for Segment 3. No further comments.	<b>X</b>	See zone 3A commentary	<b>X</b>	See step 1 commentary for Segment 3. No further comments.
<b>10 Waste</b>	<b>X</b>	See step 1 commentary for Segment 3. No further comments.	<b>X</b>	See zone 3A commentary	<b>X</b>	See step 1 commentary for Segment 3. No further comments.
<b>11 Climate Change Effects and Energy</b>	<b>X</b>	See step 1 commentary for Segment 3.  However, this Zone lies inside the bypass and therefore is likely to generate less reliance on car use, and will have greater ability to integrate to infrastructure (existing or future) found in Lincoln, which could minimise its impact on issues relating to climate change.	<b>XX</b>	See step 1 commentary for Segment 3.  However, this Zone lies outside the bypass and therefore is likely to generate greater reliance on car use, and will have less ability to integrate to infrastructure (existing or future) found in Lincoln	<b>X</b>	See step 1 commentary for Segment 3.  However, this Zone lies inside the bypass and therefore is likely to generate less reliance on car use, and will have greater ability to integrate to infrastructure (existing or future) found in Lincoln, which could minimise its impact on issues relating to climate change.
<b>12 Climate Change Adaptation and Flood Risk</b>	<b>✓</b>	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.	<b>✓</b>	See zone 3A commentary	<b>✓</b>	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.
<b>13 Transport and Accessibility</b>	<b>✓</b>	The development would require significant new road infrastructure but it is in relative close proximity to the existing built up area of Lincoln and therefore sustainable modes of travel are more likely to have a positive impact.	<b>XX</b>	The development would require significant new road infrastructure. Due its physical separation from the built-up area of Lincoln, and the physical barrier of the bypass, access is likely to be private car for most journeys.	<b>✓/?</b>	The development would require significant new road infrastructure but it is in relative close proximity to the existing built up area of Lincoln and therefore sustainable modes of travel are more likely to have a positive impact. Probably dependent on delivery of bypass.

<b>14 Employment</b>	✓	The development has the opportunity to provide levels of employment given its proximity to existing employment areas	✓	See zone 3A commentary	✓	The development has the opportunity to provide levels of employment given its proximity to existing employment areas
<b>15 Local Economy</b>	?	The effect is uncertain, as it would depend whether employment land was forthcoming within this zone.  Commentary in Step 1 for Segment 3 would also apply.	?	See zone 3A commentary	?	The effect is uncertain, as it would depend whether employment land was forthcoming within this zone.  Commentary in Step 1 for Segment 3 would also apply.
<b>Summary of Significant Effects</b>	<p>Overall, all zones have a mix of positive and negative effects, though zone 3B has a considerably greater number of likely negative effects</p> <p>Zone 3B has the significant constraint of being located outside the bypass, with development in the zone likely to be relatively isolated from the Lincoln urban area, with the negative consequences which arise</p>					

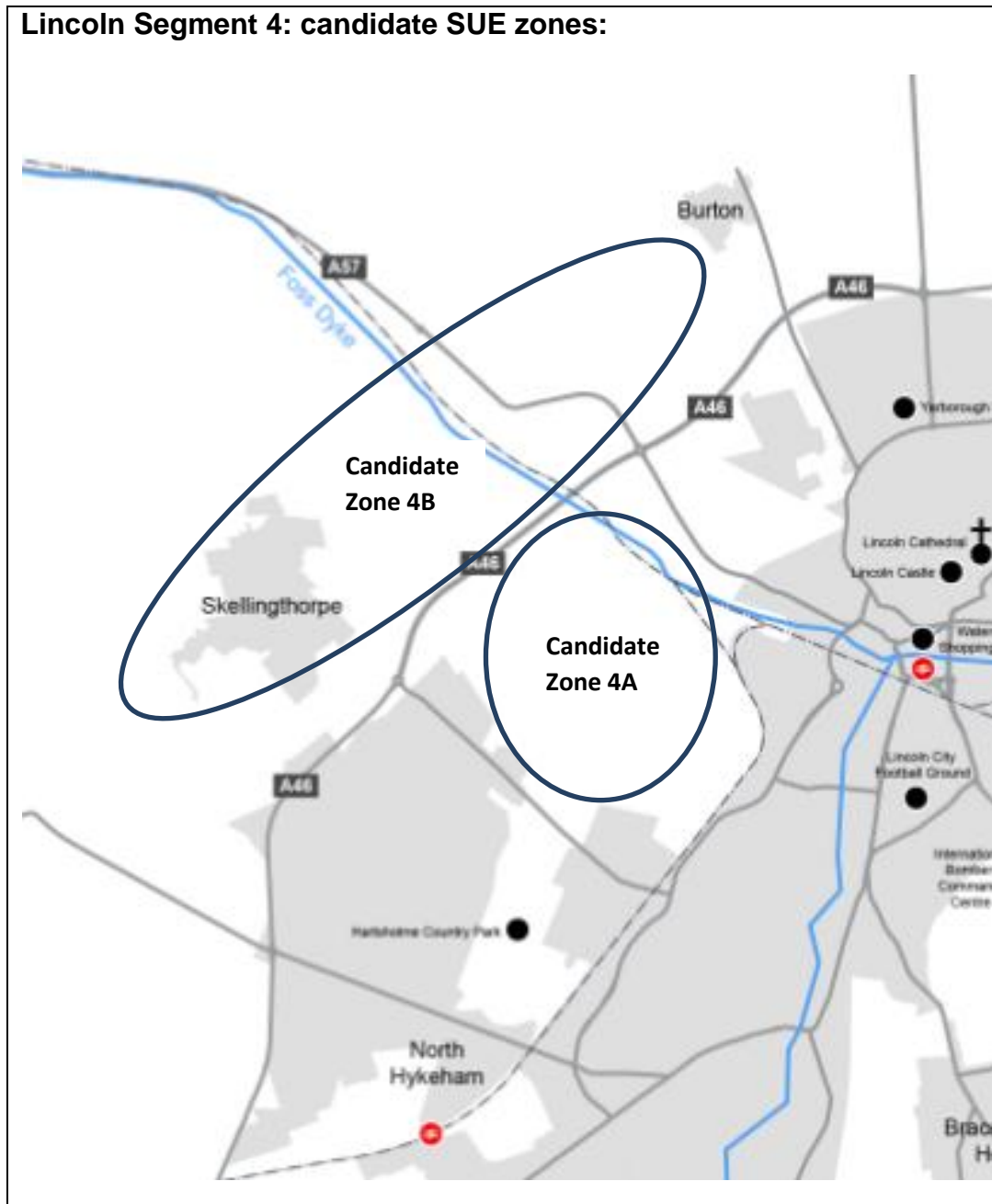
### Overall Step 2 Conclusion for Lincoln Segment 3A, 3B and 3C

3.20 In conclusion, in sustainability terms, there are demonstrable positive effects of locating a SUE in zone 3A and 3C, whilst the weight of negative effects for zone 3B suggests it would be inappropriate, in sustainability terms, to identify a SUE in this location. On the basis of the above information Zone 3A and 3C is therefore recommended to be taken forward as opportunities for accommodating major growth in the form of a Sustainable Urban Extension. Zone 3C may be dependent on the delivery of the bypass, for access / landscape reasons (for example). Zone 3B should not, therefore, be considered for major growth. Detailed consideration of sites in Zone 3B are, therefore, not deemed necessary, as it is not considered a reasonable location for growth.



## Segment 4

- 3.21 Within Segment 4, it is considered there are two candidate zones where it is reasonable to consider whether a SUE would be appropriate. Zone 4A is a significant area of undeveloped land lying the west of the City Centre, and has been put forward by a developer as a proposed Sustainable Urban Extension for up to 3,200 houses (Western Growth Corridor). Zone 4B is outside the A46 bypass. The candidate areas are shown on the map below:



#### Candidate Zone 4A: Description

- 3.22 This zone is located on the western side of the city within the line of the A46 Lincoln Western bypass and is predominantly an area of flat, low-lying drained flood plain south of the River Witham. The zone is largely in agricultural use and as a result the landscape is characterised by a rectilinear pattern of fields defined by shallow open wet drainage dykes and hedges. The segment forms part of the rural foreground to historic views of the Cathedral and north escarpment from the south and west. As such, the views form part of Lincoln's rural hinterland both when approaching Lincoln from the southwest and when looking out from elevated parts of the city (e.g. north escarpment). The zone is crossed by the A46 Lincoln western bypass which forms a near impermeable boundary through the area.
- 3.23 The area is predominantly used for arable or cattle-grazed pasture with the former Skellingthorpe duck decoy lying within a large wooded area within the northwest part of the area which has preserved the earthworks of the decoy. The former Skewbridge landfill tip in the northeast of the area is now covered by rough grassland and widespread scrub.

#### Candidate Zone 4B: Description

- 3.24 This zone lies outside the line of the A46 Lincoln Western bypass and straddles the Fosdyke Canal with the villages of Skellingthorpe to the South West and Burton to the North East. The zone is crossed by the A57 which forms an important major transport route into the City providing access onto the A46. The zone is largely in agricultural use except for the development at Burton Waters and the land rises sharply on its North Eastern edge towards the Burton Cliff.

## Sustainability Appraisal of Lincoln Zone 4A and 4B

IIA Objectives	Zone 4A		Zone 4B	
	Score	Commentary	Score	Commentary
<b>1 Housing</b>	✓✓	See step 1 commentary for Segment 4. No further comments	✓✓	See zone 4A commentary
<b>2 Health</b>	✓	Due to its relatively close proximity to the Lincoln Urban area there are clear opportunities for healthy journeys (walk/cycle) as well as new viable public transport e.g. bus routes.	X/✓	Zone 4B is more removed from the Lincoln urban area, therefore limiting access to health facilities, as well as limiting the number of healthy journeys (walk / cycle) that will be made. However, its more rural location may have better air quality, though this is negated somewhat if any development in this zone is located near the bypass.
<b>3 Social Equality and Community</b>	✓	Development could provide and improve access to social and community facilities in the adjacent area and has the potential to improve these neighbourhoods some of which are located in recognised areas of deprivation.	X	Due to its physical distance from the existing built-up area of Lincoln this area is unlikely to have a positive impact unless the development is of sufficient scale to provide facilities. Unlikely to foster cohesion with existing communities due to its more remote location, and the bypass barrier.
<b>4 Biodiversity and Green Infrastructure</b>	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat. Development could lead to a potential impact on nearby designations e.g. Swanholme Lakes SSSI, Hartsholme Country Park however through careful masterplanning of the site these impacts could be mitigated and public access to these resources could be improved.	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat. However through masterplanning, high quality new green infrastructure and biodiversity improvements could be created.
<b>5 Landscape and Townscape</b>	X	Development could lead to a loss of open space and potential impact on townscape setting of the City but opportunities could arise from creation of new green wedge as part of the area and together with careful masterplanning of the site these negative impacts could	XX	Development in this location in an open rural landscape would have a negative effect on this criteria. Potential impact on townscape setting of the City. High risk of coalescence with Skellingthorpe and/or Burton. Impacts only slightly offset by opportunities which could arise from creation of new

		be mitigated.		green wedge as part of the area and careful masterplanning.
<b>6 Built and Historic Environment</b>	<b>X</b>	Development could have a negative impact on archaeology in the area	<b>X</b>	Development could have a negative impact on archaeology in the area plus the rural setting of the Skellingthorpe Duck Decoy Scheduled Monument.
<b>7 Water</b>	<b>X/✓</b>	See step 1 commentary for Segment 4. No further comments	<b>X/✓</b>	See zone 4A commentary
<b>8 Pollution</b>	<b>X</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. However, growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development Other pollution issues as per step 1 commentary for segment 4.	<b>XX</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. The area's relative isolation and likely greater use of the motorcar, would also likely lead to greater pollution than a more integrated site.  Other pollution issues as per step 1 commentary for Segment 4
<b>9 Land Use and Soils</b>	<b>X</b>	See step 1 commentary for Segment 4. No further comments.	<b>X</b>	See zone 4A commentary
<b>10 Waste</b>	<b>X</b>	See step 1 commentary for Segment 4. No further comments.	<b>X</b>	See zone 4A commentary
<b>11 Climate Change Effects and Energy</b>	<b>X</b>	See step 1 commentary for Segment 4.  However, this Zone lies inside the bypass and therefore is likely to generate less reliance on car use, and will have greater ability to integrate to infrastructure (existing or future) found in Lincoln, which could minimise its impact on issues relating to climate change.	<b>XX</b>	See step 1 commentary for Segment 4.  However, this Zone lies outside the bypass and therefore is likely to generate greater reliance on car use, and will have less ability to integrate to infrastructure (existing or future) found in Lincoln
<b>12 Climate Change Adaptation and Flood</b>	<b>X/✓</b>	A significant proportion of the area is a flood risk zone however development does offer the opportunity to provide flood mitigation measure that would not only protect the development site itself but also help reduce risk to the wider Lincoln area which would be of	<b>X/?</b>	The majority of the area is a flood risk zone, though areas to the south of Skellingthorpe, for example, are not

<b>Risk</b>		considerable benefit.		
<b>13 Transport and Accessibility</b>	✓✓	The development would require significant new road infrastructure but it is in very close proximity to the existing built up area and city centre of Lincoln and therefore sustainable modes of travel are more likely.	<b>XX</b>	The development would require significant new road infrastructure. Due its physical separation from the built-up area of Lincoln, and the physical barrier of the bypass, access is likely to be private car for most journeys.
<b>14 Employment</b>	✓	The development has the opportunity to provide significant levels of employment adjacent to the city centre and emerging adjacent Lincoln Science and Innovation park.	✓	See zone 4A commentary
<b>15 Local Economy</b>	?	The effect is uncertain, as it would depend on whether the employment land was forthcoming within this zone. Commentary in Step 1 for Segment 4 would also apply.	?	See zone 4A commentary
<b>Summary of Significant Effects</b>	<p>Overall, both zones have a mix of positive and negative effects, though zone 4B has a considerably greater number of likely negative effects</p> <p>Zone 4B has the significant constraint of being located outside the bypass, with development in the zone likely to be relatively isolated from the Lincoln urban area, with the negative consequences which arise.</p>			

### Overall Step 2 Conclusion for Lincoln Segment 4

In conclusion, in sustainability terms, there are demonstrable positive effects of locating a SUE in zone 4A, subject to the flood risk issues being able to be overcome and deliverable, and especially so if this addresses flood risk of existing properties. The weight of negative effects for zone 4B suggests it would be inappropriate, in sustainability terms, to identify a SUE in this location. On the basis of the above information Zone 4A is therefore recommended to be taken forward as a clear opportunity for accommodating major growth in the form of a Sustainable Urban Extension.

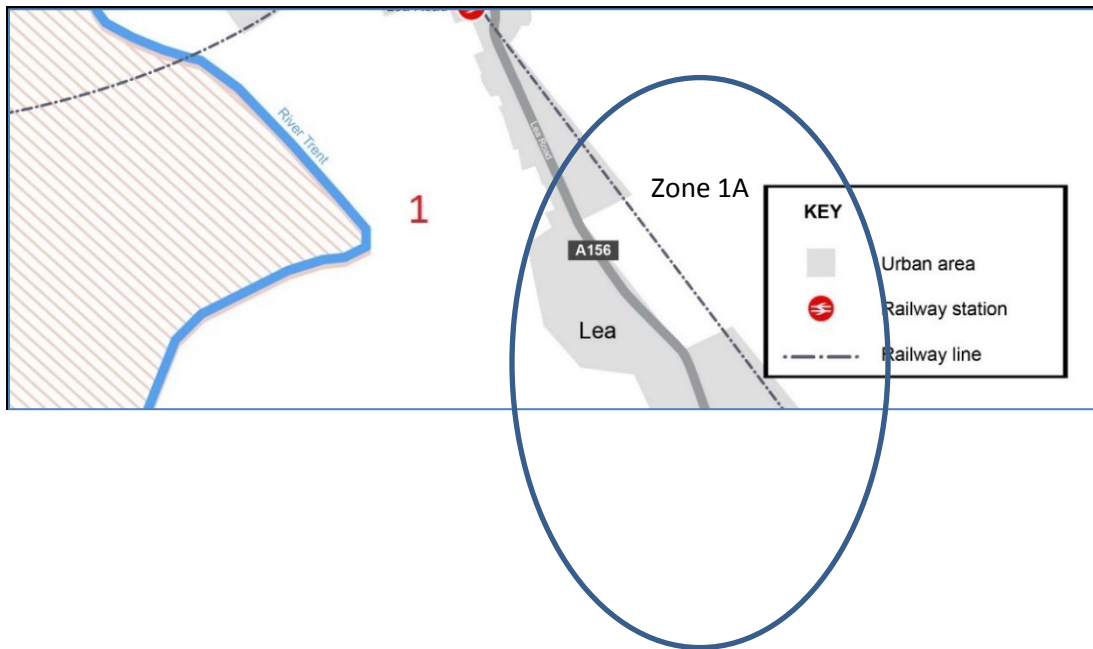
Zone 4B should not, therefore, be considered for major growth. Detailed consideration of sites in Zone 4B are, therefore, not deemed necessary, as it is not considered a reasonable location for growth.

## **Step 2 for Gainsborough**

- 3.25 Step 1 of this report determined that two Segments (1 and 3) within the Gainsborough area have the potential for accommodating one or more Sustainable Urban Extensions.
- 3.26 These two segments are now tested in more detail, in order to narrow down areas of search for Sustainable Urban Extensions. This process is largely drawn from known developer interest, but it does not exclude the potential for an area to be looked at which, to date, has had no known developer interest

## Gainsborough Segment 1 – Step 2

Within Segment 1, it is considered there is a single candidate zone where it is reasonable to consider whether a new SUE would be appropriate. This is shown on the map below, and should be broadly read to mean the consideration of an urban extension attached to Lea. Broad areas to the west of this indicative zone are not 'reasonable' to consider, due to the flood risk prevalence in this area.



## Gainsborough Segment 1 Step 2 Sustainability Appraisal

IIA Objectives	Zone 1A	
	Score	Commentary
1. Housing	✓✓	See step 1 commentary for Segment 1. No further comments.
2. Health	X/✓	Zone 1A is removed from the Gainsborough urban area, therefore limiting access to health facilities, as well as limiting the number of healthy journeys (walk / cycle) that will be made. However, its more rural location may have better air quality.
3. Social Equality and Community	X	Due its physical distance from the existing built-up area of Gainsborough this area is unlikely to have a positive impact unless the development is of sufficient scale to provide facilities. Unlikely to foster cohesion with existing communities due to its more remote location.
4. Biodiversity and Green Infrastructure	X/?	Possible impacts on Lea Wood (south of Lea) which is classified as a Historic Park and Garden, and part of Lea Marsh (to the west) which is an SSSI
5. Landscape and Townscape	X	See step 1 commentary for Segment 1, which notes the high landscape value of the area.  A SUE in this locality could also lead to a substantial size extension to Lea which could lead to loss of character and local distinctiveness of Lea village.
6. Built and Historic Environment	X	Lea Park, a historic park and garden, and is close to a Scheduled Monument – Hermit Dam Moated Site, and adjacent to Lea village which has 11 listed buildings. See also step 1 commentary for Segment 1
7. Water	X / ?	See step 1 commentary for Segment 1. No further comments.
8. Pollution	X	See step 1 commentary for Segment 1. No further comments.
9. Land Use and Soils	XX	See step 1 commentary for Segment 1. No further comments.
10. Waste	X	See step 1 commentary for Segment 1. No further comments.
11. Climate	XX	See step 1 commentary for Segment 4.



<b>Change Effects and Energy</b>		However, this Zone lies some distance from Gainsborough and therefore is likely to generate greater reliance on car use, and will have less ability to integrate to infrastructure (existing or future) found in Lincoln
<b>12. Climate Change Adaptation and Flood Risk</b>	✓	This area predominantly lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.
<b>13. Transport and Accessibility</b>	XX	The development would require significant new road infrastructure. Due its physical separation from the built-up area of Gainsborough, access is likely to be private car for most journeys.
<b>14. Employment</b>	✓	Development itself, plus the potential for employment land provision, means it is likely growth in this segment will have a positive effects against this objective.
<b>15. Local Economy</b>	✓	Development itself, plus the potential for employment land provision, means it is likely growth in this segment will have a positive effects against this objective.
<b>Summary of Significant Effects</b>	<p>Overall, the zone has a mix of positive and negative effects, though there is a high number of likely negative effects.</p> <p>Zone 1A has the significant constraint of being located away from Gainsborough, with development in the zone likely to be relatively isolated from Gainsborough urban area, with the negative consequences which arise.</p>	

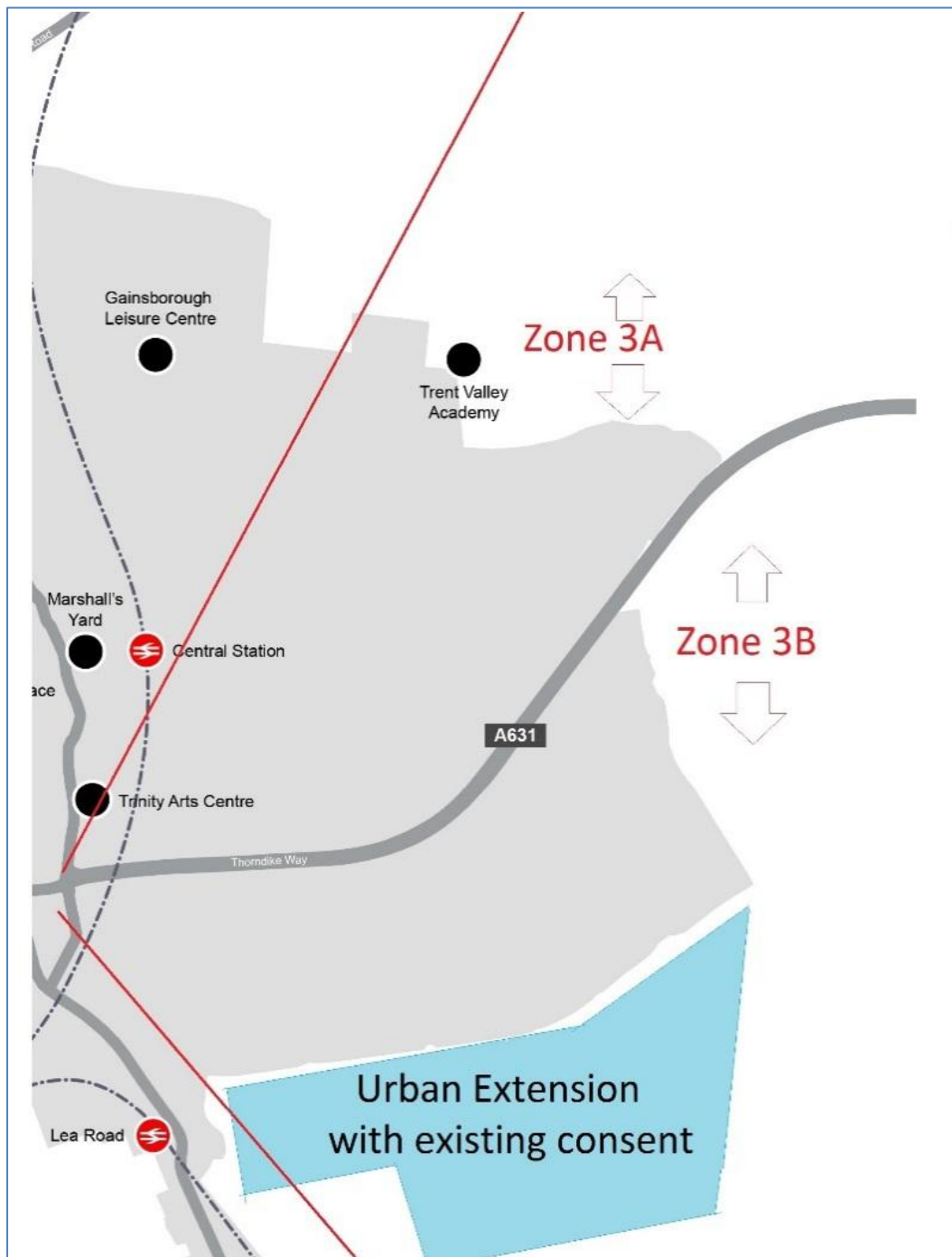
### Overall Step 2 Conclusion for Gainsborough Segment 1

3.27 Zone 1A is the only reasonable zone identified in Segment 1, and this demonstrates a large number of negative sustainability effects. Unlikely this zone should be considered for large scale growth, unless Step 2 for Segment 3 is deemed to provide less attractive option(s).

## Gainsborough Segment 3 Step 2

Within Segment 3, it is considered there are 2 candidate zones where it is reasonable to consider whether a new SUE would be appropriate. Within Segment 3 a SUE already benefits from an existing planning consent. The areas are shown on the map below:

### Gainsborough Segment 3: candidate SUE zones:



### **SUE with existing outline planning consent – Southern Neighbourhood**

This area of land is south of the existing built up area of the town. Outline Planning Consent for this SUE was granted in 2010 and a reserved matters application for the first phase of this development is expected during late 2015. The Outline Planning Consent details that this SUE will comprise a suitable mix of new residential types and tenure, together with a new neighbourhood centre, employment land, new neighbourhood centre and associated infrastructure.

Within the plan period delivery of around 1,600 new homes are expected to be provided, however longer term this site can accommodate a total of 2,500 dwellings.

Because this area has the benefit of a SUE consent already, it is not appraised further in this report.

### **Zone 3A - Gainsborough Northern Neighbourhood**

This area is to the north-east of Gainsborough, and north of the dual A631 that connects Gainsborough East-West.

There are no other settlements in the broad locality.

This land is predominantly in agricultural use. To the north and east is Wharton Wood and Birch Wood respectively.

### **Zone 3B - Gainsborough Eastern Neighbourhood**

This zone lies to the east of Gainsborough's existing built-up area.

It lies south of, and directly accessible from, the dual A631 that connects Gainsborough East-West. Some distance to the east, separated by farmland, is the small village of Corringham.

The land is predominantly in agricultural use. To the west is White's Wood, to the south are Bass Wood and Willoughton Wood. These are ancient woodlands.

The area is adjacent to the main strategic employment area.

## Sustainability Appraisal of Gainsborough

IIA Objectives	Zone 3A		Zone 3B	
	Score	Commentary	Score	Commentary
1. Housing	✓✓	See step 1 commentary for Segment 3. No further comments	✓✓	See step 1 commentary for Segment 3. No further comments
2. Health	✓	Due to is relatively close proximity to the Gainsborough Urban area there are clear opportunities for healthy journeys (walk/cycle) as well as new viable public transport e.g. bus routes.	✓	Due to is relatively close proximity to the Gainsborough Urban area there are clear opportunities for healthy journeys (walk/cycle) as well as new viable public transport e.g. bus routes.
3. Social Equality and Community	✓	Development could provide and improve access to social and community facilities in the adjacent area and has the potential to improve these neighbourhoods some of which are located in recognised areas of deprivation.	✓	Development could provide and improve access to social and community facilities in the adjacent area and has the potential to improve these neighbourhoods some of which are located in recognised areas of deprivation.
4. Biodiversity and Green Infrastructure	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat. Development could lead to a potential impact on nearby protected woodland.	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat. Development could lead to a potential impact on nearby protected woodland.
5. Landscape and Townscape	X	The zone lies within an area designated in the existing West Lindsey Local Plan as an 'Area of Great Landscape Value'  As a greenfield site, growth in this area would have an impact on what is predominantly open countryside and woodland at present.	X	The zone lies within an area designated in the existing West Lindsey Local Plan as an 'Area of Great Landscape Value'  As a greenfield site, growth in this area would have an impact on what is predominantly open countryside and woodland at present.
6. Built and Historic	✓	No known significant constrains	✓	No known significant constrains

<b>Environment</b>				
<b>7. Water</b>	<b>X/✓</b>	See step 1 commentary for Segment 3. No further comments	<b>X/✓</b>	See step 1 commentary for Segment 3. No further comments
<b>8. Pollution</b>	<b>X</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. However, growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development Other pollution issues as per step 1 commentary for segment 3.	<b>X</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. However, growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development Other pollution issues as per step 1 commentary for segment 3.
<b>9. Land Use and Soils</b>	<b>X</b>	See step 1 commentary for Segment 3. No further comments.	<b>X</b>	See step 1 commentary for Segment 3. No further comments.
<b>10. Waste</b>	<b>X</b>	See step 1 commentary for Segment 3. No further comments.	<b>X</b>	See step 1 commentary for Segment 3. No further comments.
<b>11. Climate Change Effects and Energy</b>	<b>X</b>	See step 1 commentary for Segment 3.  However, this Zone lies close to the urban edge and therefore is likely to generate less reliance on car use, and will have greater ability to integrate to infrastructure (existing or future) found in Gainsborough, which could minimise its impact on issues relating to climate change.	<b>X</b>	See step 1 commentary for Segment 3.  However, this Zone lies close to the urban edge and therefore is likely to generate less reliance on car use, and will have greater ability to integrate to infrastructure (existing or future) found in Gainsborough, which could minimise its impact on issues relating to climate change.
<b>12. Climate Change Adaptation and Flood Risk</b>	<b>✓</b>	No flood risk issues.	<b>✓</b>	No flood risk issues.

<b>13. Transport and Accessibility</b>	✓✓	The development would require significant new road infrastructure but it is in very close proximity to the existing built up area and centre of Gainsborough and therefore sustainable modes of travel are more likely.	✓✓	The development would require significant new road infrastructure but it is in very close proximity to the existing built up area and centre of Gainsborough and therefore sustainable modes of travel are more likely.
<b>14. Employment</b>	✓	The development has the opportunity to provide significant levels of employment adjacent to the city centre and emerging adjacent employment areas.	✓	The development has the opportunity to provide significant levels of employment adjacent to the city centre and emerging adjacent employment areas.
<b>15. Local Economy</b>	?	The effect is uncertain, as it would depend on whether the employment land was forthcoming within this zone. Commentary in Step 1 for Segment 3 would also apply.	?	The effect is uncertain, as it would depend on whether the employment land was forthcoming within this zone. Commentary in Step 1 for Segment 3 would also apply.
<b>Summary of Significant Effects</b>  At a strategic zonal level, there is no discernible difference between zone 3A and 3B. Both have a mix of negative and positive effects, but generally speaking both offer a good degree of positive implications, primarily arising from their close connection to the built up edge of Gainsborough.				

### Overall Step 2 Conclusion for Gainsborough Segment 1

3.28 In conclusion, in sustainability terms, there are demonstrable positive effects of locating a SUE in zone 3A and 3B. On the basis of the above information Zones 3A and 3B are recommended to be taken forward as a clear opportunity for accommodating major growth in the form of a Sustainable Urban Extension.

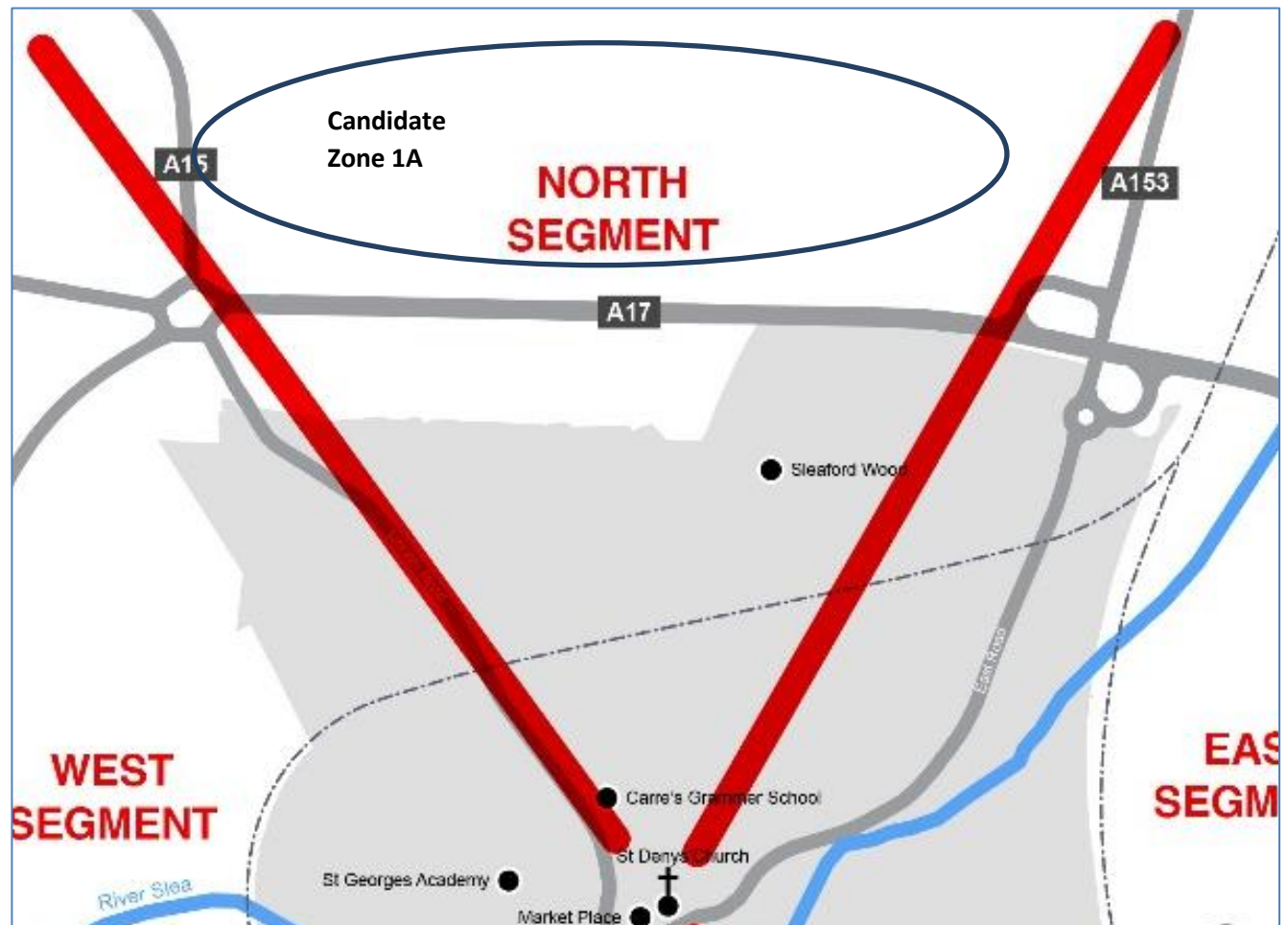
## **Step 2 for Sleaford**

- 3.29 Step 1 of this report determined that Segments 1, 2, 3 and 4 within the Sleaford area have the potential for accommodating one or more Sustainable Urban Extensions.
- 3.30 These segments are now tested in more detail, in order to narrow down areas of search for Sustainable Urban Extensions. This process is largely drawn from known developer interest, but it does not exclude the potential for an area to be looked at which, to date, has had no known developer interest.

## Sleaford Segment 1 – Step 2

- 3.31 This is land to the North of Sleaford, where there is a single zones north of the A17 bypass. There area is mainly in agricultural use and the village of Leasingham is located just to the north-west of the zone
- 3.32 The area inside the bypass is largely covered by consent, therefore not considered in this report as a SUE candidate for consideration.

**Sleaford Segment 1: candidate SUE zone**





## Sleaford Sustainability Appraisal Segment 1 (north) Step 2

IIA Objectives	Zone 1A	
	Score	Commentary
1. Housing	✓✓	See step 1 commentary for Segment 1. No further comments
2. Health	X/✓	Zone 1B is more removed from the Sleaford urban area, therefore limiting access to health facilities, as well as limiting the number of healthy journeys (walk / cycle) that will be made. However, its more rural location may have better air quality, though this is negated somewhat if any development in this zone is located near the bypass.
3. Social Equality and Community	X	Due its physical distance from the existing built-up area of Sleaford this area is unlikely to have a positive impact unless the development is of sufficient scale to provide facilities. Unlikely to foster cohesion with existing communities due to its more remote location, and the bypass barrier.
4. Biodiversity and Green Infrastructure	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat. However through masterplanning, high quality new green infrastructure and biodiversity improvements could be created.
5. Landscape and Townscape	XX	Development in this location in an open rural landscape would have a negative effect on this criteria. It would have a significant negative impact on Leasingham with the potential of coalescence with Sleaford.
6. Built and Historic Environment	XX/?	Leasingham has 11 listed buildings, including the Grade II*Manor House and Grade I church. The setting of these could be impacted upon should major growth take place in this zone
7. Water	X/✓	See step 1 commentary for Segment 1. No further comments
8. Pollution	XX	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. The area's relative isolation and likely greater use of the motorcar, would also likely lead to greater pollution than a more integrated site.  Other pollution issues as per step 1 commentary for Segment 1
9. Land Use and Soils	X	See step 1 for Segment 1. No further comments.

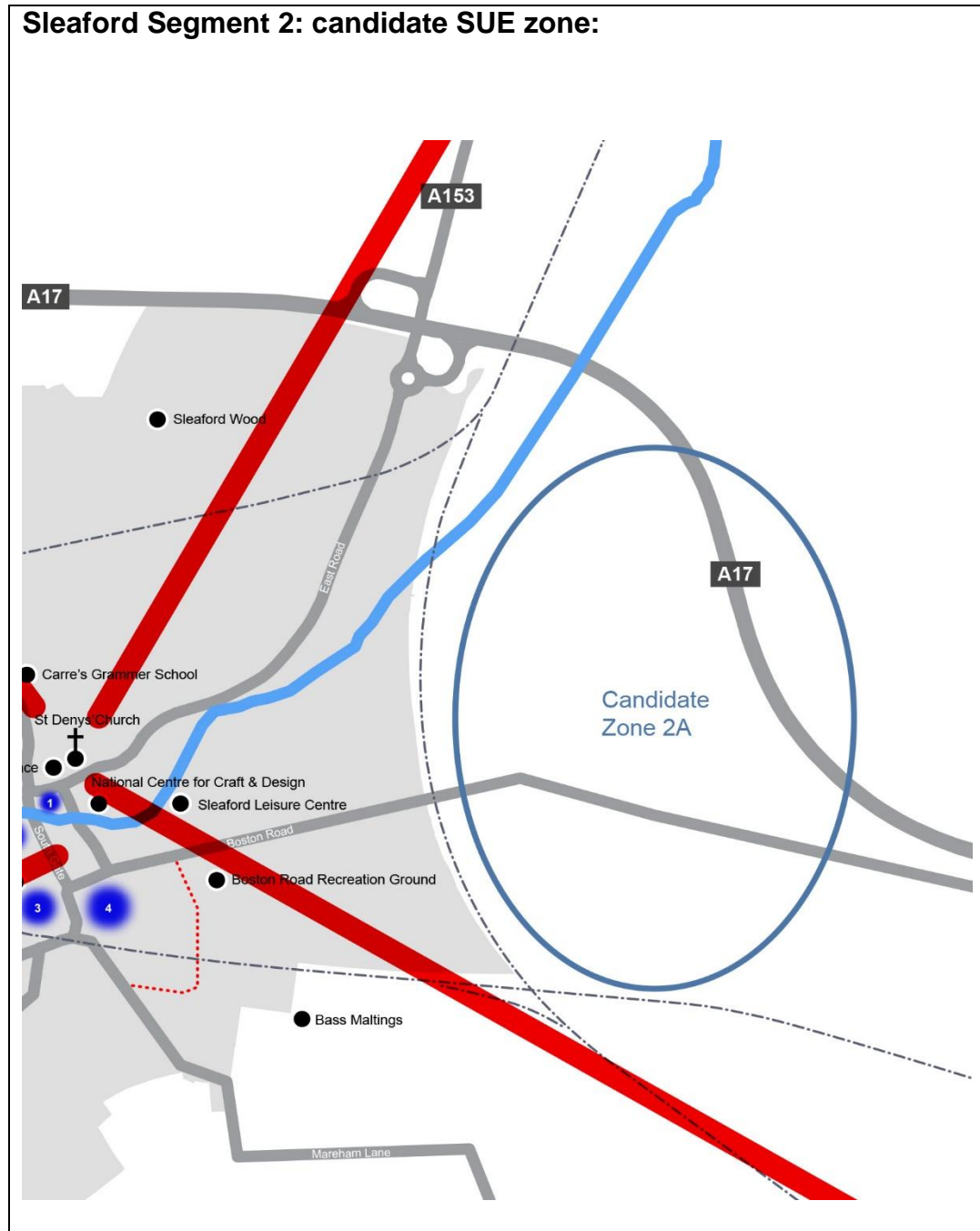
<b>10. Waste</b>	<b>X</b>	See step 1 for Segment 1. No further comments.
<b>11. Climate Change Effects and Energy</b>	<b>XX</b>	See step 1 commentary for Segment 1.  However, this Zone lies outside the bypass and therefore is likely to generate greater reliance on car use, and will have less ability to integrate to infrastructure (existing or future) found in Sleaford
<b>12. Climate Change Adaptation and Flood Risk</b>	✓	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.
<b>13. Transport and Accessibility</b>	<b>XX</b>	The development would require significant new road infrastructure. Due its physical separation from the built-up area of Sleaford, and the physical barrier of the bypass, access is likely to be private car for most journeys.
<b>14. Employment</b>	✓	The development has the opportunity to provide levels of employment given its proximity to existing employment areas
<b>15. Local Economy</b>	?	The effect is uncertain, as it would depend whether employment land was forthcoming within this zone.  Commentary in Step 1 for Segment 1 would also apply.
<b>Summary of Significant Effects</b>	<p>Overall, the zone has a mix of positive and negative effects, though the zone has a considerable number of likely negative effects.</p> <p>Zone 1A has the significant constraint of being located outside the bypass, with development in the zone likely to be relatively isolated from the Sleaford urban area, with the negative consequences which arise.</p>	

### **Overall Step 2 Conclusion for Sleaford Segment 1, Zones 1A**

3.33 In conclusion, in sustainability terms, the weight of negative effects for zone 1A suggests it would be inappropriate, in sustainability terms, to identify a SUE in this location. Zone 1A should not, therefore, be considered for major growth. Detailed consideration of sites in Zone 1A are, therefore, not deemed necessary, as it is not considered a reasonable location for growth.

## Sleaford Segment 2

3.34 Within Segment 2, it is considered there is potential for a SUE to the East of Sleaford.



### Candidate Zone 2A: Description

3.35 This segment is an expansive rural area located to the East of Sleaford. The majority of the area comprises arable agricultural land. Close to Sleaford are existing playing fields/sports facilities and a straw burning power station along the A1121.

## Sustainability Appraisal of Sleaford Zone 2A

IIA Objectives	Zone 2A	
	Score	Commentary
<b>1 Housing</b>	✓✓	See Step 1, Segment 2 commentary – no further comments
<b>2 Health</b>	X	Due to the physical barrier of the railway, Zone 2A is removed from the Sleaford urban area, therefore limiting access to health facilities, as well as limiting the number of healthy journeys (walk / cycle) that will be made..
<b>3 Social Equality and Community</b>	X	Due its physical barrier from the existing built-up area of Sleaford this area is unlikely to have a positive impact unless the development is of sufficient scale to provide facilities. Unlikely to foster cohesion with existing communities due to its more remote location, and the bypass barrier.
<b>4 Biodiversity and Green Infrastructure</b>	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat. However through masterplanning, high quality new green infrastructure and biodiversity improvements could be created.
<b>5 Landscape and Townscape</b>	X	Development in this location in an open rural landscape would have a negative effect on this criteria. No coalescence issues, however.
<b>6 Built and Historic Environment</b>	✓	No known significant issues
<b>7 Water</b>	X/✓	See Step 1, Segment 2 commentary – no further comments
<b>8 Pollution</b>	XX	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. The area's relative isolation and likely greater use of the motorcar, would also likely lead to greater pollution than a more integrated site.  Other pollution issues as per step 1 commentary for Segment 2
<b>9 Land Use and Soils</b>	X	See Step 1, Segment 2 commentary – no further comments

<b>10 Waste</b>	<b>X</b>	See Step 1, Segment 2 commentary – no further comments
<b>11 Climate Change Effects and Energy</b>	<b>XX</b>	See Step 1, Segment 2 commentary – no further comments  However, this Zone lies beyond the railway and therefore is likely to generate greater reliance on car use, and will have less ability to integrate to infrastructure (existing or future) found in Sleaford
<b>12 Climate Change Adaptation and Flood Risk</b>	✓	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.
<b>13 Transport and Accessibility</b>	<b>XX</b>	The development would require significant new road infrastructure. Due to the physical barrier of the railway, access is likely to be private car for most journeys.
<b>14 Employment</b>	✓	The development has the opportunity to provide levels of employment given its proximity to existing employment areas
<b>15 Local Economy</b>	?	The effect is uncertain, as it would depend whether employment land was forthcoming within this zone.  Commentary in Step 1 for Segment 2 would also apply.
<b>Summary of Significant Effects</b>	Whilst this zone has a mix of positive and negative aspects, the location of the railway line forms an effective boundary to the town which would mean it would be very difficult to form good access and permeability between the new development and Sleaford. This results in many of the objectives scoring negatively.	

### Overall Step 2 Conclusion for Sleaford Segment 2A

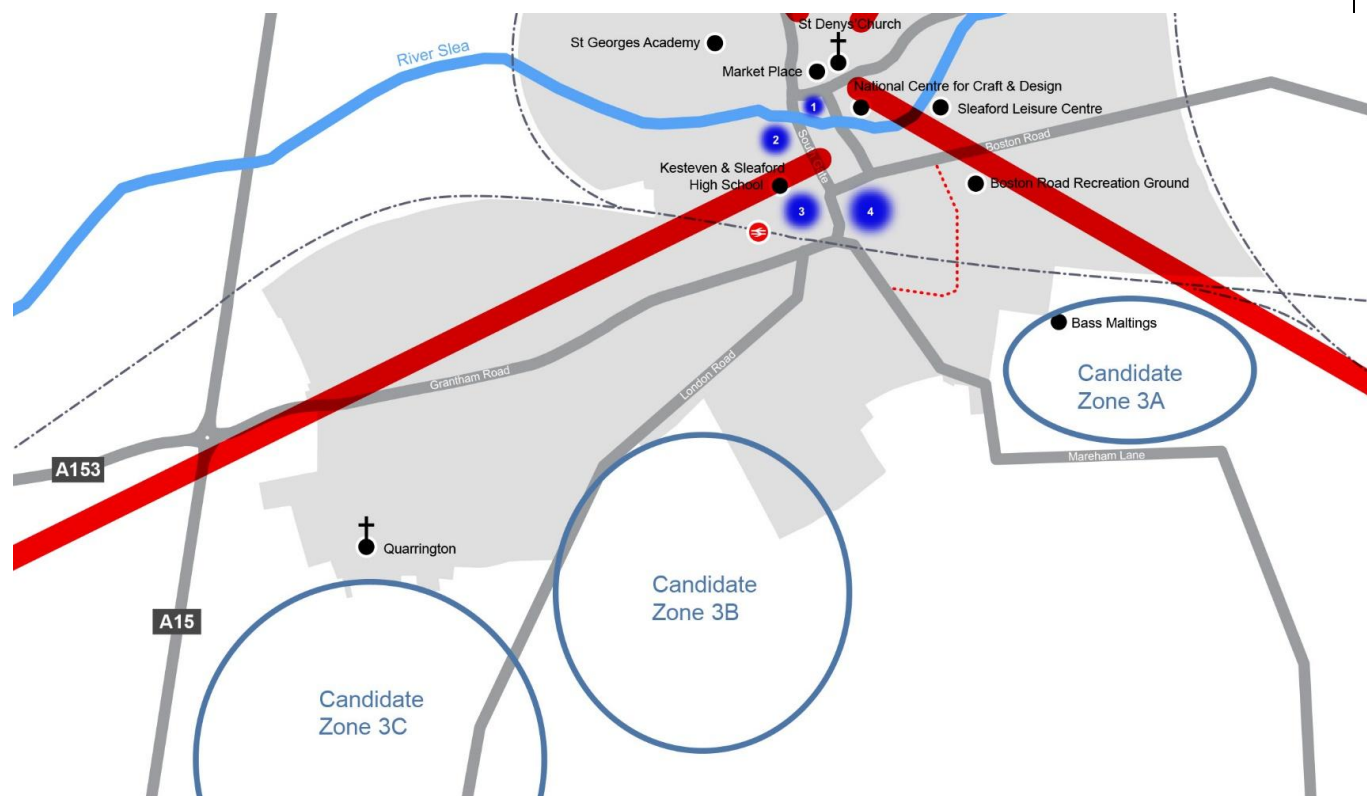
3.36 In conclusion, in sustainability terms, the weight of negative effects for zone 2A suggests it would be inappropriate, in sustainability terms, to identify a SUE in this location. On the basis of the above information Zone 2A is should not, therefore, be considered for major growth. Detailed consideration of sites in Zone 2A are, therefore, not deemed necessary, as it is not considered a reasonable location for growth.

### Segment 3 South Sleaford

Within Segment 3, it is considered there are three candidate zones where it is reasonable to consider whether a SUE would be appropriate. However, Zone 3B already has the benefit of a consent, it is therefore deemed 'committed' and is not appraised further in this report. Zone 3A is to the eastern side, land north of Mareham Lane and South of the Maltings. Zone 3C is land to the South/South West extending along the A17 toward Silk Willoughby.

Zone 3C is land to the South/South West extending along the A17 toward Silk Willoughby.

#### Sleaford Segment 3: candidate SUE zones:



## Sustainability Appraisal of Sleaford Segment 3 (South) Zones

IIA Objectives	Zone 3A South East		Zone 3C South West	
	Score	Commentary	Score	Commentary
<b>1 Housing</b>	✓✓	See Step 1, Segment 3 commentary – no further comments.	✓✓	See Step 1, Segment 3 commentary – no further comments.
<b>2 Health</b>	✓	See Step 1, Segment 3 commentary.  Site relatively well connected to Sleaford therefore opportunities for healthy journeys (walk/cycle)	✓	See Step 1, Segment 3 commentary.  Site relatively well connected to Sleaford therefore opportunities for healthy journeys (walk/cycle)
<b>3 Social Equality and Community</b>	✓	Development could provide and improve access to social and community facilities in the adjacent area	✓	Development could provide and improve access to social and community facilities in the adjacent area
<b>4 Biodiversity and Green Infrastructure</b>	X	Significant new development in this area is likely to have a negative impact in terms of loss of natural habitat. The location is close to Mareham Pastures Nature Reserve	X	Significant new development in this area is likely to have a negative impact in terms of loss of natural habitat.
<b>5 Landscape and Townscape</b>	XX	Development proposals at this location will have a negative impact in respect of landscape particularly in relation to the setting of the Maltings.	X	Development proposals at this location will have a negative impact in respect of landscape. Development in this location would have a negative impact and would have limited relationship with the existing built up area of Sleaford /Quarrington. A large development in this location would appear isolated and unconnected (though perhaps less so on completion of the consented SUE at zone 3B)
<b>6 Built and Historic Environment</b>	XX	Development could have a negative impact on the Maltings Grade II heritage asset.	✓	No known significant impacts
<b>7 Water</b>	X/✓	See Step 1, Segment 3 commentary – no further comments	X/✓	See Step 1, Segment 3 commentary – no further comments

<b>8Pollution</b>	<b>X</b>	Development could lead to increased pollution levels but growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development.	<b>X</b>	Development could lead to increased pollution levels but growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development.
<b>9 Land Use and Soils</b>	<b>X</b>	See Step 1, Segment 3 commentary – no further comments	<b>X</b>	See Step 1, Segment 3 commentary – no further comments
<b>10 Waste</b>	<b>X</b>	See Step 1, Segment 3 commentary – no further comments	<b>X</b>	See Step 1, Segment 3 commentary – no further comments
<b>11 Climate Change Effects and Energy</b>	<b>X</b>	See step 1 commentary for Segment 3.  However, this Zone lies nearer services and therefore is likely to generate less reliance on car use, and will have greater ability to integrate to infrastructure (existing or future) found in Sleaford, which could minimise its impact on issues relating to climate change	<b>XX</b>	See step 1 commentary for Segment 3.  However, this Zone lies some distance from services and therefore is likely to generate more reliance on car use, and less ability to integrate to infrastructure (existing or future) found in Sleaford, which could increase its impact on issues relating to climate change.
<b>12 Climate Change Adaptation and Flood Risk</b>	✓	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.	✓	This area lies outside fluvial flood zone but increase run-off from surface water could have a negative impact.
<b>13 Transport and Accessibility</b>	<b>X/✓</b>	The development would require new road infrastructure but it is in relative close proximity to the existing built up area of Sleaford and therefore sustainable modes of travel are more likely to have a positive impact  All vehicle movements from this location into Sleaford and North and West would have to go via the Sleaford railway crossing Junction	<b>X</b>	The development would require new road infrastructure and this Zone lies some distance from services and therefore is likely to generate more reliance on car use.
<b>14 Employment</b>	✓	The development has the opportunity to provide levels of employment given its proximity to existing employment areas	✓	The development has the opportunity to provide levels of employment given its proximity to existing employment areas



<b>15 Local Economy</b>	?	The effect is uncertain, as it would depend whether employment land was forthcoming within this zone.  Commentary in Step 1 for Segment 3 would also apply.	?	The effect is uncertain, as it would depend whether employment land was forthcoming within this zone.  Commentary in Step 1 for Segment 3 would also apply.
<b>Summary of Significant Effects</b>	Both zones have a mix of positive and negative aspects. The major negative fact of zone 3A is the proximity to the Maltings and traffic issues, whilst zone 3C is relatively isolated, though does not suffer from any major physical barrier (such as a railway or bypass).			

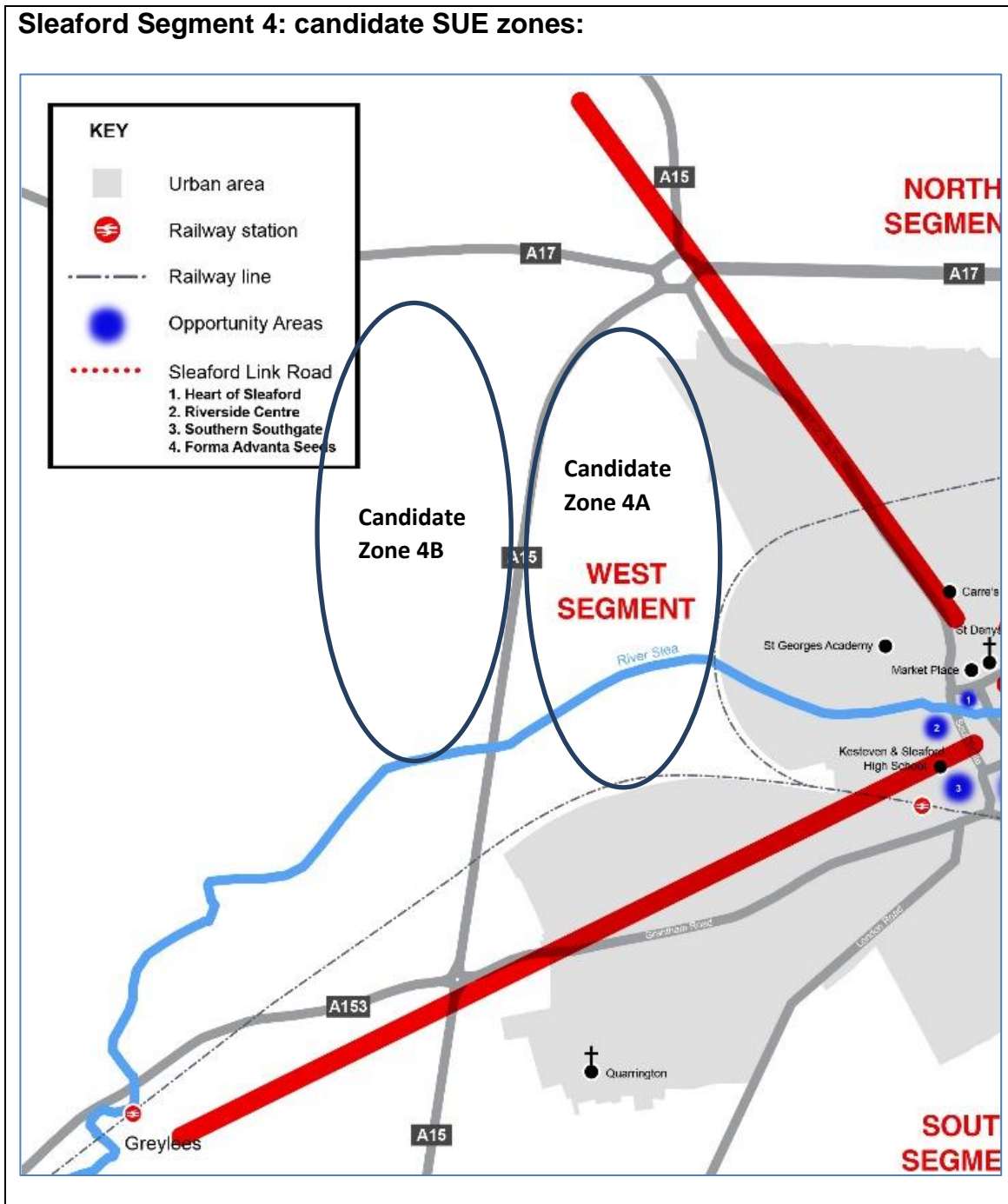
### **Overall Step 2 Conclusion for Sleaford Segment 3, Zone 3A and 3C**

- 3.37 In conclusion, in sustainability terms, the weight of negative effects for zone 3A suggests it would be unlikely to be appropriate, in sustainability terms, to identify a SUE in this location.
- 3.38 Zone 3C might offer prospects for a SUE. However, the segment already has the benefit of one consented SUE, and development of Zone 3C should perhaps be dependent on the delivery of that SUE first, which might alleviate some of the negative effects of zone 3C.
- 3.39 On the basis of the above information Zone 3A should not be considered for major growth. Detailed consideration of sites in Zone 3A are, therefore, not deemed necessary, as it is not considered a reasonable location for growth.
- 3.40 Zone 3C has potential, but is not ideally suited to delivering immediate growth.

## Sleaford Segment 4 Step 2

- 3.41 Within Segment 4, it is considered there are two candidate zones where it is reasonable to consider whether a SUE would be appropriate. Zone 4A is significant area of undeveloped land lying the west of the town which has been put forward by promoters for a mixed-use development for up to 1600 houses and associated infrastructure. Zone 4B is further west, on the opposite side of the bypass:

### Sleaford Segment 4: candidate SUE zones:



#### Candidate Zone 4A: Description

- 3.42 This zone is located on the western side of the town and is predominantly an area of flat/gently sloping land in agricultural use. To the southern edge is the River Slea and flood plain. The landscape is characterised by a pattern of fields defined by shallow dykes and hedges. The zone is bounded by urban areas and by the A15 which acts as a western bypass and forms a largely impermeable boundary

#### Candidate Zone 4B: Description

- 3.43 This zone is very similar in character to 4B, located on the western side of the town and is predominantly an area of flat/gently sloping land in agricultural use. To the southern edge is the River Slea and flood plain. The landscape is characterised by a pattern of fields defined by shallow dykes and hedges. The main difference to 4B is that the zone is not bounded on any side, other than the A15 on its eastern edge.

## Sleaford Sustainability Appraisal Segment 4 (east) Step 2

IIA Objectives	Zone 4A		Zone 4B	
	Score	Commentary	Score	Commentary
1. Housing	✓✓	See step 1 commentary for Segment 4. No further comments	✓✓	See zone 4A commentary
2. Health	✓	Due to its relatively close proximity to the Sleaford Urban area there are clear opportunities for healthy journeys (walk/cycle) as well as new viable public transport e.g. bus routes.	X/✓	Zone 4B is more removed from the Sleaford urban area, therefore limiting access to health facilities, as well as limiting the number of healthy journeys (walk / cycle) that will be made. However, its more rural location may have better air quality, though this is negated somewhat if any development in this zone is located near the bypass.
3. Social Equality and Community	✓	Development could provide and improve access to social and community facilities in the adjacent communities area.	X	Due to its physical distance from the existing built-up area of Sleaford this area is unlikely to have a positive impact unless the development is of sufficient scale to provide facilities. Unlikely to foster cohesion with existing communities due to its more remote location, and the bypass barrier.
4. Biodiversity and Green Infrastructure	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat. However through masterplanning, high quality new green infrastructure and biodiversity improvements could be created.	X/?	Significant new development on an area of previously undeveloped land could have a negative impact in terms of loss of natural habitat. However through masterplanning, high quality new green infrastructure and biodiversity improvements could be created.
5. Landscape and Townscape	O	Whilst currently open, the zone is bounded on all four sides by either urban areas or a major road, so limited impact on landscape. Townscape impacts would need addressing through detailed masterplanning.	XX	Development in this location in an open rural landscape would have a negative effect on this criteria.
6. Built and Historic	✓	No known negative effects	✓	No known negative effects

<b>Environment</b>				
<b>7. Water</b>	<b>X/✓</b>	See step 1 commentary for Segment 4. No further comments.	<b>X/✓</b>	See zone 4A commentary
<b>8. Pollution</b>	<b>X</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. However, growth in this area would be integrated within the existing built up area and therefore is likely to have less impact than an isolated large scale development Other pollution issues as per step 1 commentary for segment 4.	<b>XX</b>	Development could lead to increased pollution levels especially in this area where increased levels of traffic on already congested roads at times would cause pollution levels to deteriorate further. The area's relative isolation and likely greater use of the motorcar, would also likely lead to greater pollution than a more integrated site.  Other pollution issues as per step 1 commentary for Segment 4
<b>9. Land Use and Soils</b>	<b>X</b>	See step 1 for Segment 4. No further comments.	<b>X</b>	See zone 4A commentary
<b>10. Waste</b>	<b>X</b>	See step 1 for Segment 4. No further comments.	<b>X</b>	See zone 4A commentary
<b>11. Climate Change Effects and Energy</b>	<b>X</b>	See step 1 commentary for Segment 4.  However, this Zone lies inside the bypass and therefore is likely to generate less reliance on car use, and will have greater ability to integrate to infrastructure (existing or future) found in Sleaford, which could minimise its impact on issues relating to climate change.	<b>XX</b>	See step 1 commentary for Segment 4.  However, this Zone lies outside the bypass and therefore is likely to generate greater reliance on car use, and will have less ability to integrate to infrastructure (existing or future) found in Sleaford
<b>12. Climate Change Adaptation and Flood Risk</b>	<b>X/✓</b>	A limited proportion of the area is a flood risk zone however development does offer the opportunity to provide flood mitigation measure	<b>X/✓</b>	A limited proportion of the area is a flood risk zone however development does offer the opportunity to provide flood mitigation measure
<b>13. Transport and Accessibility</b>	<b>✓</b>	The development would require significant new road infrastructure but it is in relative close proximity to the existing built up area of Sleaford and therefore sustainable modes of travel are	<b>XX</b>	The development would require significant new road infrastructure. Due its physical separation from the built-up area of Sleaford, and the physical barrier of the bypass, access is likely to be private car for most journeys.

		more likely to have a positive impact.		
<b>14. Employment</b>	✓	The development has the opportunity to provide levels of employment given its proximity to existing employment areas	✓	See zone 1A commentary
<b>15. Local Economy</b>	?	The effect is uncertain, as it would depend whether employment land was forthcoming within this zone.  Commentary in Step 1 for Segment 1 would also apply.	?	See zone 1A commentary
<b>Summary of Significant Effects</b>	<p>Overall, both zones have a mix of positive and negative effects, though zone 4B has a considerably greater number of likely negative effects.</p> <p>Zone 4B has the significant constraint of being located outside the bypass, with development in the zone likely to be relatively isolated from the Sleaford urban area, with the negative consequences which arise.</p>			

### **Overall Step 2 Conclusion for Sleaford Segment 4, Zones 4A and 4B**

In conclusion, in sustainability terms, there are demonstrable positive effects of locating a SUE in zone 4A, whilst the weight of negative effects for zone 4B suggests it would be inappropriate, in sustainability terms, to identify a SUE in this location. On the basis of the above information Zone 4A is therefore recommended to be taken forward as a clear opportunity for accommodating major growth in the form of a Sustainable Urban Extension. Zone 4B should not, therefore, be considered for major growth. Detailed consideration of sites in Zone 4B are, therefore, not deemed necessary, as it is not considered a reasonable location for growth

## **4 Step 3: Conclusion on Areas to take forward as Sustainable Urban Extensions**

- 4.1 This comprehensive report has tested, on primarily sustainability appraisal principles, the merits of both broad areas, and more specific zones, for their suitability for accommodating a large scale development scheme, known locally in Central Lincolnshire as a Sustainable Urban Extension (SUE).
- 4.2 The starting point of the report was the assumption that such SUEs are necessary at each of the three main settlements in order to accommodate, in a sustainable and deliverable way, the growth which is set to take place in Central Lincolnshire.
- 4.3 The conclusions which can be drawn from this report for each of the three settlements are as follows.

### **Lincoln**

- 4.4 With the local plan envisaging considerable growth to take place in the Lincoln area, and the preliminary findings of the Lincoln Growth Study suggesting SUEs are a necessary and a sustainable solution (as part of a package of solutions), this report has undertaken a comprehensive look at all reasonable options for accommodating such developments.
- 4.5 The first step split Lincoln into four segments, broadly creating a north, east, west and south segment. The appraisal found positive and negative effects for each segment, and concluded that no segment could be ruled out completely, at the initial broad stage, for accommodating a SUE.
- 4.6 The second step for Lincoln identified up to three more specific zones per segment, and each of these zones were appraised against the sustainability criteria.
- 4.7 Following these 'zonal' appraisals, a very clear pattern emerged, namely that zones within an existing or proposed bypass scored considerably better than a site outside the bypass. As such, a clear conclusion can be reached for the Lincoln area in terms of the detailed site boundary search for SUE sites, that being that SUEs should be identified within the bypass, and in several locations around Lincoln, including within each segment identified in Step 1 of this report. As explained in the report, any promoted SUE site outside of a bypass can therefore be effectively dismissed as not being a 'reasonable' location for detailed examination for the provision of a SUE i.e. land outside a bypass is 'screened out' from further investigation as a candidate SUE, and need not be considered or appraised further.

## **Gainsborough**

- 4.8 With the local plan envisaging growth to take place in the Gainsborough area (though to a considerably lesser degree than Lincoln), and the findings of the Gainsborough Growth Study suggesting SUEs are a necessary and a sustainable solution (as part of a package of solutions), this report has undertaken a comprehensive look at all reasonable options for accommodating such developments.
- 4.9 The first step split Gainsborough into four segments, broadly creating a north, east, west and south segment. The appraisal found positive and negative effects for each segment, but the north and west segments were found to have such considerable negative effects (such as flood risk) that such broad segments could be ruled out completely, at the initial broad stage, for accommodating a SUE.
- 4.10 The second step for Gainsborough identified up to two uncommitted specific zones per segment, and each of these zones were appraised against the sustainability criteria.
- 4.11 Following these 'zonal' appraisals, it is evident that the two zones in segment 3 (east) scored considerably more positively than the single reasonable zone in segment 1 (south). As such, a clear conclusion can be reached for the Gainsborough area in terms of the detailed site boundary search for SUE sites, that being that sites should be identified to the east, adjacent to the urban area. Any promoted SUE site outside of this area can therefore be effectively dismissed as not being a 'reasonable' location for detailed examination for the provision of a SUE i.e. Land other than to the east and adjacent to the urban area is 'screened out' from further investigation as a candidate SUE, and need not be considered or appraised further.

## **Sleaford**

- 4.12 Similar to Gainsborough, the local plan envisaging growth to take place in the Sleaford area (though to a considerably lesser degree than Lincoln). This report has undertaken a comprehensive look at all reasonable options for accommodating such developments.
- 4.13 The first step split Sleaford into four segments, broadly creating a north, east, west and south segment. The appraisal found positive and negative effects for each segment, and concluded that no segment could be ruled out completely, at the initial broad stage, for accommodating a SUE.
- 4.14 The second step for Sleaford identified up to two uncommitted zones per segment, and each of these zones were appraised against the sustainability criteria.



- 4.15 Following these 'zonal' appraisals, a very similar pattern emerged to Lincoln, namely that zones within a bypass/railway line scored considerably better than a site outside the bypass/railway line.
- 4.16 The southern segment for Sleaford was different, with this area already containing a consented SUE. The segment has no clear 'bypass' constraint, though the listed Maltings are a major constraint, and access to / from the town centre is challenging from the south.
- 4.17 As such, and similar to the Lincoln area, a conclusion can be reached in terms of a detailed site boundary search for SUE sites, that being that SUEs should only be considered within a bypass / railway line. This indicates that a SUE could be identified to the west. As explained in the report, any promoted SUE site outside of a bypass/railway line can therefore be effectively dismissed as not being a 'reasonable' location for detailed examination for the provision of a SUE i.e. land outside a bypass is 'screened out' from further investigation as a candidate SUE, and need not be considered or appraised further.
- 4.18 To the south, where the issue is less clear cut (there being no clear bypass or railway line acting as a barrier), it is determined that the potential for a SUE to the far south west be considered (in addition to the already consented SUE), but potentially not as a site to be delivered early.

## Appendix 1: Appraisal Scoring Criteria

Symbol		Definition of Effect
✓✓	Major positive effects	The option or policy is likely to lead to a significant improvement, and to large scale and permanent benefits in the sustainability objective being appraised.
✓	Minor positive effects	The option or policy is likely to lead to moderate improvement and to large scale temporary or medium scale permanent benefits to the sustainability objective being appraised. Beneficial effects should not be easily reversible in the long-term.
0	Neutral effects	A neutral scoring indicates that there are no effects upon the sustainability objective being appraised. This may include the continuation of a current trend.
X	Minor negative effects	The option or policy is likely to lead to moderate damage or loss, leading to large scale temporary or medium scale permanent negative effects on the sustainability objective being appraised.
XX	Major negative effects	The option or policy is likely to lead to significant or severe damage or loss.
/	Mixed effects (e.g. ✓✓/ X major positive and minor negative effects)	The effect is likely to be a combination of positive and negative effects.
?	Uncertain	The effect is not known or is too