

Bassetlaw New Settlement Study Methodology



Bassetlaw New Settlement Study

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1 Introduction

Bassetlaw District Council (BDC) is preparing a new Local Plan, to be called the Bassetlaw Plan, to shape development across the District between 2019 and 2034. An initial round of public consultation on the Initial Draft Bassetlaw Plan (IDBP) was undertaken between October and December 2016 and the outcome was published as a consultation paper in October 2016.

The consultation paper includes an option to develop an entirely new rural settlement or to significantly expand an existing village as set out under Strategic Proposal 6B. This is rooted in the aspiration of the Draft Vision for the Bassetlaw Plan, to deliver residential development in the right places to support the growth of communities, as well as recognising the contribution that a vibrant rural economy makes to the District and wider sub-region.

The proposal for a new village draws on the approach to rural sustainability set out in the IDBP which sees villages as inter-connected clusters for the purposes of service provision. Due to the scale of a new or an expanded rural settlement, it is required to be in a location that can provide additional services in addition to addressing any shortage of services in surrounding villages.

The Council is seeking to explore this proposal in more detail, through a feasibility study looking at a range of possible sites that have the potential to deliver at least 1000 homes. In order to explore a range of potential options for the distribution of new development, the Council has commissioned ADAS in conjunction with RSK, AAD Architects and Rider Levett Bucknall (RLB) to undertake this New Settlement Feasibility Study.

The main aims of this Study include the identification of:

- Potential economic, social and environmental benefits/impacts associated with the development of each of the chosen sites;
- Potential constraints to development;
- The on and off-site infrastructure required to support delivery; and
- Site viability.

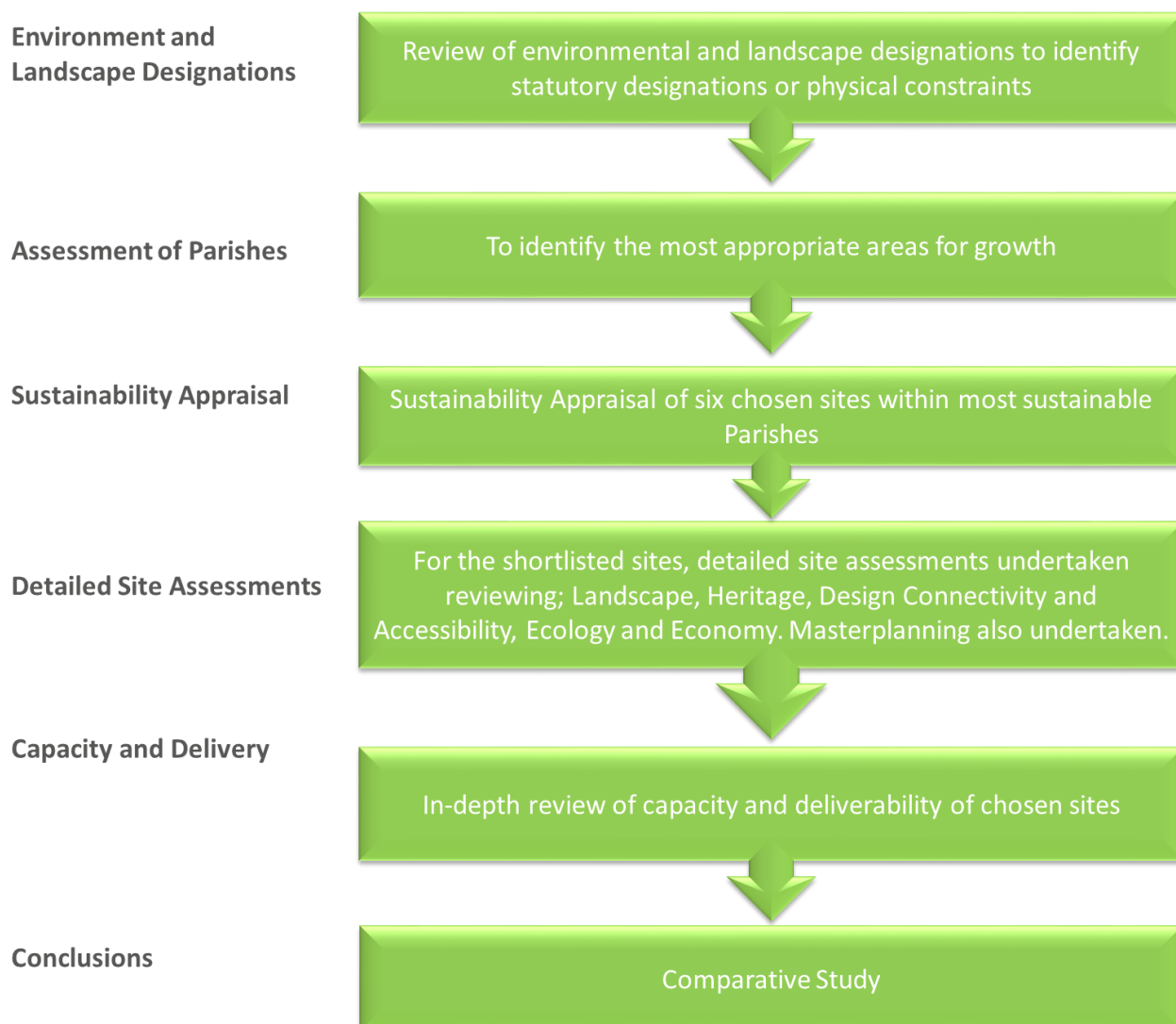
The purpose of the Study is not to determine whether the Council should seek to allocate a new settlement/s, it is to provide evidence to inform decision making on the location for a new settlement should this form part of the Council's spatial strategy. Furthermore, it does not identify other smaller sites for development. The Strategic Housing Land Availability Assessment will assess sites with potential for housing and provide a basis for making decisions. Site allocations will then be made in the Local Plan.

1.1 Report Structure

This Study is evidenced based and provides a written methodology which highlights the analysis used throughout the assessment. Due to the size and scale of the study, it has been deemed important to provide all the background analysis as part of this study and recognise any limitations.

The Study uses a structured process to consider potential options for a new settlement within the District, comprising of the following sections:

Figure 1.1 Diagram Detailing the process of the study



The Council consider that a new settlement would need to follow the principles of the Garden City/Village movement in order to provide a sustainable, well-planned and high-quality development to support the delivery of housing over the Council's plan period. The overarching aim of the Study is to identify, following an analysis of all viable settlement options in the District, a selection of potential sites which have the opportunity to support an independent and sustainable community which also has minimal impacts on its surrounding environment.

The focus of this New Settlement Feasibility Study has been to identify significant barriers which would preclude the delivery of strategic development at specific locations.

Masterplanning has also been undertaken by AAD Architects for three potential sites to consider the scale and form of development that could be accommodated on each site. This includes an assessment of all potential development that could be provided on site including the following:

- Scale of housing;
- Access;
- Social and community infrastructure (health, education, sports facilities and other local services);
- Employment opportunities;
- Green Infrastructure; and
- Energy.

The delivery of a new settlement will inevitably result in the need for substantial investment in infrastructure for example highway improvements, public transport infrastructure, utilities infrastructure (water, waste water, electricity and gas) in addition to the list above. Viability work has been undertaken by RLB, to consider the comparative potential costs associated with growth at different locations.

If a new settlement option is taken forward through the Local Plan, there will inevitably need to be further detailed technical work and community engagement moving forwards.

The following scope of work has not been undertaken as part of this Study and additional work that is likely to be required to support the allocation of a new settlement is summarised below:

- Further technical consideration of transport impacts on the existing highway network and off site infrastructure requirements;
- Drainage capability and surface run off;
- Any onsite energy generation capacity;
- Site specific utilities information- electricity, water supply, gas and waste water; and
- Provide further information on Agricultural Land Classification if it is not known.

1.2 Background

Bassetlaw is the northern most District in Nottinghamshire, home to around 114,000 people. Around 60% of the District's residents live in Worksop, Retford and Harworth & Bircotes, as the three largest towns in the District. The remainder of Bassetlaw's population resides in a range of rural settlements. Some of these rural settlements are isolated whilst others have access to a range of key services.

Figure 1.2 Bassetlaw map detailing key transport networks¹



BDC is seeking to increase the sustainability of the rural settlements within the District. This approach to development is inspired by the Department for Communities and Local Government's (DCLG) paper, 'Locally-Led Garden Villages, Towns and Cities' (March 2016), which supports the Government's pledge to 'get Britain building' and encourages ambitious, locally-led proposals for new communities that work as self-sustaining places, not dormitory suburbs. The vision for garden villages advocates transformational long-term housing growth, ensuring that real benefits are secured from the outset, including a quality design with cutting-edge technology, local employment opportunities, accessible green space near homes and a high-quality public realm. The Paper is clear that such places should not simply use the term 'garden' as a label.

Residential development with good access to existing employment opportunities, located on/near to strategic transport routes and providing a markedly different 'offer' to what is typically available on new suburban housing estates can boost the appeal of an area for skilled workers or firms looking to relocate. Development on this scale also gives scope to deliver affordable housing that can enable younger people to live and work in rural areas, rather than being priced-out and resorting to living elsewhere.

This is reflected in the Council's aspiration that, should the option of developing a new or expanded settlement be taken forward, it must be a development that is high quality in design, energy efficient and clearly rural in character, with natural green spaces integrated into its layout. In line the Government's

¹ Bassetlaw District Council, Figure 1, *Initial Draft Bassetlaw Plan Setting the Direction for Bassetlaw's Future*, <http://www.bassetlaw.gov.uk/media/620821/Bassetlaw-Plan-Initial-Draft.pdf> accessed 7th November 2017.

stated intentions for garden villages, the Council is clear that this option is only worth pursuing if these higher standards can be achieved.

The Council have also recognised that there are significant opportunities for developing a new settlement that can also deliver benefits to existing rural communities, through improvements to a wider number of services, facilities and infrastructure. A new settlement can complement and fill any service or facility gaps, which would improve sustainability within rural settlements.

This Study assesses the ability of sites within Bassetlaw District to deliver sustainable places for residents to live and work, which follow the garden city/village model. The new community will be free standing and will adhere to the principles of the garden city movement, becoming attractive places which people want to live.

The renewed interest of the garden city/village movement has been integrated into the National Planning Policy Framework (NPPF) paragraph 52 which states that *“The supply of new homes can sometimes be best achieved through planning for larger scale development, such as new settlements or extensions to existing villages and towns that follow the principles of Garden Cities”*.

The core principles which need to be followed are:

- A free-standing independent community which has its own identity and services to maintain the sustainability of the residents. The settlement will be in ‘near’ proximity of neighbouring existing locations where the services and infrastructure being developed can support existing communities elsewhere in the District. The development shall, however, not lead to coalescence with existing settlements;
- The new settlement will need to follow the principles laid out in the garden village/city and new town movement and capable of a design that can provide a high quality of life for future residents;
- The location of the new settlement should also deliver benefits to existing rural communities, through improvements to a wider number of services, facilities and infrastructure; and
- To work with stakeholders to assess and locate the ‘most’ suitable sites and utilise existing opportunities and constraints to benefit the local area and avoid significant impacts on the environment.

1.3 Bassetlaw’s economy

The national rural economy comprises of a diverse range of industries including agriculture, forestry and rural affairs; which are traditionally associated with rural areas. Agriculture and forestry contribute to 15% of businesses registered in England’s countryside. Construction and wholesale, retail and repair of motor vehicles are also prominent industries with 11% and 13%² of registered businesses respectively. However, the rural economy has many similarities to its urban counterpart with 15% of registered businesses falling under the professional services category. Consequently, a high number of people are employed by the service sector and it contributes the largest percent (20%) to the Gross Value Added (GVA) of the rural economy, whereas agriculture and rural affairs only contribute to 2% of GVA.

The government recognise the need to support a prosperous rural economy and for local authorities to support economic growth in rural areas through their local and neighbourhood plans, as outlined in

² House of Lords, *Rural Economy: Key Statistics and Recent Developments*, <http://researchbriefings.parliament.uk/ResearchBriefing/Summary/LLN-2016-0020#fullreport> accessed 2nd November 2017.

Chapter 3 (Supporting a prosperous rural economy) of the NPPF. To achieve this, planning must have regard to job creation and prosperity by taking a positive approach to sustainable development.

Bassetlaw covers an area of 640 sq. kilometres (a third of Nottinghamshire). The population of Bassetlaw is 111,700, 40% of whom live outside of Retford and Worksop. The rural communities are very diverse, ranging from small market towns and former mining communities, to very small hamlets.

The District is classified as a 'Rural 50 District' as at least 50 percent, but less than 80 percent, of the population lives within a rural settlement and larger market towns³. Within Bassetlaw 49,000 people are reported to be employed with 65% full-time and 35% part-time workers⁴. In parallel with the national rural economy, 30% of workers report employment in the following industries: manufacturing, wholesale, retail and human health and social care activities. Agriculture, forestry and fishing only employ 1.7% of the available workforce in Bassetlaw.

The National Statistics Socio-economic Classification (NS-SEC) provides an indication of socio-economic position based on occupation based in the economically active category (aged 16-74). NS-SEC report that 15,767 of employees in Bassetlaw work in lower managerial, administrative and professional industries⁵. This is the largest mass of employment in Bassetlaw and reaffirms the rural economy's strong service sector.

The second largest employment type is semi-routine occupations with 14,749 people employed in this sector, which is characterised by short-term employment and direct exchange of capital for labour.

Bassetlaw's rural economy is a diverse composition with parallels to the wider national rural economy. Much of the District's employment is found in the service sector, with many employed in semi-routine occupations which are found in every industry.

1.4 Concept of a new settlement

The growth of the garden city/village movement took place towards the end of the 19th century following on into the early 20th century, coinciding with the rising concept of sustainable living – the pursuit of the ideal social community. Ebenezer Howard is regarded as the founder of the principle with his book 'Garden Cities of Tomorrow'⁶. A mixture of private and public investments was to be made in order to raise the capital for the delivery phase, in essence, making it the interest for both private and public sectors that the community and concept was a success.

At this time the movement was designed to support significantly larger populations ranging from 10,000 to 45,000 residents, for the formation of towns with associated employment provision and allocation. Due to the size of these original proposals, the exact transfer of ideas cannot be exactly replicated on a smaller scale for a Garden village, therefore, some of the principles of the larger towns have been diluted

³ Bassetlaw District Council, *Working With Rural Communities*, <https://www.bassetlaw.gov.uk/everything-else/community-living/working-with-rural-communities.aspx> accessed 3rd November 2017.

⁴ Labour Market Profile, *Bassetlaw*, <https://www.nomisweb.co.uk/reports/lmp/la/1946157163/report.aspx?town=Bassetlaw#tabjobs> accessed 2nd November 2017.

⁵ Local Government Association, *Basic Facts about Bassetlaw District*, <http://reports.esd.org.uk/Reports/15?oa=E07000171&pa=E07000171%3AAdministrativeWard&a=E05006378> accessed 2nd November 2017.

⁶ Ebenezer Howard, *Garden Cities of Tomorrow*, (Swan Sonnenschein & Co., Ltd.: 1902)

or replicated on a smaller scale. Only two cities in the UK were developed along the concept of the Garden City those being Letchworth Garden City and Welwyn Garden City.

Due to the growing housing shortfall in the UK, the government are taking a pro-active approach to home and community building. Large new settlements have a key role to play in meeting this country's housing needs and providing a stable pipeline of housing into the future. The design and principles of the Garden City movement can be used to create viable and vibrant communities on a smaller scale.

In 2015 Lord Matthew Taylor worked to produce a policy exchange document titled 'Garden Villages: Empowering localism to solve the housing crises'⁷. The document prescribes the Garden Villages as a concept which can address the current housing crisis being experienced in the UK. The document provides several proposals in how communities can be constructed. Lord Taylor also created a template feasibility table which offers a broad outline of costs associated with the developments and potential profits the government will be capable of making if they went ahead with his proposals.

Concerns, however, have been raised that by putting emphasis on the feasibility of the communities, such as those of Lord Taylor's report, that the underpinning goal of the Garden Villages may be sacrificed as a part of cost-cutting measures leading to a watering down version of the urban model being applied. A consequence will be lower quality developments and unsustainable communities.

In January 2017 the DCLG published a report confirming the first new wave of garden villages⁸, the report lists locations which will have access to government funding to support the growth of new independent communities which will each hold between 1,500 and 10,000 homes. It is recognised that this new settlement falls outside of the timescales/scope of this programme. However, there is strong support in the recent Housing White Paper⁹ for development to allow rural communities to grow and make it easier to build new settlements, such as that proposed by BDC.

The Town and Country Planning Association (TCPA) have provided an overview regarding what the principles of the Garden Villages should be in light of the government's deliberate move to neglect to create a stringent template for proposals to work to. These identify the following principles:

- *"Land value capture for the benefit of the community.*
- *Strong vision, leadership and community engagement.*
- *Community ownership of land and long-term stewardship of assets.*
- *Mixed-tenure homes and housing types that are genuinely affordable.*
- *A wide range of local jobs in the Garden City within easy commuting distance of homes.*
- *Beautifully and imaginatively designed homes with gardens, combining the best of town and country to create healthy communities, and including opportunities to grow food.*
- *Development that enhances the natural environment, providing a comprehensive green infrastructure network and net biodiversity gains, and that uses zero-carbon and energy-positive technology to ensure climate resilience.*
- *Strong cultural, recreational and shopping facilities in walkable, vibrant, sociable neighbourhoods.*

⁷ Policy Exchange, *Garden Villages*, Lord Matthew Taylor, <https://policyexchange.org.uk/wp-content/uploads/2016/09/garden-villages.pdf> accessed 3rd November 2017

⁸ Department for Communities and Local Government, *First ever garden villages named with government support*, <https://www.gov.uk/government/news/first-ever-garden-villages-named-with-government-support> accessed 3rd November 2017

⁹ Department for Communities and Local Government, *Housing White Paper, Fixing our broken housing market*, <https://www.gov.uk/government/collections/housing-white-paper> accessed 3rd November 2017

- *Integrated and accessible transport systems, with walking, cycling and public transport designed to be the most attractive forms of local transport.”¹⁰*

The concept focused on the creation of pedestrian areas which heavily feature green infrastructure to develop a pleasant and welcoming atmosphere which would encourage people to walk/cycle around a settlement. A key goal of the movement was to be a settlement which can provide the basic services so that it becomes a sustainable location.

1.5 Policy Context for new Settlements

National Planning Policy Framework (NPPF) 2012

The NPPF is clear in its aims that nationally there needs to be a significant boost to the supply of housing. It sets out a clear agenda that Local Planning Authorities (LPAs) should be delivering a wider choice of high-quality homes, widen opportunities for home ownership and create sustainable, inclusive and mixed communities in a sustainable manner (paragraph 50).

The NPPF also requires LPAs to widen the opportunities for home ownership identifying size, type, tenure and range of housing that is required in particular locations, reflecting local demand. The Government wants to enable more people to build or commission their own home and wants to make this form of housing a mainstream housing option. The Initial Draft Bassetlaw Plan (IDBP) proposes a spatial strategy for the District alongside the vision and objectives that will run throughout the Bassetlaw Plan. This includes the proposed principles for strategic growth and organic developments across the District.

The three dimensions or overarching roles in the pursuit of sustainable development are economic, social and environmental:

- (i) **The economic role** is about contributing to building a strong and competitive economy, by ensuring that sufficient land of the right type is available in the right places at the right time to support the growth of innovation.
- (ii) **The social role** is about supporting strong, vibrant healthy communities, by providing a supply of housing to meet existing and future needs; by creating a high quality built environment with accessible local services.
- (iii) **The environmental role** is about protecting and enhancing our natural, built and historic environment, improving biodiversity, minimising waste and pollution and adapting to climate change.

In particular, paragraph 47 of the NPPF recognises that LPA’s should:

- *“Ensure their Local Plan meets the full, objectively assessed needs for market and affordable housing in the housing market area;*
- *Identify key sites which are critical to the delivery of the housing strategy over the plan period; and*
- *Identify a supply of specific and deliverable sites or broad locations throughout the longer term period”*

The Government has openly expressed support for different development concepts, notably new settlements providing for longer term development needs in a sustainable manner. Paragraph 52 of the NPPF notes that:

¹⁰ TCPA Garden City Principles <https://www.tcpa.org.uk/garden-city-principles>

Accessed 3rd November 2017

“The supply of new homes can sometimes be best achieved through planning for larger scale development, such as new settlements or extensions to existing villages and towns that follow the principles of Garden Cities. Working with the support of their communities, local planning authorities should consider whether such opportunities provide the best way of achieving sustainable development” (NPPF, Paragraph 52).

A recent paper by the DCLG expands on the Government’s support for different development concepts and demonstrates that the Government is taking action on a range of fronts to ensure the housing supply that is urgently required is actually delivered. One such action is the Governments’ Housing Programme outlined in the DCLG paper ‘Locally-Led Garden Villages, Towns and Cities’ (March 2016). Demonstrating support for proposals for new settlements of 1,500 – 10,000 homes, for the creation of new discrete settlements, engagement of local communities and the incorporation of good design to enable the creation of sustainable places. It is recognised that this new rural settlement/ rural extension falls outside of the timescales/scope of this programme. However, there is strong support in the recent White Paper for development to support rural communities to grow and make it easier to build new settlements, such as that proposed by BDC.

Initial Draft Bassetlaw Plan (IDBP)

BDC is currently in the early stages of preparing the Bassetlaw Plan- the new Local Plan for the District. This will replace the Core Strategy and Development Management Policies Development Plan Document. The IDBP sets the direction for Bassetlaw’s future, through the culmination of the collection and analysis of evidence.

The plan’s proposed spatial strategy for the District incorporates the role of sustainability and the recognition that sustainable patterns of growth should seek to balance social, economic and environmental needs. The approach to sustainability in Bassetlaw is being guided by a series of principles taking into account the current role of, and future potential for, Bassetlaw’s settlements and land to:

- *“Provide access to infrastructure and community services, with consideration given to the different character and capacity of urban and rural areas.*
- *Offer mutual support to each other in accessing infrastructure and community services.*
- *Provide the capacity to accommodate identified housing need.*
- *Provide opportunities for investment and growth in the inter-connected sub-regional, localised and rural economy.*
- *Adapt to future socio-economic demands for development and growth whilst balancing the need to conserve, mitigate and enhance local historic and natural characteristics.*
- *Safeguard local environmental qualities” (IDBP, Page 27).*

Strategic Proposal 6B

The strategic proposal draws on the sustainable development at the heart of the framework which is promoted within the IDBP, drawing on the concept of Garden Villages, Towns or Cities that the *“real and important benefits that people rightly expect are secured from the outset- quality design with cutting-edge technology, local employment opportunities, accessible green space near homes, high quality public realm”* (DCLG, 2016) and great places for great communities. It is understood the aspiration is to develop or expand a settlement with sufficient housing growth to trigger the need for new local infrastructure and ensure the character of the developed area uses innovative design principles and high standards of architecture as well as deliver high standards of energy efficiency.

It is our understanding that the Council wish to explore further a range of possible sites that would help the Council provide development and growth within Wider Rural Bassetlaw, to form part of policy and site allocations within the overall Bassetlaw Local Plan.

It is acknowledged that the approach for a new village draws upon on the approach to rural sustainability as set out in the IDBP which stipulates that any new or expanded rural settlement would need to be of a scale and in a location that would provide additional services, which would also address a shortage of services in surrounding villages. The aims of this feasibility study are:

- Potential economic, social and environmental benefits/impacts associated with the development of each site;
- Potential constraints to development (including advice on the number of houses required to deliver additional services in the rural areas);
- The on and off-site infrastructure required to support delivery;
- Site viability; and
- Key stakeholders to be involved in the delivery process.

One of the key documents used in the formulation and methodology of the study was the Bassetlaw Rural Settlement Survey (2016) Technical Statement & Evidence. The Council's document is dedicated to providing an overview of the local service provision in rural settlements across the District. Further details are included with the Initial Parish and Site Identification, see Chapter 2 below.

1.6 Environmental and Landscape Considerations

The approach to assessing the potential new settlement locations has been to use the NPPF as a starting point in drawing out the key issues to be considered in identifying a suitable location for a new settlement. These are set out below.

The NPPF sets out those areas where development should be restricted. This includes protected sites such as Sites of Special Scientific Interest (SSSI), Green Belt, designated heritage assets and areas at risk of flooding. Planning is also expected to contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, minimising impacts on biodiversity and conserving heritage assets, with an expectation that new development will not harm these or their setting.

In regards to the historic environment, paragraph 132 of the NPPF identifies that *“when considering the impact of any proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting”*. Development in Registered Parks and Gardens and on Scheduled Ancient Monuments would be restricted and all development would be expected to conserve heritage assets and not harm these; nor the setting of them.

Landscape sensitivity and landscape/visual impact are important considerations in identifying suitable locations for strategic development. New development will need to be sensitively designed to respect the landscape and avoid highly sensitive locations. It will also be important that the size and scale of any new settlement respects the relationship with existing settlements and to avoid coalescence and negative impacts on existing communities.

No potential location is likely to be free of potential development constraints or landscape/visual impact, and there is likely to be some ‘harm’ to the environment which will need to be considered against the potential social and economic benefits of the development proposed. Some constraints and the

environmental impact can be addressed, in part, through careful master planning and appropriate mitigation.

1.7 Scale and Critical Mass

New settlements comprise of a variety of different scales. In line with BDC objectives for delivering a new settlement in this District, the Study focuses on the capacity and site suitability for delivering a Garden Village rather than a Garden City.

The size and characteristics of a Garden Village are set out in Table 1.1.

Table 1.1: Size and key characteristics of a Garden Village (Source: Places for all ages: Delivering the Future Garden Village October 2015¹¹)

Size	500-5000 homes Timescales: 5-25 years
Key Characteristics	Expansion of existing small settlement(s) Within catchment of town or city Located on an existing transport corridor Partly or mostly self-sufficient in terms of local social infrastructure Small-scale employment, but most jobs in nearby towns and cities Housing market linked to larger neighbour

It is also acknowledged that development needs to be a sufficient size in order to provide the critical mass necessary to be capable of supporting a range of services and facilities on site to meet the needs of the future residents on site.

Table 1.2 below summarises the typical population thresholds for key services as set out in Alternative Spatial Growth Options Study – South West Bristol, prepared by Broadway Malyn¹².

Table 1.2: Population Thresholds for Services and Community (Source: Broadway Malyn¹³)

	Shaping Neighbourhoods	Urban Design Compendium	Urban Task Force	Average
Nursery/Primary School	2000	2500	2000	2000

¹¹ Barratt Development PLC, *Places for all ages: Delivering the future garden village October 2015*, <http://www.barrattdvelopments.co.uk/~media/Files/B/Barratt-Developments/materials-and-downloads/Delivering-the-Future-Garden-Village.pdf> accessed 7th November 2017.

¹² Broadway Malyn, *Alternative Spatial Growth Options Study*, (LD/19 August 2009) for North Somerset Council.

¹³ Ibid.

Primary/Middle School (2FE)	4000	4000	4000	4000
Secondary School	8000-16000		8000-16000	8000-16000
Health Centre	10000		10000	10000
Doctor's Surgery		2500-3000	3000	3000
Pharmacy			5000	5000
Local Shop	1500	2000-5000	2000	2000
Pub		5000-7000	6000	6000
Post Office	5000	5000-10000	5000	5000
Community Centre	4000		4000	4000
Local Centre	6000	5000-10000	6000	6000
District Centre	24000		24000	24000
Leisure Centre	24000		24000	24000

It is important to note that these figures are indicative, and the thresholds do not consider an individual site or the existing infrastructure capacities and deficits that may be present. The viability and delivery mechanisms for the chosen sites that have been brought forward as potential new settlement options have been examined in more detail in Chapter 5 of the Study.

2 Stage 1: Desktop Study

The Stage 1 desktop analysis aims to review the availability of land in Bassetlaw, with the objective of identifying suitable sites available for development and restricted areas that should be avoided. The desktop assessment was conducted using various tools detailed within this methodology. The work draws on methodology from The Bassetlaw Plan Sustainability Appraisal Scoping Report (March 2016) prepared by AMEC Foster Wheeler on behalf of the council¹⁴. This ensures the appraisal is aligned with the Local Plan process and provides evidence to why a potential site may be taken forward.

The aim of the study is to find an area of land which will meet the council's housing needs by being able to accommodate at least 1000 homes on a site size ranging from 50ha-150ha. The main objective was to identify land for housing purposes which can form an independent settlement without the drawback of coalescence with existing settlements.

The task involved identifying and categorising areas within Bassetlaw in order of their suitability for development with only the 'most' sustainable being taken forward to the next stage of the appraisal. As previously mentioned the research was primarily desk-based.

The outcome of the desk top study was to identify and take forward six sites that had been fully assessed as being potential areas to accommodate a new settlement. Further scrutiny was provided in the later Stage 2 Sustainability Appraisal.

The methodology details the various methods used, outlining the process and systems that were undertaken to research data and information about each of the sites. A rationale is provided that sets out the reasoning behind each of the selected sites being chosen while others were discounted from being taken forward.

2.1 Methodology

The following section details in a step-by-step process the analysis which was undertaken in the identification of potential parishes which have the capacity to deliver a new settlement.

Initial Parish and Site Identification

National Planning Policy Guidance (NPPG) sets out guidance for Councils when undertaking a desktop assessment for land availability. Paragraph 11 of the NPPG identifies that when carrying out a desk top review, *"plan makers should be proactive in identifying as wide a range as possible of sites and broad locations for development (including those existing sites that could be improved, intensified or changed). Sites, which have particular policy constraints, should be included in the assessment for the sake of comprehensiveness but these constraints must be set out clearly, including where they severely restrict development"*. The NPPG makes it clear that a site's exclusion from the appraisal process during a desktop review will only occur where no feasible development potential can be demonstrated due to the presence of overwhelming constraints that would severely restrict development. Sites which are only partially affected, should still be considered but tested again against the appropriateness of other previously defined constraints.

Paragraph 11 also identifies that *"Plan makers should not simply rely on sites that they have been informed about but actively identify sites through the desktop review process that may have a part to play in meeting the development needs of an area"*.

¹⁴ <https://www.bassetlaw.gov.uk/media/534069/Bassetlaw-Local-Plan-SA-Scoping-Report-FINAL-010316.pdf>

One of the main objectives for BDC is for the location of the new settlement to deliver benefits to existing rural communities which would also improve sustainability within rural settlements. Therefore, in order to refine the area of geographical search, the following documents that form supporting evidence as part of BDC's emerging plan, were used:

- *Bassetlaw Rural Settlement Survey (2016) Technical Statement & Evidence*
- *Bassetlaw Rural Settlement Study (2016) Understanding & Interpreting Sustainability in Rural Bassetlaw*

The '**Bassetlaw Rural Settlement Survey (2016) Technical Statement & Evidence**'¹⁵ was used to identify the location of all the rural parishes within the District. The information had been collected through "*a desktop study of Nottinghamshire County Council (NCC) held data and settlement surveys carried out visually by BDC Planning Policy Staff. The NCC held data relates to county wide infrastructure such as schools and bus services. The settlement survey data relates to more localised services, for which there are less reliable secondary sources of information, such as convenience retail and public houses*" (Bassetlaw Rural Settlement Survey [2016] Technical Statement & Evidence, Page 4).¹⁶

The data identifies the number of existing '*primary*' services found within each parish boundary (Bassetlaw Rural Settlement Survey [2016] Technical Statement & Evidence, Appendix B)¹⁷. BDC identifies primary services as "*Primary services are expected to be within a reasonable proximity to residents living in rural settlements and are considered to be used on a regular basis, or, when needed should be relatively close to rural residents*" (Bassetlaw Rural Settlement Survey [2016] Technical Statement & Evidence, Page 4)¹⁸.

The designated primary services are; convenience retail, GP Surgery, school (primary) and Post Office facility¹⁹. The data was collated by BDC Planning Policy team in 2016 using a desktop study.

In order to refine the broad geographic location of search, **parishes which contained a minimum of one of the primary services (either convenience retail, GP Surgery, primary school or Post Office facility) were taken forward as potential locations.** It is expected that further services and facilities would be provided as part of any new settlement that may come forward. In turn this would increase the rural sustainability between villages, not only enhancing existing services but also complementing those which were absent in neighbouring villages. The new settlement would increase the commercial viability for new services to locate in the rural areas and contribute to the sustainability of potential areas for growth.

Those parishes without any of the primary services were deemed unsustainable and were not automatically taken forward for further assessment, due to the rurality of these parishes.

Functional clusters of Bassetlaw's rural settlements are also identified within '*Bassetlaw Rural Settlement Study (2016) Understanding & Interpreting Sustainability in Rural Bassetlaw*'²⁰. The document refers to "*Functional clusters of settlements represent more sustainable locations to accommodate future growth*

¹⁵ *Bassetlaw Rural Settlement Survey (2016) Technical Statement & Evidence* last accessed 10th April 2018 <http://www.bassetlaw.gov.uk/media/615800/Rural%20Settlement%20Survey%202016.pdf>

¹⁶ Ibid

¹⁷ Ibid

¹⁸ Ibid.

¹⁹ The four services are taken from the ONS 2015 Indices of Multiple Deprivation which states that the closer a settlement is to one of the aforementioned services the less isolated the settlement is classed as.

²⁰ *Bassetlaw Rural Settlement Study (2016) Understanding & Interpreting Sustainability in Rural Bassetlaw* last accessed 10th April 2018 <http://www.bassetlaw.gov.uk/media/615800/Bassetlaw%20Rural%20Settlement%20Study%202016.pdf>

in rural Bassetlaw. Settlements outside of functional clusters, by virtue of their relative isolation from services, represent less sustainable locations for growth” (Bassetlaw Rural Settlement Study [2016] Understanding & Interpreting Sustainability in Rural Bassetlaw, Page 12).

The document outlines ten functional clusters within the documents; South West, Worksop & Villages, Retford & Villages, Tuxford & Markham, South East, Trent Corridor, Carlton & Langold, Harworth & Bircotes, Everton & Mattersey and North East cluster.

It is important to note that not all the clusters were used as to define the geographic locations. It was considered that parish boundaries offered a broader geographic scope, as not all of the primary services fell within these functional clusters.

In order to define a search area, a 2.5km distance was taken from the centre of each parish. This methodological approach was taken from BDCs, Sustainability Appraisal²¹ using 2km based on a maximum of a 5 minute journey by car plus a 0.5km buffer due to the rurality of the District²². The rationale behind this distance was to increase the level of sustainability of any potential new settlement and ensure that connecting rural parishes would also benefit from growth. These areas are detailed in Appendix 1.1.

GIS Mapping

Illustrated maps can be found in Appendix 1 (see Appendix. 1.2-1.34) for each of the parishes which were assessed as part of the study. The maps show the relevant environmental and landscape designations, as discussed below.

Table 2.1 and 2.2 provide a list of the physical and environmental designations which have been applied to the desk top mapping exercise. The designations and constraints are divided between those which posed as significant constraints (Table 2.1) where development should be restricted and consequently resulted in parishes/sites being discounted from further assessment. The remaining environmental and technical considerations that have a lower weighting (Table 2.2) are not considered to have significant restrictions. However, where there were a number of the lower weighted designations and constraints, this weighed as less favourable, as there were more appropriate locations elsewhere in the District.

The data sets which were used in the preparation of the maps can be found in Appendix 2 GIS Data Tracker.

Table 2.1 Environmental and Landscape designations which have significant weighting

Bassetlaw District Boundary	The boundary formed the primary parameters for the study to take place. Bassetlaw is located near major settlements such as Sheffield (West), Doncaster (North), Lincoln (East) and Mansfield (South).
Road Contour	The road contours were created to show a 2.5km driving distance from the centre of each parish. It is estimated that the 2km plus 0.5km buffer road contour would equate to a 5-minute car journey travel time and assists in identifying proximity with nearby services. BDC identified that 2km was a distance which would allow people to be able to have the option of walking or driving ²³ . The 500m was added as an additional buffer, due to the rurality of Bassetlaw and to ensure that potentially viable areas were not being discounted at too an early stage. The buffer permits more sites to be assessed as part of the Study. Services in a close proximity will improve the sustainability of the area as a lower travel times will be needed and the new settlement can utilise the existing services of neighbouring towns or villages. More rural areas located further out of the contours, were considered to be less sustainable as travel times would increase for residents travelling to basic services such as schools, shops, GP'S and a

²¹ Bassetlaw District Council, *The Bassetlaw Plan Sustainability Appraisal, Scoping Report* <http://www.bassetlaw.gov.uk/media/534069/Bassetlaw-Local-Plan-SA-Scoping-Report-FINAL-010316.pdf>
Accessed 7th November 2017

²² This search area was agreed with BDC during the course of the Study.

²³ Bassetlaw District Council, *The Bassetlaw Plan Sustainability Appraisal, Scoping Report* <http://www.bassetlaw.gov.uk/media/534069/Bassetlaw-Local-Plan-SA-Scoping-Report-FINAL-010316.pdf>
Accessed 7th November 2017

	Post Office. The distances were plotted from the centre of the parish, rather than a village centre, to ensure that the whole parish area was included.
Electricity Transmission Lines	Transmission lines serve as a major part of the national power infrastructure system. Due to their size and importance in terms of the study, they are significant constraints upon the potential designation of housing. Sites which may require the removal or work on these lines were likely to lead to viability issues for the site. The presence of these significant lines and pylons within a site would be a negative impact for future development.
Flood Zone 3	Identified as <i>“areas with a high probability of river or sea flooding”</i> from the government’s national guidance of Planning Practice. The NPPF paragraph 94 states; <i>“Local planning authorities should adopt proactive strategies to mitigate and adapt to climate change”</i> preventing construction of housing within land designated as Flood Zone 3. This will demonstrate the council adhering to national planning policy. Any sites which were located in Flood Zone 3 were discounted at an early stage.
Flood Zone 2	Identified as <i>“areas with a medium probability of river or sea flooding”</i> from the government’s National Planning Policy Guidance (NPPG). The NPPF paragraph 94 states; <i>“Local planning authorities should adopt proactive strategies to mitigate and adapt to climate change”</i> . While national policy does not discourage development in Flood Zone 2 to the extent of 3, it is considered that due to the amount of available land in Flood Zone 1 of the District, that development can be directed away from Flood Zone 2. Consequently, sites with Flood Zone 2 designations were identified as sub-optimal locations.
Grade I Listed Buildings	Paragraph 132 in the NPPF states <i>“Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.”</i> Due to the potential impacts from a new settlement on a Grade I listed building, areas/sites which contain Grade I buildings were discounted in the early stages of the assessment.
Grade II* Listed Buildings	Paragraph 132 in the NPPF states <i>“Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.”</i> Due to the potential impacts from a new settlement on a Grade II* listed building, areas/sites which contain Grade II* buildings were discounted in the early stages of the assessment.

Scheduled Monuments (SM)	Paragraph 132 in the NPPF states <i>“Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.”</i> Due to the impacts of building on a SM areas/sites which contain SMs were discounted in the early stages of the assessment.
Registered Parks and Gardens (RP&G)	Paragraph 132 in the NPPF states <i>“Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.”</i> Due to the impacts of building on a RP&G and their immediate boundaries, areas/sites which were located within or adjacent to RP&Gs were discounted in the early stages of the assessment.
Green Belt	Paragraph 79 of the NPPF states <i>“The Government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence.”</i> It is acknowledged that Bassetlaw has no Green Belt designation, however, the neighbouring authorities have Green Belt land which borders the District. The impacts on this designation was assessed and any such sites in close proximity were discounted due to this policy constraint and the availability of alternative land.
Ancient Woodland	Defined as an area that has been wooded continuously since at least 1600 AD. The NPPF says <i>“planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss;”</i> . Sites which have been identified as containing areas of Ancient woodland were discounted from the assessment at an early stage, as appropriate sites were available elsewhere in the District.
Sites of Special Scientific Interest (SSSI)	The NPPF Paragraph 118 states that applications <i>“should not normally be permitted”</i> in sites that contain a SSSI. Sites that contained an SSSI were discounted from the assessment as more appropriate sites without such a designation exist elsewhere in the District.
Agricultural Land Classification (ALC) Grade 1	This is regarded as the best and most versatile agricultural land, the NPPF recommends that development is diverted away from these locations to preserve it for future use. NPPF paragraph 112 states <i>“Local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land.”</i> Sites which consist of land

allocated as ALC Grade 1 were discontinued from the assessment as there were available areas outside this designation.

Below, Table 2.2 identifies the environmental and landscape designations which have lower significance in the process of selecting sites to be taken forward to the Sustainability Appraisal.

Table 2.2 Environmental and Landscape designations which are of lower significance

Railway Lines	Railway lines can act as a significant constraint as they can form a barrier to accessing development or lead to increased pressure on level crossings/bridges/underpasses. This has the ability to impact on the viability of development if significant upgrades/alterations are required. Noise and vibration impacts on future residents must also be taken into consideration when land is being developed near to train lines. Areas were assessed for the capacity to develop a new settlement without railway lines running through directly through sites or having to use railway crossings to access the site. Sites which avoided these constraints were assessed as being less constrained.
Overhead lines	Sites where there were large overhead lines/ pylons within an area were discounted, due to there being other areas without this physical constraint. It was recognised that there would be additional costs to underground overhead lines, but these may be feasible where they were smaller lines/sections or where the visual impacts were not of significant concern.
Grade II Listed Buildings	Paragraph 132 in the NPPF states <i>“Substantial harm to or loss of a grade II listed building, park or garden should be exceptional.”</i> Given the size of the site, there would always be a larger number of Grade II listed buildings which are likely to be present in close proximity. Areas were not discounted for containing Grade II buildings, but where there were large numbers or likely to be significant impacts, they were considered to be sub-optimal as alternative locations were available.
Historic Landfill	Defined as sites where a former landfill was present which has now been buried, closed or covered poses a constraint for sites which include it within the boundary. Avoiding sites with historic landfill were avoided where possible although it is recognised that remediation may be possible but would result in additional costs.
Local Wildlife Sites (LWS)	Also referred to as Sites of Importance for Nature Conservation (SINCs), the sites are locally designated and therefore do not carry the same weight as statutory designations. This designation would not prevent a site/area from consideration, if for example the loss of the LWS could be mitigated through the redevelopment of a site or there were extenuating circumstances for its removal. Where a LWS was present, this was considered on a case by case basis.

Potentially Contaminated Land	Definition taken from BDC website <i>“derelict and underused land which may contain substances in the ground that have the potential to cause harm to human health and the wider environment.”</i> ²⁴ Paragraph 17 of the NPPF’s core planning principles encourages <i>“the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value;”</i> as a consequence sites that were brownfield were viewed favourably and taken forward for further assessment.
Local Nature Reserve (LNR)	LNR sites are locally designated and therefore do not carry the same weight as statutory designations. While this designation would not discount a site from further consideration, it would be seen as less favourable, and appropriate mitigation would need to be considered to assess its loss.
Conservation Areas	Paragraph 133 in the NPPF states <i>“Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent”</i> . Paragraph 134 identifies that <i>“Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use”</i> . As the study focused on the development of new settlements it was rare that conservation areas were present on sites under consideration. When conservation areas were located nearby, the impacts on the conservation area and views in and out were considered, taking into account intervening distance, topography and buildings, as well as identifying if any appropriate mitigation could be proposed to avoid any harm on the conservation areas.
ALC Grade 2 and 3a.	Grade 2 and 3a land that falls within the best and most versatile agricultural land, and development is recommended to be diverted away from these locations to preserve it for future use. However, the NPPF paragraph 112 states <i>“Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality.”</i> Where sites contain ALC Grade 2 they have been considered as less favourable unless mitigating circumstances apply. The national datasets do not provide a breakdown of the difference between Grade 3a and 3b, and therefore at a desktop, level Grade 3 land could not be discounted at this stage.

²⁴ Bassetlaw District Council, *What is contaminated land?* <http://www.bassetlaw.gov.uk/everything-else/environmental-health/pollution-control/contaminated-land/what-is-contaminated-land.aspx>

Last accessed 7th November 2017

2.2 Results

The previous sections contribute to the final categorisation of the individual parishes. The results of the selection process, as outlined at the beginning of the report, was to find up to six sites which were considered appropriate to be taken forward to Stage 2 of the study.

This section provides a summary of the outcomes and results from the Stage 1 of this study, detailing the findings of the initial research in identifying viable locations for settlements. For full details of the results please refer to Appendix 3 Parish Categorisation which provides the comprehensive analysis and findings from the research, detailing the constraints and opportunities for each parish.

For each settlement, the designations, constraints and services were analysed. The maps in Appendix 1 have been generated for each parish. Measurements have been taken from the centre of each parish. The resulting summary was used to allocate the sites as either one of three categorisations. The categories are displayed in a Red, Amber and Green (RAG) format which can be seen in the table from Appendix 3. Each parish has a corresponding map within the Appendix which can be viewed in tandem with the reading of the table.

A breakdown of the meaning of each of the categories are as follows;

Category 1 (Green): An area with good potential to accommodate a new settlement, with little or no limitations affecting the area. Parishes with areas that fell within this category were taken forward to stage 2 of the study. A Sustainability Appraisal was undertaken for each of the sites.

Category 2 (Amber): An area with potential to accommodate a new settlement with a few constraints directly affecting any potential site. Parishes which have sites which fell into this category were not taken through to stage 2 as more appropriate locations exist elsewhere in the District.

Category 3 (Red): An area with significant constraints which would potentially impact on the development of a new settlement. Parishes categorised as red are considered the least suitable areas for a new settlement due to the number of designations and constraints. **Parishes in category 3 were not taken forward for further.**

Outcome and Findings

From the Stage 1 Assessment, the parishes that performed the strongest were identified to be taken forward to the Sustainability appraisal in Stage 2 (see Appendix 3). The parishes that performed the strongest contained fewer constraints and designations as detailed in Appendix 3, the results of this are summarised below:

- **Green:** Beckingham, Carlton in Lindrick, Clarbrough and Welham, Darlton, Elkesley, Gamston and Hodsock (Part of East Drayton falls within the Darlton parish 2.5km road contour);
- **Amber:** Babworth, Blyth, Gringley on the Hill, Mattersey, Misterton, North Leverton with Habbleshthorpe, Rampton, Ranskill, Shireoaks, South Wheatley, Tuxford and Walkeringham;
- **Red:** Cuckney, Dunham-on-Trent, Everton, Misson, Nether Langwith, Normanton on Trent, Rhodesia, Sturton Le Steeple, Sutton, Welbeck and West Markham.

Table 2.3 below details the rationale for the parishes that are considered as potentially suitable locations to accommodate a new settlement.

It is important to note that some of the parish maps and the 2.5km road contours (taken from the centre of each parish) overlap with different parishes, this also includes some parishes that do not have any primary services. For example, the 2.5km road contours link the parishes of Gamston and Elkesley. As a result the connecting parishes have been clustered into five parish groupings.

Table 2.3 Parish Selection			
Parish Groupings	Map Reference	Services	Rational
Beckingham	Appendix 1.3	Convenience Retail - 1 GP Surgery - 0 School - 1 Post Office Facility - 1	Beckingham parish contains 3 out of 4 primary services and is in close proximity to other settlement clusters, meeting a key BDC objective. The A631 runs through the parish in a north to south direction. The west of the parish consists of flat and undesignated land which could be suitable for development.
Carlton-in-Lindrick and Hodsock	Appendix 1.5 Appendix 1.4 Appendix 1.15	Convenience Retail - 3 GP Surgery - 1 School - 2	Carlton-in-Lindrick is the strongest parish out of all those reviewed, in terms of having multiple primary services plus other secondary services. Furthermore, the parish is in close proximity to several other parishes, particularly Hodsock which also contains several primary services. A new

		Post Office Facility - 2	settlement could provide additional services and facilities which would be mutually beneficial for both the new and existing communities in this area, as well as enhance existing services located here. Especially if the new settlement could be located along the 2.5km road contours which link the Carlton in Lindrick and Hodsock parishes. Carlton in Lindrick also has a good road network to larger settlements such as Worksop.
Clarborough and Welham	Appendix 1.6 Appendix 1.26	Convenience Retail - 1 GP Surgery - 0 School - 1 Post Office Facility - 1	The parish of Clarborough and Welham is in close proximity to Retford a major market town in Bassetlaw. This is a strength of the parish as there are good road networks to this larger settlement. Furthermore, railway lines run through the south of the parish which provide connections to the wider area, but also act as a physical constraint. Flood zone 2 forms a natural barrier between Retford and Clarborough and Welham to the west of the parish. The east is characterised by farmlands. However, there is limited potentially contaminated land, heritage assets and SSSI's which are not considered to prevent development in the eastern areas.
Darlton	Appendix 1.8	Convenience Retail - 1 GP Surgery - 0 School - 0 Post Office Facility - 0	Darlton's 2.5km road contours help connect it to surrounding parishes particularly East Drayton. Between the two parishes there is only one primary service, therefore allocating a new settlement here could help create inter-connected village clusters for the purpose of joint service provision. North to west and the south east boundaries contain flood zones 2 and 3. The northern perimeter where settlements are found contain several heritage assets. The land is characterised as being relatively flat making it suitable for development. Taking advantage of the requirement for inter-connected village clusters, a new settlement could be located along the 2.5km road contours emphasising the shared service provision.
Gamston and Elkesley	Appendix 1.11	Convenience Retail - 0 GP Surgery - 0	Gamston is well connected to the village of Elkesley, West Markham and the A1 runs adjacent to the south of the parish. Furthermore, there is a direct route to Retford along the A638. Clearly, the site is interconnected to the

	Appendix 1.13	School - 1 Post Office Facility - 0	surrounding rural clusters but also to the wider Bassetlaw area. Although the village is lacking in key services its interconnectivity increases the strength of the parish as a suitable area for development. Much of the parish is ALC grade 2 land, however a large portion is also brownfield (Gamston Airport). National policy supports the redevelopment of previously developed land over green field sites. Consequently, this Gamston parish should be investigated further for new settlement allocation.
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Two sites were submitted, by third parties, to the Council through the Issues and Options Consultation in October/November 2016. Both parties are promoting the sites for new settlements as part of representations on the draft Bassetlaw Plan. These two sites at the Former Bevercotes Colliery and Gamston Airport, fall within the following parishes, **Bothamsall and Gamston** and are discussed in more detail in Table 2.4 below.

They have been included in this assessment in order to determine their suitability for a new settlement. Gamston parish scored as a Category 1 (green) area, as a parish that showed good potential to accommodate a new settlement. Bothamsall parish had not been taken forward for assessment as a potential area to accommodate a new settlement as it did not contain any primary services as listed in Appendix B of the Bassetlaw Rural Settlement Survey [2016] Technical Statement & Evidence²⁵. The parish area was assessed in more detail to determine whether there was potential to accommodate a new settlement in this area.

Table 2.4 Sites known to the Council

Parish	Map Reference	Services	Rational
Bothamsall is adjacent to Elkesley, to the north and West Markham is to the south (Former Bevercotes Colliery)	Appendix 1.11 Appendix 1.32 Appendix 1.33	Convenience Retail - 0 GP Surgery - 0 School - 0 Post Office Facility - 0	The Former Bevercotes Colliery is sited wholly within Bothamsall parish. The 2.5km road network of the neighbouring parish of West Markham also connects into the Bevercotes site. Bothamsall parish has some Grade 2 ALC land and LWS to the east and north of the parish. There is also an area of Flood Zone 2 and 3 that runs along the course of the river Meden to the south of the parish, restricting development in these areas. There are also electricity

²⁵ Ibid

			<p>transmission lines that run through the east of the parish (in a north to southerly direction).</p> <p>The site is known to the Council and is available to come forward for development with only one landowner. The site is a former colliery that has not been through remediation in planning terms and is classed as previously developed. Paragraph 17 of the NPPF encourages as a core planning principle, <i>“the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value”</i>. There is strong national policy support for bringing forward sites that are previously developed.</p> <p>It is acknowledged that Bothamsall parish does not have any primary services and West Markham parish scored red due to the physical constraints in the area. However to the north of the parish is Elkesley parish, which scored as a Category 1 (green) area in terms of having good potential to accommodate a new settlement. Being situated within close proximity to this parish that already contains two primary services as well and good connectivity, would also benefit a development for a new settlement within the parish of Bothamsall.</p> <p>There is also a large area of previously developed land within the parish. The parish’s strengths are its connectivity to other parishes that have a good level of services including Gamston, Tuxford, East Markham and Elkesley. The delivery of the site would also facilitate stronger inter-connectivity to these rural village clusters. It is also acknowledged that a new settlement could bring much needed services to this area, increasing the site’s sustainability credentials.</p> <p>Bevercotes Colliery has a good existing access onto the B6387 and there are opportunities to provide additional accesses into the site. Furthermore, it has excellent access onto the A1 north and south bound. The site is approx. 1.4km away from the nearest A1 junction. The B6387 bounds the site to the north of</p>
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			<p>the site provides a north and southbound access point to the A1. There is a second northbound access point along West Drayton Avenue.</p> <p>There is a second junction onto the A1, to the south east of the site at Markham Moor, which is accessed via Bevercotes Village and Markham Moor roundabout from Main Street (approx. 3.4km).</p> <p>It is acknowledged that there is a LWS on the site, however suitable mitigation could be employed on this particular previously developed site to mitigate any impact from development and enhancements could result in net biodiversity gains.</p> <p>The strengths of this site's availability, connectivity and potential to deliver a large scale settlement, as outlined above, are considered to be material considerations in taking this site forward into the next stage of the assessment.</p>
Gamston (Gamston Airport)	See table 2.3 above.	See table 2.3 above.	<p>See table 2.3 above for assessment of Gamston parish.</p> <p>The site is known to the Council and is available to come forward for development with only two known landowners. The site is an old RAF base currently in operation as a commercial airport, and therefore has large areas of previously development land. Paragraph 17 of the NPPF encourages as a core planning principle, <i>"the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value"</i>. There is strong national policy support for bringing forward sites that are previously developed.</p> <p>Whilst the site would result in the loss of the existing business, there is an opportunity to bring a greater number of net sustainability benefits (economic, social and environmental) to the site and area through its redevelopment as a new settlement. The site also has good existing access</p>

			<p>points to the highway, and a number of access routes could be developed throughout the site.</p> <p>Gamston benefits from having a north and southbound access onto the A1 which is approx. 1km south of the existing entrance to Gamston Airport. The east of the site is bounded by the B6387 which leads onto the slip road providing access to the A1 southbound. Travelling further along the B6387 over the A1 there is a slip road to the left which grants access onto the A1 northbound. West of the site is Brick Yard Road and Jockey Lane which provide access another junction that has north and southbound access to the A1. As part of the potential works and masterplanning, upgrading the access to these roads would allow for greater accessibility onto the A1 for this site.</p> <p>The delivery of the site would also facilitate stronger inter-connectivity to rural village clusters in neighbouring parishes. It is also acknowledge that a new settlement could also bring much needed services to this area, increasing the sites sustainability credentials.</p> <p>The strengths of this site's availability, connectivity and potential to deliver a large scale settlement, as outlined above, are considered to be material considerations in taking this site forward into the next stage of the assessment.</p>
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Site Selection Process

In addition to the two sites submitted (table 2.4), it was then fundamental to identify, from the parish groupings identified, other sites which had the potential to be brought forward for a new settlement. An ideal site would be around 100 ha²⁶ in order to accommodate at least 1000 new homes in line with BDC's objectives and also ensure that the site could accommodate a new settlement without resulting in coalescence with existing settlements and have the potential for future growth. Areas adjacent to the 2.5km road contour network were then reviewed for suitable site locations. Site boundaries were identified in the areas of the parish that were the least constrained, where there were no boundaries directly adjacent to existing settlements, identifying areas which would result in

²⁶ Please note this is an indicative figure and not set at minimum/maximum threshold.

the loss of the least amount of existing development (such as dwellings, farmsteads and commercial buildings) and a location that would provide the maximum benefits to the existing villages and nearby parishes.

The site selection process looked at the physical, environmental, landscape and technical constraints within each parish boundary. Any existing land uses and developments in the nearby area that also had the potential to result in significantly harmful impacts on the future residents, were also taken into account when determining the individual site areas.

Appendix 4 shows the boundaries of the six sites that were identified and their locations within the parishes. These sites are known hereafter as, Gamston Airport, Former Bevercotes Colliery, Land North of Darlton, Land East of Claborough, Land West of Beckingham and Land East of Carlton-in-Lindrick.

The site selection process within each parish is explained in more detail in table 2.5 below. It is important to note that the boundaries drawn at this stage are not fixed but they provide an indicative site boundary, which was required in order to measure the site against the Sustainability Appraisal criteria outlined in Stage 2 (some criteria is distance specific).

Table 2.5 Site Selection

Parish	Site	Map Reference	Rationale
Gamston	Gamston Airport	Appendix 6. Figure 1	<p>Much of the land in the centre and to the east of Gamston parish is undeveloped ALC grade 2 land which would be much less suitable for development (NPPF seeks to protect the best and most versatile land, particularly where lower ALC grade land is available). In the north east of the parish exists potentially contaminated land, a SSSI, Local Wildlife Site and a historic landfill. A railway runs in a south east to north direction through the parish. When reviewing the geographical locations of these technical, physical and environmental constraints, when combined together, they constrain development on this side of the parish.</p> <p>Gamston Airport does not contain any identified designations or constraints from the desktop mapping exercise apart from an area that is shown to being potentially contaminated due to its current use as an airport. The site contains some ALC grade 2, however this designation also covers the airport site which is currently hardstanding. Given that there is only a small amount of agricultural land between the hardstanding, the majority of the site is considered to be previously developed. This type of brownfield land is</p>

			supported for development under current national policy. The site is located between the settlements of Gamston and Elkesley, and the new settlement could provide further services to benefit these existing rural villages. The site is close to key transport corridors such as the A1. Gamston Airport has been brought forward to the Council via a representation on the IDBP.
Bothamsall adjacent to West Markham	Former Bevercotes Colliery	Appendix 6. Figure 2	<p>The Former Bevercotes Colliery site is currently vacant and designated as a LWS. The site lies within the 2.5km road contour for the parish of West Markham which was classified as red. However the site is classed as previously developed land (brownfield) and development of the site would accord with the NPPF and the Government's current policy direction on 'brownfield land', as set out in the draft NPPF consultation paper (March 2018).</p> <p>The site is close to the existing settlements of Elkesley, Gamston and West Markham, and has the opportunity to enhance existing rural service provision within this area and increase connectivity between the parishes. Landowners of Bevercotes Colliery have an extant planning permission to redevelop the site for storage and distribution use (Ref: 09/05/00002).</p> <p>When reviewing the wider area (both Bothamsall and West Markham), to the east is undeveloped ALC grade 2 land. Development would be more favourable on previously developed land rather than green field. Large sections of land fall into flood zone 2 and 3 due to the river valley located to the north of the parishes, posing a significant risk to potential development. Developing further west could also have detrimental impact on a number of heritage assets, including conservation areas, listed buildings and scheduled monuments, and development located to areas where there are less constraints.</p>
Carlton-in-Lindrick	Land East of Carlton-in-Lindrick	Appendix 6. Figure 3	Land east of Carlton-in-Lindrick is undesignated land with no physical constraints. The level of services in the location is a major strength to the site as it contains the most primary services for the parishes that were reviewed. Furthermore, the site has good road links and access to larger areas such as Worksop. Developing a new settlement in this location could meet several objectives for developing Garden Villages, in terms of proximity to larger settlements and self-sufficient services. However, the proximity of a number of existing

			settlements in this location could result in coalescence which would need to be assessed when locating the site. Possible sites to the south and south east were considered unsuitable due to the potential impacts on a Grade1 listed building and an unscheduled monument. Furthermore, the connectivity performed less well here when compared to land east of Carlton-in-Lindrick.
Clarborough and Welham	Land East of Clarborough	Appendix 6. Figure 4	Land east of Clarborough has one LWS and a small amount of potentially contaminated land. However, the parish contains most of the primary services and is in close proximity to Retford, a major urban area in Bassetlaw. A settlement located here would benefit from the existing transport connectivity and service provision. This could be mutually beneficial for both the existing settlement and that proposed. Land to the west of Clarborough was considered to be unsuitable due to an area of flood zone 2 and there would be a potential risk of coalescence with Retford.
Beckingham	Land West of Beckingham	Appendix 6. Figure 5	Land west of Beckingham runs adjacent to the south of the A631 and is undesignated without existing constraints. It is also in close proximity to the settlement of Beckingham which contains most of the primary services other than a GP. Opportunity exists here to use existing primary services and provide others. This will allow for the site to potentially contribute to the inter-connectivity of rural clusters for service provision. The site was considered more appropriate than land east of Beckingham. This is due to constraints such as flood zone 2 and 3, RSPB Reserves, overhead lines and LWS's.
Darlton (adjacent to East Drayton)	Land North of Darlton	Appendix 6. Figure 6	The site falls within East Drayton parish and is directly north of Darlton which is connected via the 2.5km road contours that have been drawn around the Darlton and East Drayton parishes. This area is considered suitable for development as there are no physical constraints and land designations. Direct service provision in the East Drayton parish is limited however there is proximity to services within nearby parishes. The site would also encourage the inter-connectivity of rural villages through increased service provision. Land to the south of Darlton was considered to be more isolated to the existing settlements when compared to the north. Allocating a site here could result in less opportunities to benefit the nearby rural villages, when compared to the north.

These six sites have performed the strongest when assessed against the criteria. However, further site analysis will have to be conducted in Stage 3 to identify which sites would be the most sustainable to support a potential new settlement. Further assessment will involve undertaking a Sustainability Appraisal and reviewing transport links, service provision, the identification of any significant harm upon heritage assets, and how a new settlement may increase service provision in any adjoining settlements.

*Caveat: The site areas have been drawn where possible up to a 100 ha to suitably accommodate the housing targets required by this study. It is recognised that some sites will be below this threshold. At this stage, indicative site areas were required to be drawn in order to undertake the site measurements for the Sustainability Appraisal.

3 Stage 2: Sustainability Appraisal

This Stage 2 Sustainability Appraisal (SA) seeks to appraise the relative sustainability performance of each of the potentially suitable sites identified in Stage 1. Those locations taken forward can be seen in Appendix 4.

3.1 Methodology

This draws on the methodology from the Sustainability Appraisal Framework methodology from The Bassetlaw Plan Sustainability Appraisal Scoping Report (AMEC FW, March 2016). Ensuring the appraisal is aligned with the Local Plan process. Further desktop assessment was also undertaken using Google Maps (2017) to identify whether any of the services had changed from those identified in the Bassetlaw Rural Settlement Study (2016) Understanding & Interpreting Sustainability in Rural Bassetlaw.

BDC has identified a range of sustainability issues that are relevant to the Local Plan and characteristics of the District. These sustainability issues have in turn informed the sustainability framework that has been used to appraise the effects of the Local Plan. The framework contains a series of sustainability objectives and guides questions developed to reflect both the current socio-economic and environmental issues which may affect or be affected by a new settlement. Broadly, the SA objectives define long-term aspirations for the District in relation to social, economic and environmental considerations.

Bassetlaw DC has developed a further set of SA objectives and associated thresholds that are tailored to the appraisal of spatial site options, as presented in Table 4.7 Proposed Site Appraisal Criteria of the Bassetlaw Plan Sustainability Appraisal Scoping Report (March 2016). It is against these objectives that the sustainability performance of the potential settlement sites identified in Stage 1 has been appraised, see Appendix 4 for a map of the six sites. It should be noted that the following modifications have been made to these SA objectives:

Method Site Appraisal SA Objectives

Air Quality: AMEC FW was unable to identify specific site-level criteria for air quality issues and there are currently no proposals to designate an Air Quality Management Area (AQMA) within the District. This SA objective has therefore been discounted from the SA.

Climate Change: AMEC FW was similarly unable to identify specific site-level criteria for climate change issues such as minimising greenhouse gas emissions and adapting to the effects of climate change, and this SA objective has also been discounted from the SA. Climate change issues are to some degree picked up by other SA objectives (e.g. flood risk and access to sustainable transport modes), whilst non-transport greenhouse gas mitigation will be determined largely by the particulars of development rather than the development site itself.

Biodiversity - Presence of Protected Species: The site appraisal SA objective relating to the presence or absence of protected species have been discounted. This is because ecological records from statutory and non-statutory wildlife bodies may reflect survey effort rather than actual site conditions. For example, a lack of records of protected species at a particular site may result from the area not having been surveyed and cannot be taken to mean the area has no protected species. Protected species and habitats will be addressed as part of the detailed Stage 3 site assessment.

Housing - Number of New Dwellings Proposed: The aim of delivering a number of new dwellings is a constant across all potential sites and largely unrelated to the site themselves, therefore, this element of the housing SA objective has been discounted. The SA instead considers any likely loss of existing housing only at each site.

Economy & Skills - Net Employment Land Proposed: The aim of safeguarding and accessing employment land is a further constant across all potential sites, therefore, the creation of new employment land is discounted, with the SA instead focussing on remaining elements of this objective including any potential loss of existing employment land and proximity to key employment sites

Economy & Skills - Proximity to Employment Sites: Central Worksop, Gainsborough and Retford are all assumed to provide key employment sites in the absence of further information on the location of such sites within the District.

Regeneration & Social Inclusion – Distance to Town Centres: The distance of each potential new settlement site to existing town centres has been assessed separately to their distance from key services but using the same distance thresholds (i.e. within 800m, within 2km, in excess of 2km).

Regeneration & Social Inclusion – Provision of Community Facilities & Services: The aim of safeguarding and accessing community facilities is a further constant across all potential sites, therefore, the creation of new community facilities and services are discounted, with the SA instead focussing on any potential loss of existing community facilities and services only.

Health & Wellbeing – Provision of Open Space and Health Facilities: The aim of safeguarding and accessing open space and health facilities is a further constant across all potential sites, therefore, the creation of new open space and health facilities is discounted, with the SA instead focussing on any potential loss of existing open space and health facilities only.

Transport – Impact on Highway Network: AMEC FW recognises that the appraisal of potential impacts on the highway network needs to be based on information provided by developers and professional judgement, therefore this SA objective is discounted. The site appraisal SA objective for transport instead focuses on remaining elements, namely access to existing sustainable transport modes and services including bus stops, railway stations and cycle routes.

Water – Requirement for New or Upgraded Water Management Infrastructure: AMEC FW also recognise that the appraisal of the need for new or upgraded water management infrastructure needs to be based on information provided by developers and professional judgement, therefore this SA objective is also discounted. The site appraisal SA objective for water instead focuses on the remaining element being the proximity of the sites to water bodies.

Resource Use & Waste – Development in Minerals Safeguarding Areas: Mineral Safeguarding Areas no longer form part of the Local Plan and this site appraisal SA objective is therefore discounted.

Cultural Heritage – Effects on Designated Heritage Assets: It is difficult at this desk-based stage to appraise likely effects of development at each potential site on designated heritage assets. To ensure heritage issues are considered by the SA, however, this objective has been revised to assess the presence or absence of listed buildings or conservation areas both within each site and within 2km of each site. The potential for adverse impact or enhancement to such existing heritage assets as a result of development at each site will be considered as part of the Stage 3 Landscape Assessment.

Landscape & Townscape – Effects on Landscape Character & Townscapes: It is also difficult at this desk-based stage to appraise likely landscape or townscape effects of development at each potential site. To ensure such issues are considered by the SA, however, this objective has been revised to assess the presence or absence of Registered Parks and Gardens both within each site and within 2km of each site. Potential landscape and townscape effects resulting from the development of each site will be considered as part of the Stage 3 Landscape Assessment.

The permanence of effects against the SA objectives has not been considered as all effects are assumed to be permanent. Similarly, the timescale of effects is not considered given all effects are assumed to be short to medium term, where long-term is understood as extending beyond the plan period.

Information on the location of primary services and facilities (convenience retail, GP surgeries, schools and post offices) within the District is taken from Appendix B of the Bassetlaw Rural Settlement Study (2016), supplemented with additional desk-based research (e.g. Google search/maps).

The assessment of how the potential settlement sites respond to each tailored SA objective is reflected through the use of the Red, Amber and Green (RAG) rating system, as identified in the pre-Bassetlaw Local Plan Sustainability Appraisal methodology.

Table 3.1 SA Scoring System		
Score	Description	Symbol
Significant Positive Effect	The proposed option/policy contributes significantly to the achievement of the objective.	++
Minor Positive Effect	The proposed option/policy contributes to the achievement of the objective but not significantly.	+
Neutral Effect	The proposed option/policy does not have any effect on the achievement of the objective	0
Minor Negative Effect	The proposed option/policy detracts from the achievement of the objective but not significantly.	-
Significant Negative Effect	The proposed option/policy detracts significantly from the achievement of the objective.	--
No Relationship	There is no clear relationship between the proposed option/policy and the achievement of the objective or the relationship is negligible.	~
Uncertain	The proposed option/policy has an uncertain relationship to the objective or the relationship is dependent on the way in which the aspect is managed. In addition, insufficient information may be available to enable an appraisal to be made.	?

Discussion of SA Results

The Stage 1 sieving process ensured none of the four sites identified by the process is subject to key sustainability constraints such as flood risk, agricultural land classification or statutory nature conservation designations. Similarly, the two sites established through representation on the draft local plan process are located outside these constraints. The following sections, therefore, focus instead on remaining sustainability objectives where variation in performance across the sites has been established, and therefore where the principal considerations lie regarding whether sites are discounted or taken forward for detailed analysis at Stage 3.

3.2 Results

Below are the results of the SA per identified site. This section draws out and elaborates on the strengths and weaknesses of the environmental and physical constraints. **Please refer to Appendix 5 for the detailed Sustainability Appraisal of each site.**

The sites were assessed against the sustainability objectives as discussed in section 3.1. The results show that the three sites taken forward for further consideration, as detailed below, performed better against the SA objectives than the three discounted sites.

The three sites that contained the most positive scores and were subsequently carried forward for detailed assessments are:-

1. Gamston Airport
2. Former Bevercotes Colliery
3. Land East of Carlton-in-Lindrick

The three sites that were discounted due to fewer positive credentials are:-

4. Land East of Claborough
5. Land West of Beckingham
6. Land North of Darlton

Please see below for a detailed analysis of the six sites appraised against the sustainability objectives, this should be read alongside Appendix 5.

Site 1 Gamston Airport (See Appendix 6 Figure. 1)

The Gamston Airport site came forward to the SA process as a representation during the consultation period of the draft Local Plan responding to the proposal for a new garden village. This mixed green field/brownfield site is located some 4.8 km south of Retford, the nearest town centre, and whilst there are no bus stops/services directly adjacent to the site, Retford is accessible within 30 minutes through a combination of walking and public transport (buses from Elkesley and number 37 bus from Gamston), thereby enabling access to key employment sites via sustainable transport modes. The site also benefits from excellent access to existing primary services, is located within 800m of both Gamston and Elkesley villages which between them provide convenience retail, primary schools, post office (Elkesley Memorial Hall), and medical centre including pharmacy. The single key service not present within 800m is a secondary school, however, Tuxford Comprehensive is located approx. 8km south-east.

The site is not affected by statutory international, national or local nature conservation designations or Regionally Important Geological Sites (RIGS). It is located in an area at low risk of flooding (Flood Zone 1), although an area at high risk of flooding (Flood Zone 3) is located some 150m to the east. No heritage assets are located on or in close proximity to the site. The site appears to have no potentially unsuitable neighbouring uses, and indeed the cessation of airport operations as a result of its development would likely benefit surrounding uses such as residential properties from reduced aircraft noise etc.

The site achieves the largest number of positive outcomes against the SA objectives (four minor positive effects) reflecting good access to key services and employment as well as the previously development nature of the site. The single significant negative effect relates to the loss of employment land through

cessation of airport operations. However, the scale of employment opportunities is likely to be relatively limited and it should be recognised that the airport's landowner has brought forward the redevelopment of the site through the draft Local Plan, thereby bringing into question the longer term business at the site. It must also be recognised that the site contains a large area of previously developed land, which is supported for redevelopment by national planning policy.

The Gamston Airport site is therefore taken forward to detailed Stage 3 analysis.

Site 2 Former Bevercotes Colliery (See Appendix 6 Figure. 2)

The Former Bevercotes Colliery site also came forward to the SA process via representation on the draft Local Plan consultation period identifying a broad location for growth. The site achieves the second highest number of positive outcomes against the SA objectives (one significant positive effect, two minor positive effects) reflecting the brownfield nature of the site and its access to key services and public open space. The presence of this open space would require a sympathetic response by any development proposals. No statutory national or international nature conservation designations affect the site. Although the site does contain a managed Forestry Commission nature reserve and a large portion is covered by a LWS (non-statutory) designation. However, the principle of developing and mitigating the site have been accepted through an extant commercial development permission. The site is located in an area at low risk of flooding (Flood Zone 1), however, Flood Zone 2/3 is located some 300m to the east and the site is bounded by water bodies including the River Meden the presence of which accounts for the single significant adverse effect.

No heritage assets are present on, or in close proximity to the site which also appears to have no potentially unsuitable neighbouring uses. Whilst no town centres are accessible within 30 minutes travel by public transport, there are also existing bus services from Elkesley so there could be the opportunity to extend these services as part of delivery of a new settlement. The site performs well overall and the Former Bevercotes Colliery site is also taken forward to detailed Stage 3 analysis.

Site 3 Land East of Carlton-in-Lindrick (See Appendix 6 Figure .3)

Site 3 Land East of Carlton-in-Lindrick was also identified during Stage 1 as a potentially suitable site for a new settlement. The site has good access to existing key services, such as retail, a school and post office as well as employment sites within Worksop town centre. In this regards the SA scores the site with two minor positive effects.

However, because of the geographical distance, Worksop is the nearest town centre at 6.8km south of the site and scores the site a minor negative effect. Furthermore, the proximity to public transport services is scored a minor negative effect too. This is because the nearest bus stop is 810m west, resulting in the site just missing out on the minor positive score. However it's likely that the existing bus services could be extended with the development of a new settlement.

Whilst the site is grade 3 ALC and not brownfield land, it is worth taking forward for further consideration due to its proximity to services and facilities in Carlton-in-Lindrick and accessibility to wider services and facilities provided in Worksop.

A number of waterbodies are present on site, which the SA appraisal criteria deem a significant negative effect in the context of conserving and enhancing water quality and resources. The potential may exist however for such existing features to form part of a sustainable drainage system (SuDS) to provide suitable management of surface water run-off whilst contributing to biodiversity enhancement, through for example the use of swales. Site 3, Land East of Carlton-in-Lindrick, is therefore taken forward for further analysis due to the positive scoring and limited negative impacts.

Site 4 Land East of Clarborough (See Appendix 6 Figure. 4)

Site 4 Land East of Clarborough was also identified during Stage 1 as a potentially suitable site for a new settlement. The site scored well on its proximity to key employment sites in the SA criteria, in this regard scored one minor positive effect as Retford town centre is accessible within 30 minutes travel by public transport (No. 97 bus from Clarborough). However, the site is not located in close geographical proximity to town centres (over 4.8km away) and the nearest public transport facility is 1.5km west. This scores two minor negatives against the SA criteria and reduces the sites sustainability. The site also scored a minor negative in relation to proximity to heritage assets too. Furthermore, the site is greenfield (ALC grade 3) and so the development did not score as high as the other sites containing previously developed land.

The indicative site boundary was chosen due to the limited land and environmental constraints. Whilst other areas within the parish were considered, if the site was any closer to Clarborough to take advantage of the services located there, then there could be greater impacts in regards to coalescence, undermining one of the key principles of garden villages. As a result, the site is discounted from further assessment as it does not contain any significant positive scores and scored lower than the previous sites.

Whilst the parish of Clarborough and Welham contains a good supply of services and good access to Retford via public transport, the site itself is not as in as close proximity to any of the existing key services (the closest is around 1.7 km to the west in Clarborough). Therefore, due to the site's greenfield status, poor access to services, including public transport, and the lack of opportunities for mitigation, the site has been discounted from further consideration.

Site 5 Land West of Beckingham (See Appendix 6 Figure. 5)

Site 5 Land West of Beckingham was also identified as a potentially suitable site from the Stage 1 process. The SA has established that a number of farms and other businesses are presently in close proximity to the site. They may have the potential to be adversely affected by development, although the likelihood and scale of such impacts are uncertain. This potential impact on the existing employment results in the SA criteria giving the site a significant negative score. The only other site which would result in loss of employment land is Site 1 at Gamston Airport.

The site scored two minor negative effects in the SA assessment criteria, due to its geographic distance from Gainsborough the nearest town centre and proximity to public transport services.

In relation to heritage assets there is a Grade II Listed Building 300m from the site and the closest conservation area is 2.1km west. The impacts upon the heritage assets are unlikely to be known at this stage. However, mitigation could be required resulting in another minor negative score for the site.

Developing on this site would also involve the loss of open agricultural fields with an ALC Grade 3 classification and would not involve the redevelopment of brownfield land. Bringing this site into development would undermine BDC's and the Government's aim of recycling previous developed sites.

The site only gained one minor positive effect, which relates to its proximity to key employment areas. Therefore, it has been discounted for further analysis due to its higher number of negative scores when compared to the other sites.

Site 6 Land North of Darlton (See Appendix 6 Figure.6)

Land North of Darlton was identified during Stage 1 as a potentially suitable site for a new settlement. The site scores a minor positive score in relation to proximity to public transport services as there is a single bus stop onsite, which provides access to surrounding settlements.

Within the site boundary there is a grade 1 listed building and five grade II listed buildings. Additionally East Drayton Conservation Area is located 650m North East. This has resulted in the site scoring a

significantly negative red score as there could be considerable risk to the heritage assets. However it is recognised that there could be an opportunity for mitigation.

The topography of the land is generally flat and is currently used for agricultural purposes. Developing this site would involve the loss of open agricultural fields with an ALC Grade 3 classification and would not involve the development of brownfield land, as is the case with Gamston and Bevercotes. The site is also located a considerable distance from any nearby towns. The site is 16km northwest of Retford making it the furthest potential new settlement from any major settlement within BDC District. For these reasons site 6 is discounted from further assessment.

4 Stage 3: Detailed Assessments

From Stage 2, three sites have been brought forward for further assessment.

- **Former Bevercotes Colliery:** The site is 75.08ha in size occupying the former colliery site. It sits in the north east of Bothamsall parish but overlaps West Drayton parish. The site links to key highway networks is from the east, by way of the A1. To the North West is the village of Elkesley which is the closest settlement.
- **Gamston Airport:** The site is 122.02ha and is in the parish of Gamston. The nearest settlement is Gamston Village which is 500m to the east. To the south is Elkesley Business Park and the A1 transport corridor.
- **Land East of Carlton-in-Lindrick:** Is in the parish of Carlton in Lindrick and has an area of 59.04ha. Carlton-in-Lindrick is directly adjacent the site and the A60 runs through the village. This will provide important access route between Worksop and the site.

Gamston Airport and the Former Bevercotes are located relatively close to each other with a separation distance of only 2.2km at the south of the Bassetlaw District. Both sites are previously developed land, with Gamston Airport still in current usage. The Colliery at Bevercotes has been closed for over 20 years. The Colliery has seen relatively recent activity with planning permission granted in 2013 (Ref: 09/05/00002) to redevelop the site for storage and distribution use, development however has not taken place.

Land East of Carlton-in-Lindrick is located at the West of the District located above the main settlement of Worksop. The site is located within an agricultural field which constitutes as green field land. The site benefits from its close proximity to other settlements by being able to utilise their services.

In order to ascertain the impacts of the development, assessments have taken place to identify how different factors will be affected if development on each site were to come forward.

This stage comprises the following scope of work:

- Assess how each of the sites represents an appropriate and sustainable location to deliver a large scale housing development;
- Identify that there are no significant environmental, technical, physical or policy constraints that would prevent residential, employment and ancillary facilities being developed on this site; and
- Examine the spatial and locational relationship and opportunities of the sites with the local built and natural environment.

4.1 Landscape

4.1.1 Introduction

A landscape and visual opportunities and constraints report has been undertaken by ADAS for the three sites that have been brought forward shown in **Figures 4.1.1 to 4.1.24**. The three sites are Former Bevercotes Colliery, Gamston Airport and the Land east of Carlton-in-Lindrick. This report has been prepared in order to identify potential landscape and visual opportunities and constraints for residential development on the sites and an assessment of the provision of appropriate mitigation.

Use has been made of O.S. Explorer Map 270, 271 and 279 (1:25,000 scale), ArcGIS, aerial images from Google Earth, and information obtained from character assessments at national, county and local level. The main objectives of this work are as follows:

- To describe the baseline landscape character of each site and its surroundings;
- To identify potential visual receptors (i.e. people who will be able to see the development);
- To identify landscape features associated with each site;
- To identify potential changes to the visual and landscape receptors due to residential development on each site;
- Identify any landscape and visual opportunities and constraints for residential development on the site;
- Identify mitigation proposals where they can reduce potential adverse changes of any development on each site;
- Analyse the ability of each site to accommodate residential development;
- Identify how each site could be connected to the wider green infrastructure network, drawing on the 2010 Bassetlaw Green Infrastructure (GI) Study; and
- Compare the three sites in terms of the ability of each to accommodate residential development.

This work is not a landscape and visual assessment or appraisal and does not assess or quantify any landscape and visual effects of any proposed development on the site or surrounding landscape. The work is rather a review of the proposed master planning analysing the potential impacts of the development.

For the purposes of this work the methodology used is based on recommendations given in 'Guidelines for Landscape and Visual Impact Assessment' (Third Edition 2013), produced jointly by the Landscape Institute and the Institute of Environmental Management and Assessment and Techniques and criteria for judging capacity and sensitivity (Topic paper 6) (2002), produced by Natural England. The terminology used throughout is that used within the Guidelines and can be found in Appendix 7. Details of the ADAS methodology can be found in Appendix 8. The sites will not be ranked using a numerical scoring system but will be assessed giving the overall recommendations as a narrative.

A search for other residential developments in the area to understand cumulative changes to landscape character and visual amenity has not been undertaken as part of this report.

The surrounding landform, built form and vegetation have been taken into account as part of this report. The spatial scope for all the baseline studies including topography, landscape designations, landscape character is a 5km radius from each site.

4.1.2 Former Bevercotes Colliery

4.1.2.1 Site Context

Site location and study area landform

This site is in Bothamsall parish but overlaps West Drayton parish too, and is to the south of the A1 and Elkesley with the B6387 running along much of the western boundary. It is situated within a river valley which contains the Rivers Idle, Maun and Meden. The landform rises to the east, south and west away from the site, and falls to the north towards Retford as shown in **Figure 4.1.1**. There are some areas of high ground to the west of the site within the Bevercotes Pit Wood. The study area contains a number of settlements including, Elkesley, West Drayton, Markham Moor, Milton, Bevercotes and Bothamsall with 2km of the site. Viewpoint photographs are found in Appendix 9.

Land use of the study area

The surrounding land uses are shown in **Figure 4.1.5** and landscape features and key views are shown in **Figure 4.1.6**. The site forms part of the wider Bevercotes Colliery. The other part of the Colliery is now Bevercotes Pit Wood which is adjacent to the eastern and part of the southern boundary. The wider landscape within 2km of the site is arable and pastoral farmland which is adjacent to the north-western and a proportion of the southern boundary. The A1 transport corridor runs north of the site in a north-west to south-east direction, with Gamston airport to the north of it.

Site description

The site is divided by an access road that runs through it in a north-south direction. The access road is also National Cycle Route number 647 and PRow Bothamsall BW14. This road divides the site into two parts, eastern and western. Much of the site has been planted with deciduous and coniferous blocks of trees. Much of the remainder of the site is hard standing, which is beginning to be colonised by pioneer tree species, particularly in the eastern part of the site. These trees surround the central areas of the site as shown in **viewpoint BEV VP1**. The northern boundary of the site is defined by West Drayton Avenue, whilst much of the western boundary is defined by the B6387. The southern part of the western boundary is defined by the edge of the woodland. The southern boundary of the site runs along The River Meden. The eastern boundary of the site appears to be defined by fencing which runs along the boundary with Bevercotes Pit Wood. The existing vehicular access is through the northern boundary off the B6387 and from the south through Bevercotes. A dismantled railway enters the site through the western boundary. The high point of the site is the access road where a bridge runs over the old railway. The rest of the site is relatively flat throughout, with some local changes in level such as bunds to prevent vehicle access to the wider site.

4.1.2.2 Landscape Character

National landscape character and designations

At a national level, the site is located within the 48: Sherwood National Character Area (NCA) as shown in **Figure 4.1.2**. The study area contains a number of Registered Parks and Gardens, Scheduled Monuments and listed buildings, none of which cover or are within the site, as shown in **Figure 4.1.4**.

District landscape character

As shown in **Figure 4.1.3**, the site is located within the 'S PZ 35 Bothamsall Estate Farmlands' landscape policy zone as defined in the Landscape Character Assessment – Bassetlaw, Nottinghamshire (2009) produced by FCPR.

Key characteristics of the area include:

- Gently undulating topography
- Medium to large-scale geometric arable fields
- Low hawthorn hedges
- Views framed by rising ground and woodland edges
- Small, nucleated, red brick villages
- Reclaimed colliery site
- Large coniferous plantations with heathland rides

The Landscape policy is to 'Conserve & Reinforce' and includes the following landscape actions:

Landscape Features

- Conserve and Reinforce the ecological diversity and character of semi-natural woodland habitats
- Conserve and Reinforce existing hedgerows and seek opportunities to restore the historic field pattern with new hedgerow planting and trees
- Seek opportunities to restore arable land to mixed woodland, permanent pasture and heathland
- Conserve and Reinforce West Drayton Avenue and seek opportunities strengthen with additional avenue planting

Built Features

- Contain new development in the east of the Policy Zone within existing hedgerow boundaries
- Conserve and reinforce the historic character and setting of Bothamsall – new development should respect the scale, design and materials used traditionally in the village
- New development of the derelict Bevercotes Colliery should take account of the distinctive landscape and ecological elements within the former colliery site. Seek opportunities to reinforce the local landscape character where appropriate

4.1.2.3 Visual Receptors

In order to understand the visibility of any development on the site, it is assumed the majority of the trees around the boundaries of the site and along the central access road would be retained, blocking and filtering any views of development. It is assumed that a mixed-use development (predominantly residential) would be proposed on the majority of the site. The approximate extent of potential visibility to and from the site (visual envelope) is shown in **Figure 4.1.6**. The visual envelope, influenced by the blocks of woodland that surround the site, limits most views to within 500m of the site.

Visual receptors close to the site

Visual receptors in a close range of the site (under 500m) are shown in **Figure 4.1.5** and include:

- PRoW Bothamsall BW10, the access road and National Cycle Route 647 (represented by **viewpoint BEV VP1**) would have open views of any proposed development from the elevated bridge and other gaps in the vegetation along the central access road;
- PRoW Bothamsall BW10, Bothamsall BW10A (represented by **viewpoint BEV VP2**), Bothamsall F11, HaughtonFP1 and HaughtonBW2 (represented by **viewpoint BEV VP3**), to the south and west of the site would have glimpsed and partial views of the development through the woodland retained on the edge of the site in the western part of the site;
- Users of the western side of Bevercotes Pit Wood (represented by **viewpoint BEV VP4**) would have open and partial views of any development in the eastern part of the site. There would also be glimpsed views of the western part of the site from the more elevated areas within the wood;

- The isolated properties and farmsteads to the north, west and south of the site including, School Farm, Haughton Park Farm, Fishponds Cottage, Haughton Kennels Farm (including a listed building), Haughton Park Cottages, Haughton Park House Farm (including a listed building) (represented by **viewpoint BEV VP2**), Haughton Hall Farm (represented by **viewpoint BEV VP3**) would have glimpsed and partial views of the development through the woodland retained on the edge of the site in the western part of the site;
- There would be glimpsed winter views of the site, through the intervening vegetation from the two Scheduled Moments; Site of old hall south of Haughton Hall Farm (represented by **viewpoint BEV VP3**) and Haughton Chapel;
- There would be transient glimpsed and partial views of the proposed development from the B6387 that runs along the western boundary of the site and West Drayton Avenue along the northern boundary.

From most of these visual receptors, the development would only be glimpsed and partially visible through the woodland around the edge of the site.

Visual receptors in the wider study area

Visual receptors in the wider area (medium range up to 2km and long range over 2km) are shown Figure 4.1.6. Views are generally restricted by the surrounding blocks of woodland and landform. There would be views from the following visual receptors:

- The southern and northern ends of Redhill Lane to the north of Bothamsall would have glimpsed views of the proposed development through the woodland around the edge of the site;
- Distant glimpsed views of the rooftops of development seen over the intervening trees from the higher ground to the south-east of the site (represented by **viewpoint BEV VP5**).

In these views from the wider landscape, the visible elements of any proposed development (e.g. rooftops of proposed dwellings) protruding above or beyond the vegetation would be seen in the context of the wider landscape.

4.1.2.4 Landscape Receptors

Site landscape character

Landscape features and key views are shown in **Figure 4.1.7**. The central parts of the site are currently hard standing with the northern and southern parts predominantly deciduous and coniferous woodland. The landscape character of the site is influenced by its former use and is strongly linked to neighbouring Bevercotes Pit Wood. At a site level, any development would mean the loss of hard standing (including the associated pioneer vegetation) and some areas of woodland.

Local landscape character

At a local landscape level, there could be changes to the B6387 corridor between the A1 and Bothamsall. It is relatively rural in nature and any development would introduce built form to that area. This would also be true for the open countryside areas to the west and south of the site and the western side of Bevercotes Pit Wood. The built form would have an urbanising effect and would change the rural nature of the area.

District landscape character

There would be some changes to the wider 'S PZ 35 Bothamsall Estate Farmlands' landscape policy zone, as large-scale development would be uncharacteristic of the area. The landscape is classified as having a good condition and any development could erode that condition. The key features as listed in the

description of the area would remain relatively unchanged with the exception of the settlements; the proposals would constitute a new large settlement in the character area. Any development within the colliery would need to be in line with actions suggested in the 2009 landscape character assessment. Any development could be integrated with the existing green infrastructure on the site which could be refined using the key characteristics and landscape actions for the landscape policy zone.

Landscape designations

Residential development is unlikely to affect the Registered Parks and Gardens within the study area.

4.1.2.5 Opportunities and Constraints

The key landscape features, views and constraints within and around the site are shown in **Figure 4.1.7**. Potential links with the wider GI network are shown in **Figure 4.1.8**.

Opportunities

- Much of the site is brownfield land and if developed, the loss of landscape features would be small;
- Limited visibility of the site from the wider countryside due to the large blocks of woodland;
- Existing woodland around the edge of the site and along the access road could form the basis for enhanced green infrastructure, and increase connectivity of habitats;
- The existing woodland edge could form a defensible barrier containing the proposed development;
- The site is already a GI minor node and there is potential to link with the major GI node of Bevercotes Pit Wood and minor corridors as part of any development; and
- Incorporating tree planting within any proposed development would help to filter views from the west and north-west;

Constraints

- Views of built development from a small number of local properties, PRoW and Bevercotes Pit Wood;
- More distant views of any development from the south-east on the higher ground;
- Changes to the landscape character of the site and the loss of some woodland areas within the site; and
- Changes to the local landscape character and 'S PZ 35 Bothamsall Estate Farmlands' landscape policy zone by the introduction of more built form.

4.1.2.6 Landscape and visual mitigation recommendations

If development on this site is taken forward, the recommended landscape and visual measures for the mitigation of any changes are listed below and are also shown in **Figure 4.1.8** along with how the site could tie in with the wider GI network:

- Retain and enhance the existing woodland on site and retain at least a 20m to 50m wide strip along the boundaries of the site. Advice from a suitably qualified and experienced forester on the risks of wind throw should be sought. This would positively contribute to the landscape framework of the site providing screening of any development;
- Retain and enhance the existing woodland on site and retain at least a 20 to 50m wide strip along the access road / PRoW / National Cycle Route to create a green spine to the development. This

should incorporate a wider open space. Advice from a suitably qualified and experienced forester on the risks of wind throw should be sought. This would positively contribute to the landscape framework of the site providing screening of any development;

- Create a public open space in the south-eastern corner of the site to link in with Bevercotes Pit Wood;
- Create a green corridor along the waterbodies in and adjacent to the site;
- Further, enhance the landscape framework of the site by providing strategic tree and shrub planting within the site (where appropriate) to increase visual screening within and across the site, to promote biodiversity and habitat connectivity. This would also soften views of any development from the west and north-west; and
- The use of native species should be encouraged wherever possible.

4.1.2.7 Analysis

Visual sensitivity

General visibility

Assuming that the appropriate amount of the woodland along the site boundaries can be retained, any views of the development on the site would be limited. The woodland edge is a prominent part of the panoramas in the local area and as long as development is contained within that it would not skyline. The majority of the visual envelope would be contained within 500m of the site. The key view in and out of the site is to the area of raised ground within Bevercotes Pit Wood and the bridge in the middle of the site which affords the widest views of the site.

Population

A limited number of visual receptors (predominantly high sensitivity PRoW and residential properties) would have views of the site.

Mitigation potential

The existing mature woodland throughout and around the site would form the basis of any visual mitigation to the scheme, which would be instant and forms a characteristic element of the local landscape character.

Landscape character sensitivity

Natural factors

The predominant land cover on the site is hard standing (being colonised by pioneer vegetation) and plantation woodland which is uniform in nature.

Cultural factors

Evidence of the historic landscape patterns appears to have been removed when the sites was an active colliery. There are no listed buildings, scheduled monuments or conservation areas covering the site. There are listed buildings and scheduled monuments within 500m of the site.

Aesthetic factors

The existing hard standing is an intrusive element within the landscape of the site. The blocks of woodland planting create an enclosed landscape and there is little artificial lighting on the site. There is no open access land on the site but it has an important PRoW and National Cycle Route running through it and a network of PRoW (including long distance paths) and open access land around it.

Landscape quality

The site is representative of the characteristic features listed within the District landscape character assessment. The site is not influenced by any nearby settlements.

Landscape value

Designations

The study area contains a number of registered parks and gardens, conservation areas, scheduled monuments and listed buildings none of which cover or are within the site. There is limited intervisibility between some of the listed Buildings and scheduled monuments.

Landscape condition

The Landscape Character Assessment – Bassetlaw, Nottinghamshire (2009) produced by FCPR, awarded the landscape policy zone the site is contained within a ‘Good’ condition and a ‘Moderate’ landscape sensitivity.

4.1.3 Gamston Airport

4.1.3.1 Site context

Site location and study area landform

This site is located to the north of the A1 and Elkesley. It is situated within a river valley which contains the Rivers Idle, Maun and Meden. The landform rises west and north, to the east and south, it stays relatively flat along the base of the river valley. It rises further away from the site as shown in **Figures 4.1.9**. There are some areas of higher ground to the east around Gamston and to the north around Apple Pie Plantation. The study area contains a number of settlements including; Elkesley, West Drayton, Gamston, and Eaton 2km of the site. Photographs of the viewpoints are found in Appendix 10.

Land use of the study area

The surrounding land uses and landscape features are shown in **Figures 4.1.10**. The site forms part of the wider Gamston Airport, which includes the airport buildings and Elkesley Business Park. The wider landscape within 2km of the site is arable and pastoral farmland which is adjacent to the northern western boundaries. The A1 transport corridor runs to the south of the site in a north-west to south-east direction, with Elkesley and the former Bevercotes Colliery south of it.

Site description

The site is a mix of runways and arable fields. The airport runways criss-cross the site (one of which is used for material storage) with an access road running around its boundary. Existing vehicular access to the site is via the main airport building and off the access road to the Elkesley Business Park. There is currently no public access to the site. There are some areas of scrub and groups of trees adjacent to parts of the eastern and western boundaries. The access road around the site forms its boundary on the ground. The site is relatively flat throughout, with some local changes in level such as bunds to prevent vehicle access to the wider site.

4.1.3.2 Landscape character

National landscape character and designations

At a national level, the site is located within the 48: Sherwood National Character Area (NCA) as shown in **Figures 4.1.10**. The study area contains a number of registered parks and gardens, scheduled monuments and listed buildings none of which cover or are within the site as shown in **Figures 4.1.12**.

District landscape character

As shown in **Figures 4.1.11**, the site is located within the 'S PZ 57 Gamston Airfield Village Farmlands' landscape policy zone as defined in the *Landscape Character Assessment – Bassetlaw, Nottinghamshire* (2009) produced by FCPR.

Key characteristics of the area include:

- *Gently rolling topography*
- *Airfield with associated infrastructure and commercial and light industrial development to perimeter*
- *Medium to large-scale semi-irregular field pattern*
- *Small deciduous woodlands*
- *Hawthorn road and field boundary hedgerows*
- *Views framed by rising ground and woodland edges*

The Landscape policy is to 'Conserve & Create' and includes the following landscape actions:

Landscape Features

- *Conserve hedgerows, creating new sections where these have gaps and are in poor condition. Seek opportunities to restore historic field pattern/boundaries where these have been lost and introduce more hedgerow trees.*
- *Create tree and woodland planting as a means of enhancing the structure and unity of the landscape.*
- *Create heathland where appropriate.*

Built Features

- *Conserve the distinctive vernacular character of existing farm buildings.*
- *Conserve the sparsely settled character of the landscape by concentrating new development around Gamston Airfield.*
- *Create new woodland planting to contain and soften new development preferably in advance of development.*

4.1.3.3 Visual receptors

For the basis of understanding the visibility of any development on the site, it is assumed that a mixed-use development (predominantly residential) would be proposed on the majority of the site. The approximate extent of potential visibility to and from the site (visual envelope) is shown in **Figures 4.1.14**. The visual envelope, influenced by the surrounding topography, limits most views to within 2km of the site.

Visual receptors close to the site

Visual receptors in a close range of the site (under 500m) are shown in **Figures 4.1.13** include:

- The isolated properties and farmsteads to the west of the site include; The Jockey House Farm complex, The Bungalow (represented by **viewpoint GAR VP3**). The Bungalow and The Gables close to the A1 would have glimpsed and partial views of the development through the vegetation around their curtilages;
- There would be transient glimpsed and partial views of the proposed development from the users of Jockey Lane, Old London Road (represented by **viewpoint GAR VP3**) and Brick Yard Lane to the west of the site and the B6387 (Dover Bottom and Ollerton Road) to the east of the site.

- There would be open and partial views from the users of the Gamston airport buildings and Elkesley Business Park (represented by **viewpoint GAR VP1**) including the access roads.

From most of these visual receptors, the development would be partially visible, glimpsed through the intervening vegetation.

Visual receptors in the wider study area

Visual receptors in the wider area (medium range up to 2km and long range over 2km) are shown in **Figures 4.1.13**. Views are generally from the higher ground surrounding the site and are generally restricted by the surrounding landform. There would be views from the following visual receptors:

- Some properties on the western edge of Gamston Conservation Area including; Middlebrook, Church Farm, The Paddocks and Delph House (represented by **viewpoint GAR VP4**), would have glimpsed and partial views of the development through the vegetation around their curtilages seen in the context of the airport buildings;
- Users of PRoW along Church Lane (represented by **viewpoint GAR VP4**), would have partial views seen in the context of the airport buildings;
- Houses on the southern edge of Retford along Peel Avenue would have glimpsed long distance views of the northern part of the site;
- Users of the A1 crossing from Elkesley (represented by **viewpoint GAR VP4**) would have open views of the site;
- Distant glimpsed views of the development from roads and PRoW on the higher ground to the east of the site (represented by **viewpoint GAR VP5**).

In views of the wider landscape, the visible elements of any proposed development (e.g. rooftops of proposed dwellings) protruding above or beyond the vegetation would be seen in the context of the wider landscape including the built form of the Gamston airport buildings.

4.1.3.4 Landscape receptors

Site landscape character

Landscape features are shown in **Figures 4.1.12**. The site is currently arable fields and hard surfaced runways. It is open in nature and is influenced by surrounding built form of the airport buildings and Elkesley Business Park. At a site level, any development would mean the loss of arable land and would change the open nature of the site.

Local landscape character

At a local landscape level, there could be changes to the open nature of the landscape. Large-scale built form is not uncommon in the locality, with the airport, surrounding business parks and A1 corridor all within the surrounding landscape. However, should the site become a new village, it would change the nature of the landscape.

District Landscape character

There would be some changes to the wider S PZ 57 Gamston Airfield Village Farmlands landscape policy zone. The *'Airfield with associated infrastructure and commercial and light industrial development to perimeter'* characteristic would change as part of any development on the site. As suggested in the actions section of the document, development would be on the airfield associated with the existing built form. Given the open nature of the site there is an opportunity to create linear woodland planting and shrub belts to integrate any development into the wider landscape which would be compliant with the *'Create*

new woodland planting to contain and soften new development preferably in advance of development and Create tree and woodland planting as a means of enhancing the structure and unity of the landscape' actions in the document.

Landscape designations

Residential development on the site is unlikely affect the Registered Parks and Gardens within the study area.

4.1.3.5 Opportunities and Constraints

The key landscape features, views and constraints within and around the site are shown in **Figures 4.1.15**. Potential links with the wider Green Infrastructure network are shown in **Figures 4.1.16**.

Opportunities

- Limited visibility of the site from the wider countryside due to the surrounding river valley landform and vegetation;
- There would be limited landscape features on the site as there is little there originally and a proportion of the site is brownfield land;
- Limited changes would be required to site topography;
- Site is already influenced by the surrounding built form in the Elkesley Business Park and Gamston airport buildings;
- The open nature of the site allows opportunities to link in with the green infrastructure within and around the site, increasing connectivity of habitats;
- Opportunities to link into the wider GI major corridor to the east of the site; and
- Creation of green infrastructure around the edges of the site could include the creation of new landscape buffer planting along the boundaries which could screen the site particularly form the west.

Constraints

- Open views of the site and any potential development from a small number of local properties and roads;
- More distant views of any development from east on the higher ground;
- Extension of the built form within open countryside; and
- Changes to the local landscape character and 'S PZ 35 Bothamsall Estate Farmlands' moderate condition landscape policy zone by the introduction of new built form.

4.1.3.6 Landscape and visual mitigation recommendations

If development on this site is taken forward, the recommended landscape and visual measures for the mitigation of any changes are listed below and are also shown in **Figures 4.1.16** along with how the site could tie in with the wider GI network:

- Create belts of woodland (20m to 50m wide) along sections of the northern and eastern boundaries of the site, to positively contribute to the landscape framework of the wider area and provide improved screening of the site;

- Provide a new mixed native tree/shrub/open space mosaic screening landscape buffer along much of the western boundary;
- Provide a large open space in the central portion of the site to maintain the sense of openness from wider views of the site;
- Concentrate built development close to the existing airport buildings and Elkesley Business park to complete the existing built form influencing the site;
- Further enhance the landscape framework of the site by providing strategic tree and shrub planting (where appropriate) to increase visual screening within and across the site, to promote biodiversity and habitat connectivity. This would also soften views of any development from the west and north-west;
- The use of native species should be encouraged wherever possible.

4.1.3.7 Analysis

Visual sensitivity

General visibility

The local topography and vegetation have most influence over the visibility of any potential development on the site. Most views are from immediately surrounding the site or from elevated ground further away from the site; there is a mix of glimpsed / partial and open views. From visual receptors closer to the site any development would skyline. The majority of the visual envelope would be contained within 2km of the site. From most receptors, the site forms a larger part of the open landscape within the panoramic view.

Population

The majority of the visual receptors within 2km are users of roads and commercial properties which have a medium sensitivity with few higher values receptors (PRoW and residential properties) having views of the site and any potential development.

Mitigation potential

Any mitigation proposals would screen views from local receptors but would have less effect on those visual receptors elevated on the higher ground and would take time to develop. Any new tree and shrub planting would be compliant with actions recommended in the Bassetlaw landscape character assessment.

Landscape character sensitivity

Natural factors

The predominant land cover on the site is arable fields with hard standing runways and is simple in structure.

Cultural factors

Evidence of the historic landscape patterns appear to have been removed, as the site has been cleared for use as an airfield with the boundary defined by the internal access road. There are no listed buildings, scheduled monuments or conservations areas covering the site. There are listed buildings within 500m of the site.

Aesthetic factors

The existing runways are an intrusive element on the landscape of the site. There is artificial lighting on the buildings airport buildings and Elkesley Business Park. The noise of the A1 influences the site. The lack of landscape features on the site creates an open landscape. There is no open access land or PRow on the site. There is a low-density network of PRow within 2km (including long distance paths).

Landscape quality

The site is representative of the characteristic features listed within the District landscape character assessment. The site is influenced by the commercial built form around it.

Landscape value

Designations

The study area contains a number of registered parks and gardens, conservation areas, scheduled monuments and listed buildings none of which cover or are within the site as shown in **Figure 4.1.20**. There is limited intervisibility between some of the listed buildings and the site. There would be views of the proposed development from the Gamston Conservation Area.

Landscape condition

Within the *Landscape Character Assessment – Bassetlaw, Nottinghamshire* (2009) produced by FCPR, the landscape policy zone of the site is contained within an area of ‘Moderate’ condition and ‘Moderate’ landscape sensitivity.

4.1.4 Land East of Carlton-in-Lindrick

4.1.4.1 Site context

Site location and study area landform

The site is located to the east of Carlton-in-Lindrick, to the east of Woodhouse Lane. It is situated on the lower slopes of an area of rising ground. The landform rises to the south and west away from the site. It stays around 20m AOD to the north and falls and rises to the east of the site as shown in **Figures 4.1.17**. The study area contains a number of settlements including North Carlton, Carlton-in-Lindrick, Lindrick, Costhorpe and Langold all within 2km of the study area. For viewpoints see Appendix 11.

Land use of the study area

The surrounding land uses and is shown in **Figures 4.1.21**. The site forms part of a wider network of open arable and pastoral countryside to the east of the A60 in-between Langold and Blyth. The site is bounded on all sides by arable and pastoral land. The A1 / M transport corridor runs in a north-south direction to the east of the site beyond Blyth.

Site description

The site is divided into a number of arable fields as shown in **Figures 4.1.21**. The majority of the fields are divided by hedgerows with some fencing also present. There is one block of woodland (Willow Holt) in the central eastern part of the site. The western boundary of the site runs along Woodhouse Lane. The northern boundary also runs along a section of Woodhouse Lane and then field boundaries to the south of Hodsock Lodge Farm. The eastern site boundary defined by a track which runs south from Hodsock Lodge Farm. The southern boundary runs along PRow Carlton in Lindrick BW30 and Hodsock BW10. The existing site vehicular access is through a number of field gates from Woodhouse Lane and farm tracks. The high point of the site is close to the south-west corner, the land then falls in an easterly direction with a low point on the eastern boundary.

4.1.4.2 Landscape character

National landscape character and designations

At a national level, the site is located within the 48: Sherwood National Character Area (NCA) and 30: South Magnesian Limestone NCA as shown in **Figures 4.1.18**. As shown in **Figures 4.1.20** the study area contains a number of registered parks and gardens, scheduled monuments and listed buildings and area of Green Belt, none of which cover or are within the site.

District landscape character

As shown in **Figures 4.1.19**, the site is located within the 'Idle Lowlands – Policy Zone 12: Carlton-in-Lindrick' landscape policy zone as defined in the *Landscape Character Assessment – Bassetlaw, Nottinghamshire* (2009) produced by FCPR.

Key characteristics of the area include:

- *Mostly arable with small areas of pastoral and rough grazing.*
- *Sparse settlement; Wigthorpe [partial SAM] and isolated dwellings and farmsteads.*
- *Hodsock Priory with associated parkland.*
- *Urban edge of Worksop and Carlton-in-Lindrick.*

The landscape policy is to 'Conserve & Reinforce' and include the following landscape actions:

Landscape Features

- *Conserve and reinforce hedgerows where these are gappy and in poor condition. Seek opportunities to restore the historic field pattern/boundaries where these have been lost and introduce more hedgerow trees. Reinforce with new planting to replace fencing.*
- *Conserve pastoral farmland and seek opportunities to restore the arable land to permanent pasture.*
- *Conserve and reinforce the ecological diversity of the designated SINC's where appropriate.*

Built Features

- *Enhance visual unity and soften built development through additional woodland and landscape planting; this applies to both existing settlement [particularly at the western boundary] and new development.*
- *Conserve and reinforce the sparsely settled and open rural character of the Policy Zone by concentrating new development around Hodsock, Wigthorpe, the northern edge of Worksop and the southern extent of Carlton-in-Lindrick.*
- *Conserve the local stone built vernacular, particularly that at Hodsock and Wigthorpe, and reinforce this in new development.*
- *Conserve and reinforce the character, setting and historical integrity of Hodsock Priory and associated parkland.*
- *Contain new development within existing field boundaries.*

4.1.4.3 Visual receptors

For the basis of understanding the visibility of any development on the site, it is assumed that a mixed-use development (predominantly residential) would be proposed on the majority of the site. The approximate extent of potential visibility to and from the site (visual envelope) is shown in **Figures 4.1.21**. The visual envelope is influenced by the surrounding topography, limiting most views to within 2km of the site.

Visual receptors close to the site

Visual receptors in a close range of the site (under 500m) are shown in **Figures 4.1.21** include:

- Users of the PRoW adjacent to the site including; Carlton In Lindrick FP29 (also Woodhouse Lane) (represented by **viewpoint CAR VP1**), Carlton In Lindrick BW30 and Hodsock BW9, would have open views of any proposed development over and through gaps in the vegetation along the site boundaries;
- Users of PRoW to the east of the site including; Hodsock BW9 and Hodsock BW2 (represented by **viewpoint CAR VP3**), would have partial views of the development on the eastern part of the site over and through gaps in the vegetation along the site boundaries;
- Users of the PRoW to the north of the site including; Hodsock BW1 and Hodsock BW2, would have partial views and glimpsed views of the development on the northern part of the site through gaps in the intervening vegetation;
- Users of the PRoW to the south of the site including; Carlton-in-Lindrick FP3, Carlton-in-Lindrick BW31 and Hodsock BW10, would have glimpsed views of the development on the southern part of the site through gaps in the intervening vegetation;
- The isolated properties and farmsteads to the north, west and south of the site including, Hodsock Lodge Farm, Dovecote Cottage (also a listed building), Hodsock Woodhouse (also a listed building), Lilac Lodge, Roxholm Grange, and The Bungalow and other properties to the north of The Green would have glimpsed/partial/open views of the development through the vegetation around their curtilages. This includes an important view as listed in the Carlton in Lindrick Conservation Area appraisal;
- Properties to the north of The Green and the east of Doncaster Road (A60) (represented by **viewpoint CAR VP1**) would have glimpsed and partial views of the development through the vegetation around their curtilages;

From most of these visual receptors, the development would be visible in partial and open views over and through site boundary and intervening vegetation.

Visual receptors in the wider study area

Visual receptors in the wider area (medium range up to 2km and long range over 2km) are shown **Figures 4.1.21**. Views are generally restricted by the surrounding landform. There would be views from the following visual receptors:

- Properties to the east of Doncaster Road (A60) (represented by **viewpoint CAR VP1**) would have glimpsed and partial views of the development through the vegetation around their curtilages;
- Users of the Doncaster Road (A60) (represented by **viewpoint CAR VP1**) would have transient glimpsed and partial views of the development through the intervening vegetation;
- Users of the PRoW Hodsock FP4 and Blyth FP1 (represented by **viewpoint CAR VP4**) on the elevated ground to the east of the site would have partial views of the development on the eastern side of the site;
- Users of the PRoW Carlton In Lindrick FP3 to the south of Langold County Park on the higher ground would have glimpsed and partial views of the development on the western part of the site;

- Users of Crossley Hill Lane and Red Lane (represented by **viewpoint CAR VP5**) to the south of the site would experience transient glimpsed and partial views of the development through the intervening vegetation

In these views from the wider landscape, the visible elements of any proposed development would be seen in the context of the wider landscape.

4.1.4.4 *Landscape receptors*

Site landscape character

Landscape features and key views are shown in **Figures 4.1.21**. The landscape character of the site is influenced by its neighbouring rural land use, but also its proximity to residential areas of Carlton-in-Lindrick. At a site level, any development would mean the loss of arable land, hedgerows and potential loss or changes to the woodland of Willow Holt. Given the slightly sloping nature of the site topography, there could potentially be some changes to the topography of the site to accommodate built development.

Local landscape character

Development on the site would lead to changes to the local landscape character. Development on the site would extend built form into the open countryside. The site is part of a wider network of fields that separates the linear settlement along the A60, from Blyth and the A1 / M1 corridor. Development on the site would decrease that sense of separation. This would be especially prevalent from the east where the fields separating the site from Carlton-in-Lindrick are not apparent. The site would be separated from the wider settlement of Carlton-in-Lindrick by a number of arable and pastoral fields. This sense of separation between any proposed development and the existing settlement could be reinforced by the creation of a landscape buffer along Woodhouse Lane. However, development on the site could be seen as an urban extension to Carlton-in-Lindrick rather than a new settlement.

District Landscape character

There would be some changes to the wider Idle Lowlands – Policy Zone 12: Carlton-in-Lindrick landscape policy zone, as development would change a number of the characteristic features including; *Mostly arable with small areas of pastoral and rough grazing and sparse settlement*. Any development could be integrated with the existing green infrastructure on the site and be compliant with some of the landscape actions including; *enhance visual unity and soften built development through additional woodland and landscape planting; this applies to both existing settlement [particularly at the western boundary] and new development; Contain new development within existing field boundaries and Conserve and reinforce the sparsely settled and open rural character of the Policy Zone by concentrating new development around Hodsock...*

Landscape designations

Residential development on the site is unlikely to change the Registered Parks and Gardens or Greenbelt within the study area.

4.1.4.5 *Opportunities and Constraints*

The key landscape features, views and constraints within and around the site and shown in **Figures 4.1.22**.

Opportunities

- Limited visibility of the site from the wider countryside due to the surrounding landform, built form and vegetation.

- Existing woodland and hedgerow could form the basis for enhanced green infrastructure within and around the site, maintaining the connectivity of habitats;
- Creation of a green corridor or lane / new landscape buffer planting along the Woodhouse Lane along the eastern boundary to screen the site from the Carlton-in-Lindrick to the west which could increase habitat connectivity;
- Creation of a green corridor / new woodland buffer planting along the western boundary soften views from the elevated ground and further create a sense of separation between development and Hodsock Priory estate which could increase habitat connectivity;
- Incorporating tree planting within any proposed development would help to filter views from the wider landscape; and
- Development in this location as recommended in the landscape actions of the Lowlands – Policy Zone 12: Carlton-in-Lindrick landscape policy zone.

Constraints

- Open and partial views of the site and any potential development from a number of local properties and PRoW;
- More distant views of any development from the elevated ground surrounding the site;
- Extension of the built form of into open countryside;
- Changes to the local landscape character that would decrease the sense of separation between Blyth and Carlton-in-Lindrick;
- Potential for development to appear an urban extension of Carlton-in-Lindrick rather than a new settlement;
- Changes to a number of the characteristic features of the Lowlands – Policy Zone 12: Carlton-in-Lindrick landscape policy zone.

4.1.4.6 Landscape and visual mitigation recommendations

If development on this site is taken forward, the recommended landscape and visual measures for the mitigation of any changes are listed below and are also shown in **Figures 4.1.24** along with how the site could tie in with the wider GI network:

- Retain and enhance the existing hedgerows and woodland along the boundaries and throughout the development, to positively contribute to the landscape framework of the site providing improved screening of the site;
- Provide a new mixed native tree/shrub/open space mosaic screening landscape buffer along much of the western and southern boundaries creating green lanes along Woodhouse Lane and the PRoW running along the southern boundary of the site;
- Provide a new mixed native tree and shrub screening buffer along much of the eastern boundary linking in with Willow Holt further reinforcing the separation between the site Hodsock Priory;
- Retain as much of Willow Holt as possible and making it the central part of any open space on the site;

- Further, enhance the landscape framework of the site by providing strategic tree and shrub planting within the site (where appropriate) to increase visual screening within and across the site, to promote biodiversity and habitat connectivity. This would also soften views of any development from the west and north-west; and
- The use of native species should be encouraged wherever possible.

4.1.4.7 Analysis

Visual sensitivity

General visibility

The local topography and vegetation have the most influence over the visibility of any potential development on the site. Most views are from immediately surrounding the site, within 2km or from elevated ground further away from the site. From these receptors, there is a mix of glimpsed / partial and open views. With more of the site visible from the receptors close to the site and those elevated on the higher ground. From visual receptors closer to the site any development would skyline. The majority of the visual envelope would be contained within 2km of the site. The site forms part of the important views out of Carlton-in-Lindrick.

Population

A large number of visual receptors (predominantly high sensitivity PROW close to the site and residential properties further away) would have views of the site.

Mitigation potential

The existing hedgerow network throughout the site along with the woodland of Willow Holt could form the basis of any visual mitigation to the scheme. Any mitigation proposals would screen views from local receptors but would have less effect on those visual receptors elevated on the higher ground and would take time to develop. Any new tree and shrub planting would be compliant with actions recommended in the Bassetlaw landscape character assessment.

Landscape character sensitivity

Natural factors

The predominant land cover on the site is arable. There is a strong hedgerow network running throughout the site with some hedgerow trees. There is an area of woodland Willow Holt covering part of the site.

Cultural factors

Evidence of the historic landscape patterns appears to be intact with a strong hedgerow network. There are no listed buildings, scheduled monuments or conservations areas covering the site. There are listed buildings within 500m of the site.

Aesthetic factors

There are no visual intrusive features or little artificial lighting on the site. The landscape of the site is generally open in nature with the hedgerow network creating a sense of structure. There is PROW running around most of the site boundary with a relatively well-connected network within 2km.

Landscape quality

The site is representative of the characteristic features listed within the District landscape character assessment. The site is influenced by the built form to the west of the site.

Landscape value

Designations

The study area contains a number of registered parks and gardens, conservation areas, scheduled monuments and listed buildings none of which cover or are within the site. There is limited intervisibility between some of the listed buildings and the site. The site would be visible in an important view as listed in the Carlton-in-Lindrick conservation area appraisal.

Landscape condition

The *Landscape Character Assessment – Bassetlaw, Nottinghamshire* (2009) produced by FCPR, awarded the landscape policy zone of that the site is contained within a 'Good' condition and a 'Moderate' landscape sensitivity.

4.1.5 Conclusion

This section of the report compares the three sites in terms of their ability to accommodate residential development based on the landscape analysis of each site.

As shown in the comparative landscape table below (see table 4.1.1 below), in summary the Former Bevercotes Colliery comes out as the least visually sensitive, the least sensitive landscape and second most valued landscape. Gamston Airport comes second least visual sensitive, second least landscape sensitivity and the least valuable. Land east of Carlton-in-Lindrick comes in the most visually and landscape sensitive and the most valuable.

Overall the most suitable site for development in landscape and visual terms is the Former Bevercotes Colliery followed by Gamston Airport with Land east of Carlton-in-Lindrick considered the least suitable.

Table 4.1.1: Comparative landscape summary table

General visibility ¹		Population ²		Mitigation potential ³		Overall visual sensitivity	
Land east of North Carlton	Most	Land east of North Carlton	Most	Land east of North Carlton	Least	Land east of North Carlton	Highest
Gamston Airport	↑	Former Bevercotes Colliery	↑	Gamston Airport	↓	Gamston Airport	↑
Former Bevercotes Colliery	Least	Gamston Airport	Least	Former Bevercotes Colliery	Most	Former Bevercotes Colliery	Lowest

¹Indicates the overall visibility of the site.

²Indicates the nature of the visibility

³Indicates the potential to mitigate any views.

Sensitivity of Natural factors ⁴		Sensitivity of Cultural factors ⁵		Sensitivity of Aesthetic factors ⁶		Landscape quality ⁷		Overall landscape sensitivity	
Land east of North Carlton	Highest	Land east of North Carlton	Highest	Land east of North Carlton	Highest	Former Bevercotes Colliery	Highest	Land east of North Carlton	Highest
Former Bevercotes Colliery	↑	Gamston Airport	↑	Gamston Airport	↑	Gamston Airport	↑	Gamston Airport	↑
Gamston Airport	Lowest	Former Bevercotes Colliery	Lowest	Former Bevercotes Colliery	Lowest	Land east of North Carlton	Lowest	Former Bevercotes Colliery	Lowest

⁴Indicates the natural / physical factors in the landscape

⁵Indicates the cultural and built form factors in the landscape

⁶Indicates the aesthetic factors in the landscape

⁷Informed by how representative the site is of the district LCA and how influenced it is by built form

Designations ⁸		Landscape condition ⁹		Overall landscape value	
Land east of North Carlton	Highest	Former Bevercotes Colliery	Highest	Land east of North Carlton	Highest
Gamston Airport	↑	Land east of North Carlton	↑	Former Bevercotes Colliery	↑
Former Bevercotes Colliery	Lowest	Gamston Airport	Lowest	Gamston Airport	Lowest

⁸Informed by the associations of the site with designations

⁹Informed by the condition of the landscape as set out in the district LCA

4.2 Heritage

4.2.1 Introduction

It is acknowledged that any built development especially larger scale development, will inevitably result in having some impacts on the existing built environment and its rural, countryside setting. A desk-top assessment using the landscape and visual opportunities and constraints report (see section 4.1 above), has been undertaken by ADAS for the three sites that have been brought forward for further detailed site assessment. This will determine whether development would be harmful to any heritage assets or whether development could be designed to enhance and protect the quality of the historic environment.

The assessment of each site was completed in three stages:

1. A desk based study was used to determine whether development of the site directly affected a known heritage asset or the setting of one or more heritage assets. Heritage assets that were identified to be unaffected by development were removed from analysis. Drawing from the landscape maps in section 1 and the measurements used in the SA as following listed buildings <1km, conservation areas and scheduled monuments <2km, registered park and gardens <5km.
2. Site context was studied to determine the characteristics natural and built that constitute the potential development locations.
3. An assessment was completed to identify any elements that contribute to local distinctiveness in order to determine if development would contribute to the significance of the heritage asset and character of the locality.

On consideration of these aspects, an assessment of whether the development of the three sites would result in any detrimental impact on the historic environment or local character was undertaken. Sites were scored through a traffic light system with dark green representing a more positive score a. Please see Table 4.2.1 for further details.

Table 4.2.1 : Assessment Scoring	
Score	Description
Significant Positive Effect	The proposed development contributes significantly to the heritage asset.
Minor Positive Effect	The proposed development contributes to the heritage asset but not significantly.
Neutral Effect	The proposed development does not have any effect on the heritage asset.
Minor Negative Effect	The proposed development harms heritage assets but not significantly
Significant Negative Effect	The proposed development significantly harms to the heritage asset.
Uncertain	The proposed development has an uncertain relationship to the heritage asset or the relationship is dependent on the way in which the aspect is managed. In addition, insufficient information may be available to enable an appraisal to be made.

A review of the three sites has been provided in tables 4.2.2, 4.2.3 and 4.2.4 below.

4.2.2 Former Bevercotes Colliery

Table 4.2.2 Conservation and Design Site Assessment: Former Bevercotes Colliery

Heritage designations potentially affected by development of the site	<p>Listed Buildings <1KM: Church of St Giles (G1LB), Church of St James (G2*LB), Haughton Kennels Farm (G2LB), Haughton Park House and Attached Garden Walls (G2LB), Manor Farm House (G2LB), Meadow Farmhouse (G2LB), Portland Farm House and Attached Garden Walls and Pavilions (G2LB), Range of Farm buildings at Portland Farm (G2LB), Lound Hall (G2LB).</p> <p>Conservation Areas <2km: Bevercotes, Bothamsall, Gamston</p> <p>Scheduled Monuments <2km: Site of Old Hall South of Haughton Park, Haughton Decoy and Motte Bailey Castle, Bothamsall Motte and Bailey Castle and Holloway</p> <p>Registered Parks and Gardens <5km: Clumber Park (G1L), Thoresby Park (G2L)</p>
Commentary on heritage assets	<p>Lound Hall, Church of St James and Haughton Park Farm House are located within 0.5km of the site and could be potentially impacted by development. However, these sites are well screened by their own intervening woodlands and hedgerows. The remaining listed buildings are considered to be at a significant distance away and protected by the sites woodland growth and hedgerows to ensure any inter-visibility is limited and the setting and character of these heritage assets is not harmed.</p> <p>Bevercotes (1.45km), Bothamsall (1.8km) and Gamston (2km) conservation areas are considered to be located at an appropriate distance away from the site that they would not be impacted by development at this site. Furthermore, the intervening flora and elevations would shield the site from having any detrimental impact on the vistas of the conservation areas. The amenity and character of the conservation areas would not be significantly harmed by an appropriately laid out development.</p> <p>The site of Old Hall (800m), Bothamsall Motte and Bailey Castle and Holloway (1.7km) and Decoy and Motte Bailey Castle (1.9km) are considered to be at distances where development of Bevercotes would not detrimentally impact them. Each site has significant vegetation surrounding them too which further precludes any harm to their setting and character.</p> <p>Clumber Park and Thoresby Park are located 4.6km to the west of the site and date from the c17. The intervening tree lines of the site and parks ensure the inter-visibility is none existent. Furthermore, the vegetation which bounds the A614 by the parks further shield them from the potential development.</p>
Topography and views	<p>The topography of the site and of the surrounding area is gentle and undulating, with medium and large-scale geometric arable fields throughout the nearby area. The landforms rise to the east, south and west of the site and falls in the south towards Retford. To the east of the site is the River Meden which forms a natural boundary and further over is Bevercotes Colliery Forestry commission woodlands. Assuming that the woodland along the site boundaries is retained, views of the development from outside the site would be limited.</p>

Landscape context	The site forms part of the wider Bevercotes Colliery as adjacent to the eastern and southern boundary is the Bevercotes Pit Wood. The wider landscape context consists of arable and pastoral farmland, directly adjacent the north west and south of the site boundary. The A1 transport corridor runs from the north of the site in a north west to south east direction. Gamston airport is located 1.8km directly to the north of the site.
Grain of surrounding development	Small, nucleated, red brick villages
Local building design	Country dwellings and farm houses.
Features on site and land use or features off site having immediate impact	There are no heritage assets within or adjacent to the site. The previous use of the site as a colliery provides evidence of the sites industrial past, currently comprising hard standing concrete slabs sealing the colliery and a disused carpark. The eastern section of the site is now a woodland used by locals. Existing vegetation and any additional landscape mitigation/ enhancements would ensure that impacts are mitigated and has the capacity to absorb this extent of development into this rural countryside environment.

Conclusion

Will development contribute to local distinctiveness and countryside character?

Rationale	Rating
The site is not within a Conservation Area. There is significant woodland and planting on site which will help to screen the new settlement and contribute to the countryside character ensuring the site will remain a unique settlement and contribute to local distinctiveness. Therefore, the development provides an opportunity to remove the existing hardstanding associated with the sites industrial past and decontaminate the land. This will create a contemporary garden village that has the ability to contribute to the distinctiveness and countryside character of the overall area.	

Will development conserve those elements which contribute towards the significance of the designated heritage assets?

Rationale	Rating
Development is unlikely to harm the elements which contribute towards the significance of designated heritage assets nearby due to the separation of distance and intervening screening. However, the site is in close proximity to the Grade II Listed Building Lound Hall which is a unique Neo-Georgian building in the area. The design of the new settlement has the potential to	

acknowledge the character of nearby settlements such as Elkesley, and reflect a local distinctiveness in the design of a development.

Will development ensure high design quality which supports local distinctiveness?

Rationale	Rating
Ensuring high design quality of the development will be paramount. The nature of the site means the development can have a positive impact on local distinctiveness due to the significant woodland and rural countryside aesthetic forging a separate community, as well as remediating the former colliery. The density and layout of any new settlement will provide key opportunities which can be exploited to enhance the character of the local area. Due to the scale of development there are also significant opportunities for mitigation and improvements to the rural boundaries of the site in terms of landscape planting and the addition of new public footpaths and cycle ways	

Summary

Development at Bevercotes Colliery would be contrasting to the typical forms of rural areas which constitute the character of the local setting. However, it would result in the redevelopment of a brownfield site which could also have the potential to remediate any contamination which may be present. The development of this site would provide a major opportunity to reinvigorate the ex-colliery site and replace it with a new settlement which respects the wider character and form of the area. The site's woodland barriers and the River Meden which bounds the site act as natural buffers between the potential development and the surrounding existing settlements. These natural buffers will ensure a separate and a unique development that can be created whilst avoiding coalescence and supporting local distinctiveness.

4.2.3 Gamston Airport

Table 4.2.3 Conservation and Design Site Assessment: Gamston Airport

Heritage designations potentially affected by development of the site	<p>Listed Buildings <1km: Church of St Peter (G1LB), Church of St Giles (G1LB), Milestone (G2LB), Gamston Manor and Attached Cottage (G2LB), Corner Cottage (G2LB), Bramcote School (G2LB), Meadow Farmhouse (G2LB), Portland Farmhouse and Attached Garden Walls and Pavilion (G2LB), Range of Farm buildings at Portland Farm (G2LB), Brewery House (G2LB).</p> <p>Conservation Areas <2km: Gamston</p> <p>Scheduled Monuments <2km: None present</p> <p>Registered Parks and Gardens <5km: Thoresby Park (G2L), Clumber Park (G1L), Babworth Hall (G2L)</p>
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<p>Commentary on heritage assets</p>	<p>Five listed buildings are located within 0.5km of the site with limited inter-visibility from the site. Milestone (Grade II Listed Building) which is c200m from the site is the closest listed asset to the site. However, the intervening residential property and hedgerows protect it from any harmful impact. The remaining 4 listed buildings are found in Elkesley approximately 4.5km from the site boundary. They are shielded from views by the existing building line and the A1 transport link.</p> <p>Brewery House (Grade II Listed Building), which is just over 0.5km from the site, would have some inter-visibility from the site and could be potentially impacted by the new development. However, the separation distance and intervening vegetation creates a barrier between the building and the site which would in this instance assist to reduce any harm caused by the creation of a new settlement.</p> <p>Gamston Conservation area is located 0.5km to the east of the site and is a designation which covers the entire village. Landscape assessments indicate that the conservation area would have views onto the site. The separation distance is considered to be appropriate that the development of a new settlement would have a limited impact on the conservation area. Moreover, the intervening vegetation and buildings will provide a buffer between the inter-visibility of the new settlement and the heritage designation. Residential development is more compatible with heritage sites than the industrial use of a small airport. Particularly, when residential can contribute to the significant enhancement of local buildings and conservation areas.</p> <p>Clumber Park and Thoresby Park are 4.8km west of the site. The intervening tree lines parks ensure the inter-visibility is none existent. Furthermore, the vegetation which bounds the A614 by the parks further shield them from the potential development.</p>
<p>Topography and views</p>	<p>The airport building complex is situated along the eastern edge of the site and adjacent to the southern boundary is Elkesley Business Park. To the north west of the site is arable and pastoral farmland which dominate the typography and views. However, to the south of the site is the A1 transport corridor. This runs in a north-west to south east direction separating the village of Elkesley and Gamston Airport.</p> <p>The topography of the land rises in the west and north whereas the east and south are relatively flat particularly along the base of the river valley. Higher ground can be found to the east in the village of Gamston.</p> <p>Most views of the site are from the immediate area surrounding the site or elevated ground further away. The visual envelop of the site is well contained within 2km of the site.</p>
<p>Landscape context</p>	<p>The landscape comprises of the airport buildings and runways which criss-cross the site, with an access road running perpendicular to the boundary. Scrub and a grouping of trees can be found in the eastern and western boundaries. To the south east of the site is the river valley which contains the River Idle, Maun and Meden. The site is surrounded by the villages of Elkesley, West Drayton, Gamston and Eaton.</p>
<p>Grain of surrounding development</p>	<p>Primarily small villages developed in linear patterns or clusters. The runway is formed in a criss-cross with airport related development in an L shape along the exterior of the site. Any scheme of development should avoid coalescence with existing villages</p>

	and provide appropriate separation buffers/ mitigation to preserve the rural nature of the area.
Local building design	Country dwellings and farm houses. Associated buildings relating to the airport
Features on site and land use or features off site having immediate impact	Currently Gamston airport, runway and associated buildings are in contrast to the rural nature of the surrounding rural landscape and historic assets, with the exception of Elkesley Business Park adjacent to the site. The villages of Elkesley, Eaton and Gamston play an integral role in the setting of the listed buildings as these are where a majority of the historic features are located.

Conclusion

Will development contribute to local distinctiveness and countryside character?

Rationale	Rating
The location of the development will be located surrounded by listed buildings which are clustered in Gamston, Elkesley and the jockey house. However, the site is relatively well contained within the landscape and is not within a Conservation Area. Given the intervening distances to listed buildings, vegetation and further mitigation planting, it is considered to be located at a sufficient distance to not have any significant harmful impacts on heritage assets. Therefore, the development of a new settlement provides an opportunity to remove the existing hardstanding and industrial buildings on the site that are associated with the airport to create a contemporary garden village settlement that is surrounded by historic assets but also has the ability to contribute to the distinctiveness and countryside character of the overall area.	

Will development conserve those elements which contribute towards the significance of the designated heritage assets?

Rationale	Rating
Development is unlikely to harm elements which contribute to the significance of the surrounding heritage assets. However, the development should respond to the local character and history which reflect the identity of local surroundings and materials while being innovative (Paragraph 58 NPPF).	

Will development ensure high design quality which supports local distinctiveness?

Rationale	Rating
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The masterplanned garden village settlement will be of the highest design quality and will therefore support local distinctiveness through reflecting local character and there is also a further opportunity for any new settlement to define its own character. Due to the scale of development there are also significant opportunities for mitigation and improvements to the rural boundaries of the site in terms of landscape planting and the addition of new public footpaths and cycle ways.

Summary

Potentially developing Gamston Airport would represent a divergence in the typical form of rural villages in terms of size and density. Redeveloping this site results in the loss of an active airport and related activities. However, reclaiming the brownfield site and erecting residential properties would significantly enhance the local distinctiveness and character of the area. This is considered as such, due to any new settlement will have to be respectful to the form and setting of the existing communities as Elkesley is only 300m and Gamston is 500m away from the site. These distances could pose a potential risk of coalescence by developing the site. However, the A1 to the south and the arable lands to the east of Gamston Airport create significant buffers that will assist with development not merging and local character will be conserved due to this.

4.2.4 Land East of Carlton-in-Lindrick

4.2.4 Conservation and Design Site Assessment: Land East of Carlton-in-Lindrick

Heritage designations potentially affected by development of the site

Listed Buildings <1km North House Farmhouse (G2LB), Hodsock House (G2LB), Barn and Attached Range of Outbuildings at North House Farm (G2LB), Hodsock Woodhouse (G2LB), Dovecot cottage (G2LB), The Cottage (G2LB), Bridge Farmhouse (G2LB), North House Front and Rear and Copper Beeches (G2LB), Hodsock House (G2LB), Barn and Attached Range of Outbuildings at North House Farm (G2LB), Wrights House (G2LB), Clover Cottage (G2LB), Cottage Farm Farmhouse (G2LB)

Conservation Areas <2km: Carlton-in-Lindrick, Blyth, Oldcotes

Scheduled Monuments <2km: Wigthorpe Medieval Settlement

Registered Parks and Gardens <5km: Sandbeck Park and Roche Abbey (G2*L)

Commentary on heritage assets

The southern point of the site adjoins Carlton in Lindrick Conservation Area which covers land to the south of Hodsock Lane to the Hamlet of Wigthorpe. Developing in this location is considered to have the potential to have an impact on the heritage designation. The impact may arise from the risk of coalescence between the potential and existing built form. This has the potential to distort the character and local distinctiveness of Carlton-in-Lindrick. Residential development will also result in an increase of traffic. From this site access to Worksop is granted through the A60 which runs through the Carlton in Lindrick Conservation Area, therefore the potential impact from a new settlement would be the change of character from a rural village to a commuter town.

	<p>Additionally, there are 11 listed buildings within 0.5km of the site. Eight of the listed buildings will be protected from direct inter-visibility due to the intervening building form. However, Hodsock House 170m south (Grade II Listed Building), Dovecot Cottage (Grade II Listed Building) and Hodsock Woodhouse (Grade II Listed Building) 170m North will have unbroken views into the development site. The development of a new settlement has the potential to cause a level of harm to the setting and character of these listed buildings without appropriate mitigation techniques.</p> <p>Blyth and Oldcotes conservation areas are located 2km East and North-west of the site respectively. Blyth would have some restricted inter-visibility onto the site whereas Oldcotes would have none. This is because of the intervening vegetation. Furthermore, Wigthorpe Medieval Settlement scheduled monument is 1.6km south of the site and would have limited inter-visibility due to the intervening building line and vegetation.</p> <p>Sandbeck Park and Roche Abbey is located 4.7km North west of the site. It is a c17 registered park and garden where significant landscape enhancements have occurred throughout the c18. It is considered that the intervening topography, vegetation and building line create a barrier between the inter-visibility of the site and this heritage asset, therefore the setting and character of these heritage assets will be preserved.</p>
Topography and views	The site lies to the east of Woodhouse Lane and is situated on the lower slopes on an area of rising ground, which rises to the north and east of the site. Surrounding settlements include North Carlton, Carlton-in-Lindrick, Costhorpe and Langold.
Landscape context	A number of arable fields are the predominant landscape features of the area. Willow Holt is a woodland block which sits central to the site and Hodsock Farm sits on the northern boundaries. Hodsock Priory Farm and associated parklands are located to the north and south, noted for their medieval or roman era land features. Furthermore, the nearest transport corridor which is to the east of the site and past Blyth is the A1 Corridor.
Grain of surrounding development	In a linear pattern along High Road and Doncaster street. With intensifying growth at Carlton-in-Lindrick and Langold which extend westward. Blyth is a developed settlement towards the south of Blyth hall and along High Street and Retford road in a linear pattern.
Local building design	Rural 2 storey detached and semi-detached properties
Features on site and land use or features off site having immediate impact	The site consists of arable fields and as such assists in the character making of rural historic features.

Conclusion	
Will development contribute to local distinctiveness and countryside character?	
Rationale	Rating
The southern boundary of the site would boarder Carlton in Lindrick Conservation Area. The development is likely to have significant impacts on the local distinctiveness and countryside character of Carlton-in-Lindrick and Costhorpe due to the development infilling the western open space between the two settlements causing coalescence between them and the new development. This would be in conflict with the objectives of achieving a truly sustainable and individual new settlement versus an urban extension.	
Will development conserve those elements which contribute towards the significance of the designated heritage assets?	
Rationale	Rating
The Grade II Listed Building Dovecot Cottage, Hodsock House and Hodsock Woodhouse are the nearest designations to the site and are likely to be impacted. It is considered that these impacts could be mitigated through appropriate mitigation/separation distances. It is considered that the development of a new settlement would impact on the setting of Carlton-in-Lindrick Conservation Area as at this point the development would introduce a large urban extension to Carlton-in-Lindrick village and would result in the loss of arable land. Hodsock Priory Park is located adjacent to the eastern point of the site. It is a non-registered historic park with features dating back to the medieval and Roman era. There is potential that the development of a new settlement may result in a detrimental impact on the setting of Hodsock Priory, however with appropriate mitigation this harm could be reduced.	
Will development ensure high design quality which supports local distinctiveness?	
Rationale	Rating
Local distinctiveness may be supported if an appropriate landscaping gap is maintained to prevent coalescence as a result of the development.	

Summary

The scale of development would be contrary to typical forms of rural villages which characterise the area and in this instance would also result in the loss of arable farmland. The development would introduce a degree of visual coalescence of Carlton-in-Lindrick and Langold. The setting of the conservation area would be harmed due to the change in character of the surrounding countryside of the rural villages. The setting of individual heritage assets located within 500m of the site, particularly Dovecot Cottage, Hodsock House and Hodsock Woodhouse, are likely to experience some inter-visibility from any built development. However impacts are likely to be mitigated through appropriate landscaping and the intervening separation distances between the development and certain heritage assets.

4.3 Urban Design Concept

4.3.1 Introduction

AAD Architects were appointed by the Council to provide an indicative masterplan to enable the Council and local community to see the potential opportunities available for each site. AAD have undertaken a comprehensive environmental and landscape analysis of each site to inform the evolution of the masterplan for Gamston, Bevercotes and Land North East of Carlton. These illustrations are presented in Figures below.

The masterplans are based on the principles laid out in the Garden Village movement and the following have been applied in the design of each site:-

- Good urban design to deliver a truly sustainable settlement by creating a positive social, economic and environmental value;
- Foster a strong community which establishes a clear and distinct sense of identity;
- Bring together a mixture of attractive, mixed tenure and high quality homes alongside other buildings by identifying unifying characteristics;
- The creation of a comprehensive network of green corridors and a legible and attractive public realm to create net biodiversity gains within the site and promote a pleasant environment;
- A layout that is flexible for pedestrians, cyclists and vehicle users to encourage movement within the site and to provide good access to facilities for all users;
- The provision of community facilities, public spaces and potential employment opportunities;
- Efficient use of physical infrastructure and an effective rate of delivery.

35 dwellings per hectare (dph) is the target density for the Garden City Model. It is a key density in approaching the selection of the sites and the gain in sustainable and balanced new village settlements. This is intended to be a mean density over the whole site. It is anticipated and expected that zones of residential development within the new settlement will vary considerably from the more dense cores to the less dense fringes. The areas of the sites considered have been chosen specifically with this density in mind in order to encourage the inclusion of areas of open space, parks, allotments, retail, employment, sport, health, education and leisure to provide a truly sustainable development. Overall densities lower than 35dph will be unviable and higher densities will be unsustainable.

It should be noted that these masterplans are indicative and illustrative plans which have been developed from the evidence, studies and information compiled to date. The final masterplan for any of the sites will be subject to the development plan and the planning application processes, as well as any further technical work undertaken.

4.3.2 Former Bevercotes Colliery

Bevercotes offers the potential for the District to allocate and deliver a new sustainable settlement in the south of the District to take advantage of the excellent communications links provided by the A1 (M) which links to the M18, M1 and M62, A57 linking, the settlements of Worksop, Sheffield, Doncaster, Chesterfield and further beyond. The A638 to the northern aspect provides excellent access to Retford which has a train station serving the East Coast Mainline.

The potential development site:-

- The development site consists of 75.08 ha of a former colliery with hardstanding, vegetation and deciduous trees;
- The proposed expansion would consist of a total of 1774 dwellings (covering 50.70ha) at an average of 35 dwellings per ha;
- Comprising both general needs and specialist housing;
- Provision of retail/employment land 1.48ha;
- A mix of formal and informal open spaces distributed throughout the development area, provision of recreational space 4.47ha;
- A primary school 1.71ha;
- Local centre for community uses 0.9ha;
- Landscaping (area remaining is approx. 15.82ha).

The evolution of the design is presented in Figures 4.3.1 to 4.3.5 below accompanied by a commentary for each plan.

Environmental Analysis (See Figures 4.3.1)

The illustrative plan identifies the physical and landscape elements of the site and the immediate surroundings. Natural features and interventions which form the framework for the later design stages are highlighted, these are waterways, vegetation, roads, buildings, and previously developed industrial areas. It also illustrates some of the non-physical elements, views, ownership boundaries, uses and connections which, combined with the above illustrate the potential strengths, weaknesses, opportunities and threats to development on this site.

In contrast to the Gamston site it is equally striking following the coordination of all the above image elements into one plan, that the interior of the site is the most densely populated part of the plan and the area immediately outside the perimeter is relatively blank.

Masterplan Evolution – Ebenezer Howard Strategy (See Figures 4.3.2)

Ebenezer Howard's method for the urban planning of new Garden Towns was devised to encourage the natural development of societies and self-contained communities. We could now add 'sustainable' to that list as the underlying principles are still successfully used at different scales for new cities, towns and villages.

Here the method is applied and informs the design development to create hubs of linked urban spaces utilising different uses connected by concentric routes with a central retail and employment zone orbited by leisure, residential, community and education nodes.

Masterplan Evolution – Neighbourhood Strategy and Connectivity (See Figures 4.3.3)

Notional arms of the Howard strategy diagrams are formalised into connected centres and uses. The theoretical zones becoming planned neighbourhoods. Production of energy and sustainable features are considered.

Masterplan Evolution – Principles into Defined Core Areas (See Figures 4.3.4)

A step further towards an urban layout where the analysis of the environmental and landscape is fed into the plan. The existing highways are re-connected along similar routes. The views across the boundary of the site are maintained. Open leisure use is sited adjacent to areas of wildlife interest and waterways on the outside of the site boundary.

Defined Masterplan (See Figures 4.3.5)

All elements combined to crystallise into a coherent overall urban plan. Connections re-established, green corridors and landscape buffers surround and link the developed areas. Uses relate to the environment outside the site and to the wider landscape.

4.3.3 Gamston Airport

Gamston offers the potential for the District to allocate and deliver a new sustainable settlement in the south of the District to take advantage of the excellent communications links provided by the A1 (M) which links to the M18, M1 and M62, A57 linking, the settlements of Worksop, Sheffield, Doncaster, Chesterfield and further beyond. The A638 provides excellent access to Retford which has a train station serving the East Coast Mainline.

The potential development site:-

- The development site consists of 122.02ha of Airport buildings, runways and arable farmland;
- The proposed expansion would consist of a total of 1986 dwellings (covering 56.74ha) at an average of 35 dwellings per ha;
- Comprising both general needs and specialist housing;
- Provision of retail/employment land 4.08ha;
- A mix of formal and informal open spaces distributed throughout the development area, provision of recreational space 29.10ha;
- A primary school 5.14ha;
- Local centre for community uses 3.37ha;
- Energy Farm 6.73ha; and
- Landscaping (area remaining is approx. 16.86ha).

The evolution of the design is presented in Figures 4.3.6 - 4.3.10 below accompanied by a commentary for each plan.

Environmental Analysis (See Figure 4.3.6)

The illustrative plan identifies the physical and landscape elements of the site and the immediate surroundings. Natural features and interventions which form the framework for the later design stages are highlighted, these are waterways, vegetation, roads, and buildings.

It also illustrates some of the non-physical elements such as views, ownership boundaries, uses and connections. These combined with the above illustrate the potential strengths, weaknesses, opportunities and threats to development on this site.

It is striking following the coordination of all the above image elements into one plan that the interior of the site is relatively blank compared to the areas just outside the perimeter which is the most densely populated part of the plan.

Masterplan Evolution – Ebenezer Howard Strategy (See Figure 4.3.7)

Ebenezer Howard's method for the urban planning of new Garden Towns was devised to encourage the natural development of societies and self-contained communities. It is considered reasonable that we can

now add 'sustainable' to that list as the underlying principles are still successfully used at different scales for new cities, towns and villages.

Here the method is applied and informs the design development to create hubs of linked urban spaces utilising different uses connected by concentric routes with a central retail and employment zone orbited by leisure, residential, community and education nodes.

Masterplan Evolution – Neighbourhood Strategy and Connectivity (See Figure 4.3.8)

Notional arms of the Howard strategy diagrams are formalised into connected centres and uses. The theoretical zones becoming planned neighbourhoods. Production of energy and sustainable features are considered.

Masterplan Evolution – Principles into Defined Core Areas (See Figure 4.3.9)

A step further towards an urban layout where the analysis of the environmental and landscape is fed into the plan. The existing highways are re-connected along similar routes. The views across the boundary of the site are maintained. Open leisure use is sited adjacent to areas of wildlife interest and waterways on the outside of the site boundary.

Defined Masterplan (See Figure 4.3.10)

All elements combined to crystallise into a coherent overall urban plan. Connections re-established, green corridors and landscape 'fingers' penetrate and link the developed areas. Uses relate to the environment outside the site and to the wider landscape. An Energy Park has been created that would potentially allow for local energy generation to provide fuel certainty and security.

4.3.4 Combined Masterplan for the Former Bevercotes Colliery and Gamston Airport

During the course of undertaking the detailed site assessments for this Study and following discussions with the Council, it became apparent that both the Gamston and Bevercotes sites presented significant opportunities for development and are considered to be capable of delivering a large scale settlement. However due to the scale of development and proximity to the A1 Junctions of Markham Moor and Retford & Gamston, significant infrastructure improvements are likely to be required which could have a limited impact on the viability of delivering a site.

There is already an extant planning permission on the Bevercotes site for an industrial use (Planning ref: 09/05/00002). The site is currently vacant and the industrial units have not been erected. The landowners have identified to the Council that this is principally due to the financial requirement for the significant junction upgrades that were attached to the original planning application.

Due to the relative proximity of the sites (2.2km apart from the centre of each site) and the employment benefits that could be created from bringing forward the currently vacant Bevercotes site, the opportunity to provide a mixed use scheme on both sites has been explored as part of a combined masterplan (see figure 4.3.11) if both the Gamston and Bevercotes sites were brought forward together. The viability of delivering both these sites and the combined masterplan been explored in detail by RLB in Chapter 5 below.

Delivering both sites provides potential for the District to allocate and deliver two sustainable new settlements to the south of the District, 2.2km (measured from the centre of each site) apart, to take advantage of the excellent communications links provided by the A1 (M) which links to the M18, M1 and M62, A57 linking, the settlements of Worksop, Sheffield, Doncaster, Chesterfield and further beyond. The

A638 to the northern aspect provides excellent access to Retford which has a train station serving the East Coast Mainline.

The potential development site:-

- Both sites comprise a total of 197.1ha of land in total covering the former Colliery and Airport sites;
- The proposed development site would consist of a total of 3001 dwellings (covering 85.75ha) at an average of 35 dwellings per ha;
- Comprising both general needs and specialist housing;
- Provision of retail/employment land 5.56ha;
- Economic Growth Centre 21.69ha;
- A mix of formal and informal open spaces distributed throughout the development area, provision of recreational space 4.47ha;
- One primary school located at the Gamston site 5.14ha;
- Energy Farm at the Gamston site (6.73ha);
- Local centre for community uses 4.26ha;
- Landscaping (area remaining is approx. 34.3ha).

The design is presented in Figure 4.3.11.

The main difference between the defined masterplan for each site and the combined masterplan is that an Economic Growth Centre (EGC) (a total of up to 5.56ha) has been included across both sites. This presents a mixed-use development (predominantly residential led) to increase the employment opportunities available within the two sites and encourage further jobs and innovation. It also increases the supply of dwellings up to 3001.

The location of the EGC on the Gamston site is located to the south of the site, adjacent to the Elkesley Business Park.

This compliments well with the adjacent neighbouring boundary use and there is an access directly to the EGC which would avoid larger vehicles travelling through the residential areas within the new settlement. The location of the EGC on the Gamston site has been located in the north eastern corner of the site. This allows for the residential areas to be located adjacent to the network of existing walks to the east of the site. In addition to that, the employment space would be better served direct from the highway and onto the A1 rather than having to go through the residential areas.

4.3.5 Land East of Carlton-in-Lindrick

Land East of Carlton-in-Lindrick has the potential to deliver a sustainable community with good access links to major local centre Worksop following Carlton Road on the A60. An overview of the potentially included land uses are;

- Site 59.04h (equivalent of up to 1452 dwellings at 35/h)
- Residential 41.48h
- Retail/Employment 0.0
- Recreation 4.10h
- Economic Growth 0.0
- Education 1.66h

- Landscape 11.80h

The evolution of the design is presented in Figures 4.3.12 to 4.3.14 accompanied by a commentary for each plan.

Environmental and Landscape Analysis Page (See Figure 4.3.12)

The plan shows the highlighted physical and landscape elements of the site and the immediate surroundings. Natural features and interventions which form the framework for the later design stages are highlighted. This includes waterways, vegetation, roads and buildings.

It also illustrates some of the non-physical elements including views, ownership boundaries, uses and connections which, combined with the above, illustrate the potential strengths, weaknesses, opportunities and threats to development on this site.

Following the coordination of all the above image elements into one plan, the interior of the site is relatively blank as are the areas just outside the perimeter. This is a concern as the connectivity to this site is very poor as the only point of access is the very tight public highway into the southern tip of the boundary. The analysis at this stage is clearly pointing to a new highway access being necessary.

The site is in close proximity to the villages of Carlton-in-Lindrick and Langold, and therefore careful masterplanning has had to be undertaken to ensure that the development would not result in coalescence with these nearing settlements. This has constrained the amount of developable area and what additional services/facilities the new settlement could support. As a result it is also the smallest of the three settlements. In comparison to the masterplan for the Former Bevercotes Colliery and Gamston Airport, the indicative masterplan for Carlton-in-Lindrick does not include a wider range of services and facilities such as any provision for employment/ retail land or a local service centre for community uses.

Masterplan Evolution – Ebenezer Howard Strategy (See Figure 4.3.13)

Ebenezer Howard's method for the urban planning of new Garden Towns was devised to encourage the natural development of societies and self-contained communities. We could now add 'sustainable' to that list as the underlying principles are still successfully used at different scales for new cities, towns and villages.

Here the method is applied and informs the design development to create hubs of linked urban spaces utilising different uses connected by concentric routes with a central retail and employment zone orbited by a residential, community and education nodes. In applying the method, once again the lack of a direct central access to this site is highlighted. Entrances would be needed around the perimeter and without any current means of doing this is leading to an outer 'boundary road'.

Masterplan Evolution – Neighbourhood Strategy and Connectivity

Notional arms of the Howard strategy diagrams are formalised into connected centres and uses. The theoretical zones becoming planned neighbourhoods. Sustainable features are considered and integrated into the forming plan.

Masterplan Evolution – Principles into Defined Core Areas (See Figure 4.3.13)

A step further towards an urban layout where the analysis of the environmental and landscape is fed into the plan. The lack of existing highways is clearly identified in this plan as the notional directs of travel are not available. The views across the boundary of the site are maintained. Open leisure use is sited adjacent to areas of wildlife interest and waterways on the outside of the site boundary.

Defined Masterplan (See Figure 4.3.14)

All elements combined to crystallise into a coherent overall urban plan. Connections aside, green corridors and landscape 'fingers' penetrate and link the developed areas. Uses relate to the environment outside the site and to the wider landscape.

4.4 Connectivity and Accessibility

4.4.1 Introduction

The objective for BDC is to create an independent and sustainable community through delivery of a new settlement. A key objective has been to assess the potential new settlement locations in regards to whether they can promote sustainable transport, in accordance with the NPPF.

Paragraph 37 of the NPPF suggests that developments should also support a balance of land uses, setting out that *“planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities.”*

The sites taken forward for further analysis have varying levels of connectivity and access throughout the immediate locality and regional areas, these are explored further below.

Bassetlaw is characterised as a rural District and as such, there is reliance on the private vehicle to connect residents from rural settlements to larger service areas. In terms of public transport, bus services play a larger role in connecting the settlements as train stations are concentrated mainly around the larger service centres of Worksop and Retford. The concept of the Garden Cities/Villages movement is to create attractive places for people to live. Attractive places will actively ‘encourage’ residents to use more sustainable methods of transport when travelling short distance with an emphasis on walking and cycling. It’s also important to ensure that any large-scale settlement has good access to the wider highway network and key transport corridors.

The Bassetlaw Rural Settlement Study 2016 (Understanding & Interpreting Sustainability in Rural Bassetlaw) identified that the 73.2% of all commuting journeys are made by car or van. There is a clear dependency on private vehicles for transportation methods. The rurality of the District makes public transport a less viable option and is not as convenient for travel purposes, this is likely to be due to the number of services available and the frequency. The report states that only 2.4% of commutes are made using bus services. While there is a preference towards sustainable means of transport, ample provision must be made for the private vehicles to reflect the current trends of District residents.

Paragraph 2.11 of the 2016 technical statement says that the issue surrounding bus use in the rural Districts is viability, with most residents preferring the car as previously mentioned. Having a new settlement located along a pre-existing bus route will prevent the need of entirely new services being created to provide transport infrastructure for the new residents. Existing services will benefit from the increased usage becoming more viable and producing an increasingly sustainable rural transport system.

Encouraging walking and cycling will increase the use of sustainable transport within the development, also reducing the carbon footprint of residents. The location of the shops and services within a new settlement would ideally need to be located centrally, to ensure they are accessible to the community and reduce travel distances. Providing the local services will adhere to the BDC’s goal of creating independent self-sustaining communities. This forms part of the strategic aim of reducing car dependency on both a local and national level. The three sites are assessed in more detail in Tables 4.4.2.1, 4.4.3.1 and 4.4.4.1.

4.4.2 Former Bevercotes Colliery

Table 4.4.2.1 Former Bevercotes Colliery Connectivity and Accessibility Assessment

Access	The site has one existing access off the B6387 serving the former colliery. The masterplan shows the use of the existing single access. The masterplan shows the hierarchy of road networks that can be achieved throughout the site, to allow for accessibility throughout the site and connection to the local area.
Rail	The closest train station is located 6km north in Retford.
Bus	The closest bus stop is 1km East in West Drayton which is serviced by the number 136 which connects the area with Retford. Due to the size of the proposed development, additional services or stops within/close to the settlement would be required as per the Nottinghamshire County Council Transport Plan. Bothamsall located 1.6km south west of the site has a number of services which run pass the western boundary of the site along the B6387. The services which are included are the 335 (Retford – New Ollerton – Newark) and 331 (Retford - North Ollerton – Retford). There could be an opportunity to investigate whether these services can be connected into the site and provide future residents with a local bus service.
Walking and Cycling (See figure 4.1.5)	There is limited walking or cycling provision currently on the site due to the rural and post-industrial nature of the site and location. The road through the site is narrow and lined with trees but is also a National Cycle Route 647 which connects Bothamsall with Bevercotes. While the land is a LWS, under the management of the Forest Commission, its location and poor land quality mean it is underused and lacking of suitable public access. A PRoW also follows the cycle route and road (PRoW Bothamsall BW14). Increasing the provision of cycling/pedestrian routes will encourage the use of sustainable forms of transport and increase connectivity within the local area.
Road	<p>Access to a national arterial route is an advantage for the site allowing quick access to the wider road network and region. West of the site is the B6387 which is a dual carriageway that connects the site onto the A1. Bevercotes has access onto the A1 north and south bound. The site is approx. 1.4km away from the nearest A1 junction. The B6387 bounds the site to the north of the site provides a north and southbound access point to the A1. There is a second northbound access point along West Drayton Avenue.</p> <p>There is a second junction onto the A1, to the south east of the site at Markham Moor, which is accessed via Bevercotes Village and Markham Moor roundabout from Main Street (approx. 3.4km).</p> <p>The B6387 junction requires improvements as identified in the District Wide Transport Study (2014). Development of this site would ensure the junction improvements. The junction joining the A1 has been subject to scrutiny due to the junction limitations which are likely to require upgrading if the site is developed. The village of Bothamsall, located immediately west of the site, will likely receive a rise in through traffic from the development as residents aim to reach the A614. The A614 connects to the Ollerton roundabout which is currently nearing capacity</p>

therefore a significant increase in traffic may lead to the requirements of additional road works.

Summary – There is good access to the Former Colliery at Bevercotes, however the existing internal road, which functions as a PRow and national cycle route would need upgrading. However, the site does have good connection to the A1 and bus routes which travel along the B6387 at the western boundary.

4.4.3 Gamston Airport

Table 4.4.3.1 Gamston Airport Connectivity and Accessibility Assessment

Access	A dual carriageway borders the east (Ollerton Road) of the site allowing for a greater capacity of traffic within the local area. Gamston Airport has several access points for the site; 2 access points shall come from Ollerton Road, 1 more from Brick Yard Road, 1 access route from Old London Road and a final access from the south of the airport. The large number of access routes creates potential for a high level of permeability within the site.
Rail	The closest train station is located 4km north of the site in Retford.
Bus	Gamston Airport's closest bus stop is 1km south in Elkesley. The proximity to Retford could serve as a main transport route connecting the rural area with the larger service centres. Gamston, located 1.5km east of the centre of the site, has three bus routes which go through the village, they are the; X37 (Tuxford – Retford), 37 (Newark – Tuxford – Retford) and the Lincoln Shopper. Services from Elkesley travel along Brick Yard Road which is immediately west of the western boundary of the site. The services from Elkesley include the 331 (Bilsthorpe – New Ollerton – Retford), 335 (Retford – New Ollerton – Newark), Doncaster Shopper, Edwinstowe Shopper and The Sherwood Arrow. Due to the size and scale of the proposed additional bus services would be required as per the Nottinghamshire County Council Transport Plan. The routes from Elkesley in particular can serve the future residents and this scale of development may provide opportunity to provide additional bus stops within or close to the site in order to enable the use of the existing services.
Walking and Cycling (See Figure 4.1.13)	There is limited walking or cycling provision on or near the site due to the current use and proximity of the A1. Increasing the provision of cycling/pedestrian routes will encourage the use of sustainable forms of transport and increase connectivity within the local area. The site is large enough that the masterplan design can incorporate a pedestrian and cycle network throughout the development and create good linkages which support sustainable modes of transport. There is a PRow located on the eastern boundary of the site Gamston (B)FP1 which connects the airport with Gamston serving as a good connection between the new community and existing settlements. There is also the potential for pedestrian/cycle improvements could be improved with Elkesley.
Road	East of the airport is the A638 which connects Markham Moor with Retford. The road provides access to Retford which is Bassetlaw's second major rural

settlement. The road is approximately 1.4km east from the centre of the site and will lead through the village of Gamston. Gamston benefits from having a north and southbound access onto the A1 which is approx. 1km south of the existing entrance to Gamston Airport. The east of the site is bounded by the B6387 which leads onto the slip road providing access to the A1 southbound. Travelling further along the B6387 over the A1 there is a slip road to the left which grants access onto the A1 northbound. West of the site is Brick Yard Road and Jockey Lane which provide access another junction, that has north and southbound access to the A1 (approx. 1km away from the north of the site). As part of the potential works and masterplanning, upgrading the access to these roads would allow for greater accessibility onto the A1 for this site.

Access to a national arterial route is an advantage for the site allowing access to the wider region. The junction (the B6387) joining the A1 has been subject to scrutiny due to the junction limitations which are likely to require upgrading if the site is developed. There is potential to reduce traffic impact upon the exiting village of Gamston by providing a link road from the north of the site straight onto the A638 therefore navigating around the village.

Summary – Multiple access roads have been provided within the Masterplan. The site benefits from being in close proximity of the A1 and with several bus services from the nearby rural settlements of Gamston and Elkesley.

4.4.4 Land East of Carlton-in-Lindrick

Table 4.4.4.1 Land East of Carlton-in-Lindrick Connectivity and Accessibility Assessment

Access	Access to the site is provided by Woodhouse Lane via The Green which connects to the A60. Woodhouse Lane is a single country lane where the grass verges allow for two vehicles to pass one-another. The road would require upgrading or an alternative access is likely to be required. Accessing the site from the A60 requires using the road around The Green. The road features a small tight turn to and from the A60 which forces vehicles into a single lane. Any growth of housing numbers where residents would use this junction is likely to result in significant levels of congestion and potential hazard resulting from the narrow turning. In order to improve access it is likely needed an access point from the A60 over the fields would be created.
Rail	The closest train station is located 5.9km South in Worksop
Bus	The closest bus stop is 810m west in Carlton-in-Lindrick. Due to the size of the proposed development additional services are likely to be required as per the Nottinghamshire County Council Transport Plan. Carlton-in-Lindrick is serviced by two bus routes. The services are the; 21(Worksop – Harworth – Doncaster) and 22(Worksop – Doncaster). The services are in walking distance of the site however further provision to provide a stop within/close to the site should be considered to provide access to public transport to residents on the eastern edge of the site.

Walking and Cycling (See Figure 4.1.21)	Two PRow border the sites on the proposed access roads, Carlton-in-Lindrick FP29 which follows Woodhouse Lane and Carlton-in-Lindrick BW30. The PRow's converge towards The Green and connect with Carlton-in-Lindrick. There will be requirements to provide new foot and cycle paths in conjunction with any road improvements. Further PRow's lead out east of the site into the rural countryside. However, due to the dangers posed by the access route it is likely that any form of upgrades would need to consider the diversion of the existing PRow to ensure safety of pedestrians. Mitigation planting could also be provided along the PRow.
Road	The site is adjacent to the A60 which connects a series of rural settlements to Worksop (the largest settlement in Bassetlaw). The road has a number of large settlements and is likely to require upgrades to handle a higher traffic calibre as informed by the District Wide Transport Study (2014).
Summary – Land East of Carlton-in-Lindrick has a sub-optimal access from the A60 which would result in vehicles using a tight single lane bend which is likely to be a serious concern with the growth of traffic using the road as a primary access point. There is a large distance between the site and existing bus services, the extension of bus services would be beneficial to service the settlement.	

4.4.5 Conclusion

Assessing the sites against the sustainable transport requirements of BDC all the sites present a small deficit of access, particularly due to the separation distances between site and bus stop. Nevertheless, all the sites demonstrate a greater potential to deliver a more sustainable new settlement due to having good access to the existing highway network, proximity to key employment sites.

Providing additional bus stops to the existing routes service would enable the new settlement to increase the viability of existing bus service in line with the objectives set out in the Bassetlaw Rural Settlement Study (paragraph 2.11, 2016). Gamston Airport provides the most opportunities out of the three settlements, with multiple bus routes which pass through the nearby settlements of Gamston and Elkesley and the site is within close proximity and links to the PRow network.

Furthermore, there is a greater opportunity for the creation of an integrated settlement with shared services and an excellent access to the strategic road network by developing Gamston Airport and Bevercotes Colliery. Improving the bus routes between both potential settlement areas will substantially improve the connectivity to Retford, gaining access to the East Coast Main Line located there.

Land East of Carlton-in-Lindrick would see an improvement to the existing connectivity into Worksop especially along the High Street. Whilst bringing public transport in the form of an improved or direct bus service would dampen traffic flows. However, this pales in comparison to the integrated settlement transport improvements that developing Gamston and Bevercotes.

4.5 Ecology

4.5.1 Introduction

One of the key objectives for delivering a garden village is for the new settlement to enhance the natural environment through providing a comprehensive green infrastructure network and net biodiversity gains. To increase the sustainability of the site, ecological considerations must be taken into account to ensure that any impacts on habitats and species can be mitigated against to prevent significant adverse impacts upon the local area. The NPPF sets out the government's agenda for preserving and mitigating against the potential adverse effects on ecology. Paragraph 109 of the NPPF states that the planning system should contribute to *"minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures"*.

It is acknowledged that any development of this scale and nature is likely to result in some adverse impacts on the environment. However, two of the sites, Gamston Airport and the Former Colliery at Bevercotes contain potentially contaminated land (See Appendix 1.13 and 1.33) and development could provide the opportunity to remediate the sites and enhance biodiversity within the sites. Chapter 9 of the IDP states that new developments should deliver and *"Provide new and enhanced natural and semi-natural green spaces that provide a wide range of benefits for people and wildlife"* (IDP, Page 24). Appropriate masterplanning both sites will provide an opportunity to incorporate sustainable enhancements and mitigation. This can be achieved through the creation of a networked green infrastructure throughout the development including public open space, parks, recreational facilities and water habitats. They will improve both the ecological and environmental quality of the new settlement for the benefit of future residents, habitats and species both within and off the site.

Potentially contaminated land usually results from a previous or current use that has resulted in the land quality degrading. Re-use of this land would fall in line with the NPPF's paragraph 17 Core Principles which *"encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value"*. Therefore remediation of the sites and the creation of the aforementioned public open space, parks, recreational facilities and water habitats is likely to lead to a net gain in terms of biodiversity and ecology.

A review has been undertaken of the three sites brought forward for a more detailed assessment of the potential impacts upon the local ecology. It is important to note that the review is based on a desktop study only. It is advised for any sites going forward, further assessment would be required including a Phase 1 habitat survey of the sites and review of the data on habitats and species from the Local Records Centre, to advise on any additional survey work. The assessment of each site is summarised in tables 4.5.2.1, 4.5.3.1 and 4.5.4.1 below.

4.5.2 Former Bevercotes Colliery

Table 4.5.2.1 Former Bevercotes Colliery Ecology Review

Map Reference	Appendix 1.33
Site Context	The area is classed as potentially contaminated due to the former industrial usage as a colliery. Much of the site has been planted with deciduous blocks of trees. Much of the remainder of the site is hard standing, which is beginning to be colonised by pioneer tree species, particularly in the eastern part of the site. The

	land on the site is poorly maintained with restricted public access. Consequently the site does not represent a good quality public asset.
SACS/SPAs	None likely to be impacted due to the separation distances.
Sites of Special Scientific Interest (SSSI)	None within close proximity of the site. An SSSI is located 2.6km south east (Bevercotes Park), 4.1km north east (Gamston & Eaton Woods & Roadside Verges) and 4.5km west (Clumber Park). Due to the separation distance there are unlikely to be any significant impacts that can't be mitigated, however impacts would need to be fully assessed as part of any further Ecology assessment.
SSSI Risk Zone	The entirety of the site falls within the Bevercotes Park and Clumber Park SSSI risk zone. Natural England require consultation on residential developments of 100 units or more
Local Wildlife Sites (LWS)	<p>The site's central and eastern parts are designated as a LWS (Bevercotes Park), the south-eastern part of the site is also designated as a LWS (Bevercotes Colliery Site and Lawn Covert). Several mitigation measures have already been implemented upon the site as part of existing consent (09/05/00002) which included:</p> <ul style="list-style-type: none"> • The enhancement and preservation of the railway; • The creation of significant areas of new habitat and the management and enhancement of the retained woodland habitats, including the areas of designated LWS and Tree Protection Orders; • A Mitigation, Habitat Enhancement and Management Plan; • Contributions to off-site ecological mitigation, namely setting land aside for ground nesting birds; and • Further mitigation techniques maybe required such as translocation of species to another site within the area, if the site is redeveloped.
Local Designations	(See above). To the north east of the site is an area which is managed by the Forestry Commission. The area managed by the forestry commission is not included in the site area. As previously mentioned the site is not available for public access nor in its current capacity does it provide good quality public realm. Direct access to the Forestry Commission area would provide future residents with a high quality local environment. Although development would be introduced into the site, this would allow for remediation and the incorporation of appropriately designed and managed green infrastructure to improve net gains for biodiversity with the site. Appropriate survey work should be carried out by the developer in order to ascertain what/if any impacts will be felt upon the area under the management of the Forestry Commission.
Ecological Survey Work	The parameters of this report do not extend to the undertaking of an ecological survey of the site itself. As a result appropriate survey's would need to be undertaken during the planning stage of any development, including an ecological survey (although not limited to this) and information from the Local Records Centre detailing species and habitats both on and near to the site. The survey

	would need to include a review of the current ecological context of the site, in particular the trees/vegetation to be removed, an assessment of the potential impacts on species and habitats, identify any further survey or actions, and the mitigation and enhancement methods to reduce any adverse impacts.
Water/Wetland	There are no known waterbodies on site. The site is within a river valley, the Rivers Idle, Maun and Meden border the east, south and west of the site. There is a potential ditch that runs through the north eastern part of the site. There is the potential to create green infrastructure along these water corridors. The impact on existing water bodies/ditches both within and in close proximity to the site would need to be assessed as part of further survey work. Impacts are likely to be negligible following appropriate assessment of the drainage of the development and incorporation of suitable protection measures during construction.
Buildings and Structures	The site does not contain any buildings. Foundations from the sites former use as a Colliery are evident on the site, a large concrete slab is located north of the centre with little vegetation being able to grow as a result.
Environmental Opportunity	<p>The Former Colliery at Bevercotes is classed as potentially contaminated land covering the site. The Colliery closed in 1993 and there has been no industrial use since, resulting in reclamation by wildlife. Any contamination found will need remediating and will need to take place prior to any on site development.</p> <p>As mentioned above the sections of the site are covered by a LWS</p> <p>The design of any new settlement would need to follow the Garden City principles particularly a comprehensive green infrastructure and biodiversity enhancements as part of their design. It is recognised that there would need to be the removal of vegetation/trees on the site, principally from areas outlined in the masterplan (see Figure 4.3.5). In order to compensate for any losses, the masterplanning for the Former Colliery at Bevercotes site includes a large area of green infrastructure improvements, including areas of landscaping, trees/hedgerows planted along many of the roads, the plans also show a number of green space's, parks and water habitats to be provided within the site. The inclusion of these areas will lead to the provision of habitats for local wildlife and net biodiversity gains for the site.</p>
Protected Species	The information is to be ascertained from an Ecological Survey (see above)
Invasive Species	The information is to be ascertained from an Ecological Survey (see above)
<p>Summary – There are no statutory local, national or international ecological designations within the site which would be affected by the development. However, the site is a LWS that currently has no public access and is currently not a managed area. This presents a unique opportunity to incorporate the LWS into the development and enhance the environmental sustainability of the new settlement. Furthermore, it presents the opportunity for mitigation such as translocation of species.</p>	

As a former colliery the site may have potentially contaminated land which would have impacted upon the ecology. Located in the centre of the site is an area of open space which contains concrete flooring which has prevented vegetation growth in this area.

It is acknowledged that developing the site for a new settlement would impact on the LWS and the neighbouring area managed by the Forestry Commission. Whilst green infrastructure and vegetation should be incorporated into the scheme, other appropriate mitigation and enhancements such as translocation of species would ensure any negative impacts to ecology are managed out.

The masterplanning of the site includes a series of green infrastructure and habitat creation, which would mitigate any negative impacts. Given the large provision of green infrastructure in the masterplanning it is likely that there will be a net gain in regards to ecology and biodiversity on the site. The area under the management of the Forestry Commission bordering the site would also provide future residents access to a good quality ecological site.

4.5.3 Gamston Airport

Table 4.5.3.1 Gamston Airport Ecology Review

Map Reference	Appendix 1.13
Site Context	Gamston Airport is designated as a potential contaminated site due to its current commercial usage. There are some areas of scrub and groups of trees adjacent to parts of the eastern and western boundaries.
SACS/SPAs	None likely to be impacted due to the separation distances.
Sites of Special Scientific Interest (SSSI)	None within close proximity of the site. An SSSI is located 2.9km east (Gamston & Eaton Woods & Roadside Verges) and 4.7km west (Clumber Park)
SSSI Risk Zone	The majority of the centre and western parts of the site are located within the Clumber Park SSSI Risk Zones, while the north east is within the Gamston, Eaton Woods and Roadside Verges SSSI risk zone. Natural England require consultation on residential developments of 100 units or more.
Local Wildlife Sites (LWS)	Located 175m south east of the site is a LWS (Dover Holt Wetland and Dover Holt) and 180m north-west of the airport is the Gamston Airport Scrub and Grassland. The development is anticipated to have a negligible impact upon the site due to the existing nature of the site as an airport, the intervening road and suitable mitigation measures that can be incorporated into the development.
Local Designations	There are no further ecological designations on the site.

Ecological Survey Work	The parameters of this report do not extend to the undertaking of an ecological survey of the site itself. As a result, appropriate surveys would need to be undertaken during the planning stage of any development, including an ecological survey (although not limited to this) and information from the Local Records Centre detailing species and habitats both on and near to the site. The survey would need to include a review of the current ecological context of the site, an assessment of the potential impacts on species and habitats, identify any further survey or actions, and the mitigation and enhancement methods to reduce any adverse impacts.
Water/Wetland	There are no known waterbodies on site. The site is within a river valley, the Rivers Idle, Maun and Meden border the south east of the site. The impact on existing water bodies/ditches both within and in close proximity to the site would need to be assessed as part of further survey work. Impacts are likely to be negligible following appropriate assessment of the drainage of the development and incorporation of suitable protection measures during construction.
Buildings and Structures	The airport contains approximately nine medium sized hangers that accommodate light aircraft with an associated operation's building. The buildings appear to be in frequent use as part of the current operations of the airport. The site also comprise of a large area of hardstanding from the existing runways on site. They are unlikely to support any significant species due to the nature of the airport uses and associated noise and vibration. An ecology assessment would be required at a later stage in the planning process.
Environmental Opportunity	<p>Gamston Airport is classed as having potentially contaminated land on site, if any contamination is identified land remediation would need to take place prior to any on site development.</p> <p>The design of any new settlement would need to follow the Garden Village principles, and include comprehensive green infrastructure and biodiversity enhancements as part of their design. The masterplanning for the Gamston site includes a large area of green infrastructure improvements, including areas of landscaping, trees/hedgerows planted along many of the roads, the plans also show a number of green space's, parks, allotments and water habitats to be provided within the site. The inclusion of these areas will lead to the provision of habitats for local wildlife and net biodiversity gains for the site.</p> <p>The potential for any significant ecology on the site is likely to be low and impacts can be mitigated. The development is likely to have a negligible or positive impact with the appropriate enhancements delivered on site.</p>
Protected Species	This information would be gathered from an Ecological Survey (see above).
Invasive Species	This information would be gathered from an Ecological Survey (see above).

Summary – There are no statutory local, national or international ecological designations within the site which would be directly affected by the development. The nearest ecological designation is located 175m east of the site (measurement taken from the edge of site) however, this is a local wildlife site which is not a statutory

designation. Due to the separation distance and appropriate mitigation measures employed, the LWS is unlikely to be adversely effected by the development during the construction phase and residential use. The daily activities derived from its current use as an airport, are likely to deter local wildlife from the area, particularly from birds which can potentially cause damage to flying vehicles.

The site has the potential to accommodate a significant amount of green infrastructure due to the size of the site. By increasing the amount of green infrastructure the site will provide ecological benefits and a net increase in biodiversity. Having green spaces connected by corridors will not only improve the environment for future residents/users of the site but also have a positive effect for local wildlife and habitats.

4.5.4 Land East of Carlton-in-Lindrick

Table 4.5.4.1 Land East of Carlton-in-Lindrick Ecology Review

Maps Reference	Appendix 1.5
Site Context	The area is characterised by open fields used for agricultural purposes. The majority of the mentioned fields are divided by hedgerows. One block of woodland is located at the central eastern part of the site (Willow Holt).
SACS/SPAs	None likely to be impacted due to the separation distances.
Sites of Special Scientific Interest (SSSI)	None within close proximity of the site. An SSSI is located 1.9km north west (Dyscarr Wood), 4.5km north (Styrrup) and 5.1km south west (Lindrick Golf Course). Due to the separation distance there are unlikely to be any significant impacts that can't be mitigated, however impacts would need to be fully assessed as part of any further Ecology assessment.
SSSI Risk Zone	The entirety of the site is located within the Dyscarr Wood SSSI risk zone. Natural England require consultation on residential developments of 100 units or more
Local Wildlife Sites (LWS)	The closest LWS is 660m east of the site (Hodsock Priory Estate). The areas are separated by agricultural fields and it is not anticipated to have any significant impacts due to the distance.
Local Designations	The site has no existing ecological designations.
Ecological Survey Work	The parameters of this report do not extend to the undertaking of an ecological survey of the site itself. As a result, appropriate surveys would need to be undertaken during the planning stage of any development, including an ecological survey (although not limited to this) and information from the Local Records Centre detailing species and habitats both on and near to the site. The survey would need to include a review of the current ecological context of the site, as assessment of the potential impacts on species and habitats, identify any further survey or actions, and the mitigation and enhancement methods to reduce any adverse impacts.

Water/Wetland	There are no known waterbodies on site. There are small streams which are located close to the west, south and east of the site. A village pond is located along The Green road leading onto Woodhouse lane. The impact on existing water bodies/ditches both within and in close proximity to the site would need to be assessed as part of further survey work.
Buildings and Structures	There is one existing home on the site (Lilac Lodge).
Environmental Opportunity	<p>The site is currently used primarily as agricultural land with existing hedgerows. It is likely that the land is currently supporting a range of habitats for local wildlife. However, there are no statutory ecological designations identified within the site.</p> <p>The design of any new settlement would need to follow the Garden City principles, and include comprehensive green infrastructure and biodiversity enhancements as part of their design. The masterplanning for the Land East of Carlton-in-Lindrick site includes a large area of green infrastructure improvements, including areas of landscaping, trees/hedgerows planted along many of the roads, the plans also show a number of green space's, parks and water habitats to be provided within the site. The inclusion of these areas will lead to the provision of habitats for local wildlife and net biodiversity gains for the site.</p> <p>It is acknowledged that the site would result in the loss of agricultural land. The potential for any significant ecology on the site is likely to be low and impacts can be mitigated, however further survey work would need to be undertaken. The development is likely to have a negligible or positive impact with the appropriate enhancements delivered on site.</p>
Protected Species	The information is to be ascertained from an Ecological Survey (see above)
Invasive Species	The information is to be ascertained from an Ecological Survey (see above)
<p>Summary – There are no statutory local, national or international ecological designations within the site that would be affected by the development. The site is on land which is currently used for agricultural purposes with a hedgerow along Woodhouse Lane and alongside existing field boundaries.</p> <p>The largest significant loss to ecology, if the site is developed, would be the loss of the fields and potential loss of existing hedgerows situated within and along the boundaries of the site. The creation of green infrastructure within the site will help to mitigate the loss of the agricultural land and hedgerows could be retained and incorporated into the design of the development.</p>	

4.5.5 Conclusion

There is likely to be a negative ecological impact on all three sites due to the scale and nature of developing a new settlement. In direct comparison to Gamston Airport and Land East of Carlton-in-Lindrick, Bevercotes is likely to require the most ecological mitigation and enhancements measures. This is due to the site being a LWS and having substantially more vegetation from natural reclamation from the cessation of industrial practice there. Gamston Airport will result in the largest level of ecological and biodiversity enhancements due to the site area available, which enables the masterplan to deliver more green space, green corridors, parks, allotments and water habitats. The Bevercotes site comes in second

to Gamston in terms of the opportunities presented within the masterplan with provision for significant green infrastructure opportunities within the site. As the site has remained vacant for over 20 years wildlife has managed to grow resulting in the central and eastern parts of the area being designated as LWS. Development therefore while on previously developed land would result in the loss of ecology that has developed on the site.

The Land East of Carlton-in-Lindrick is a greenfield site used for agricultural purposes. The fields have not been previously developed upon and are unlikely to contain the potentially contaminated land of the other two sites. However, being greenfield, it would be more preferable to maintain the land at its current use and focus development on brownfield land.

It is acknowledged that limitations innate within the study reduce the ability of the study to accurately assess the ecology of the sites. While the desktop assessments undertaken can be considered accurate further detailed field ecology assessments would be required to validate and expand the necessary response,

4.6 Economy

4.6.1 Former Bevercotes Colliery

Land use- Bevercotes Colliery is a former coal mine which ceased operation in 1993; the site is currently vacant. The Woodland Trust are also managing an area of woodland to the north-east of the site, which is open to the public and is a LWS. Surrounding the site on all sides are 4 farmsteads which are classed as ALC Grade 3 land. To the east of the site is the parish of West Drayton where a vehicle repair shop is located. To the south east of the site there is a motorway service facility where fast-food restaurants, a hotel, garage and a shop can be found. The village of Elkesley to the north provides a shop and post office. The land uses in the nearby area are ubiquitous in the makeup of the national rural economy.

The former Bevercotes Colliery has planning permission to redevelop the site for storage and distribution use (Ref: 09/05/00002). Permission was granted on the 23rd May 2013 and expires five years from this date. The site is currently vacant and the industrial units have not yet been built. As part of the development of the site there is a requirement for significant junction upgrades on the A1. Consequently, the landowners are reviewing the land use options for the site with alternatives being sought.

Developing the site will inevitably support and bring forward a wide range of economic, social and environmental opportunities. This will support the local rural economy through bringing this vacant site into residential/mixed use development.

Employment – There are limited employment opportunities found in the location immediately around Bevercotes Colliery. Elkesley contains a shop and post office which does not provide significant job opportunities for everyone. The motorway service facility to the south of the site provides some employment in the retail and fast food restaurant industries. Retford is 6.82km to the north of the site and is the nearest key employment area. Numerous professional services and light manufacturing industry can be found here. The site is also located 500m from the A1, providing good transport links to a wider range of employment areas such as, Worksop, Mansfield, Doncaster, Rotherham, Sheffield and Lincoln. However, it is recognised that this relies on the use of a private vehicle. It would take approximately 44 minutes by bus and walking to reach Retford from the site.

Allocating a new settlement at Bevercotes Colliery would not result in the loss of any existing economic land use. The construction period and establishing a new community will invariably bring economic growth to the area. The masterplan (**Figures 4.3.5 above**) indicates there would be a central hub with provision for employment/retail (1.48ha) within the core of the development. There are a range of unit

sizes which could be suitable for a variety of commercial services to occupy the space, such as a supermarket which is lacking in the existing local area. Furthermore, other service sector industries could take root in the site due to its attractive location, lower rental cost and proximity to Retford. Close to the central hub area are education (1.71ha) and community space (0.9ha) that would offer employment in public and community services.

The combined masterplan for bringing forward both Gamston and the Bevercotes site, also includes an area dedicated to Economic Growth Centre (EGC) of 21.69ha to encourage further jobs and innovation into the area. However, there would be a loss of residential space in the south east of Gamston and a loss of residential (6.04ha cumulatively) with educational space at Bevercotes (1.71ha). This could significantly enhance the economy of the area through long term employment and locating of innovative potential businesses such as science hubs, industrial units, and business parks, start-ups across a range of A2, B1 and B2 uses. However, further research is likely to be required to identify if employment in these services would be suitable for this location through analysis of supply and demand to refine the uses.

Social and Green Infrastructure - Bevercotes Colliery is within 800m of Elkesley Village where a community hall, primary school and post office are located. These services play an important role in the cohesion of the local village community. The nearest GP and pharmacy is located 3.9km to the South East in the Tuxford. The nearest secondary schools are Tuxford Academy (located 6.1km east from the centre of the site) and Retford Oaks Academy (7.0km north). There are likely to be existing school bus routes which would need to be explored in further detail. As part of any development coming forward to provide public transport from the site.

The masterplan for the site provides community (0.9ha) and educational (1.71ha) facilities within the centre of the site. These facilities provide the opportunity to serve a community need within the site, including a primary school, GP/pharmacy, community hall, local centre, library or hairdressers to name a few examples, essential pieces of social infrastructure that would be beneficial in this location. The combined masterplan for the site also provides these facilities, but due to linking the two areas, provides less residential units on this site and the primary school would be provided on the Gamston site (please note the distribution of services and facilities between the two sites are indicative at this stage). The nearest primary schools are the existing primary at Elkesley and the proposed primary school on the Gamston Site (approximately 2.2km from the centre of both sites).

Green and open public space (15.82ha) is provided throughout the site, including water features around the perimeter. Landscaping provided around the perimeter of the site helps to screen views and connect into the wider green infrastructure network. Connecting through all of the site is a cycle route which runs through the outer residential areas to the central hub and connects with the National Cycle Route and PRow that runs north west to south east through the centre of the site. Furthermore, the inclusion of a central section for recreation space and buildings (4.47ha) will strengthen the social cohesion and infrastructure of the site. Due to the close proximity of Elkesley and Gamston, the potential services and green infrastructure/public space will also support existing communities. This will provide facilities for residents of the new settlement during the initial phases of development.

4.6.2 Gamston Airport

Land Uses - Presently the site is used as a small General Aviation Terminal for the basing or stop-over for corporate and private aircraft. There are five businesses associated with the airport, three flying schools, aerial surveyors and flight inspection surveyors. To the southern boundary of the site there are three airport unrelated businesses a garage, a bus body shop and a trucking company which form Elkesley

Business Park. In the immediate proximity of the site is a scrap metal dealer and arable fields indicating farming activity.

Evidently, the site and surrounding land use is typical of the rural economy. Developing a new settlement at Gamston Airport would undoubtedly result in the loss of employment associated with the airport. However it would inevitably bring a major boost to the local economy, through construction and long term investment of employment sites by establishing a new settlement in this location.

Employment- the nearest villages Elkesley and Gamston provide limited employment opportunities with a shop and post office in each. Specialised professional service based employment relating to Gamston Airport can be found at there. It is acknowledged that the businesses related to the current operational airport will be lost through the redevelopment of the site and would no longer be compatible with the residential nature of the new settlement. However, it is anticipated that numbers directly employed by the airport is on a small scale and some of the businesses associated with the airport could relocate. The nearest key employment site is the market town of Retford which can accessed by sustainable transport modes. The journey takes approximately 25 minutes by foot and bus. The economy found in Retford mainly consists of professional services, retail and light industry.

The masterplan (See Figure 4.3.10 above) indicates there would be provision for employment/retail (4.08ha) within the core of the development. With a range of unit sizes the location would be suitable for a variety of commercial services to occupy the space, such as a large convenience store which is lacking in the existing local area. Furthermore, other service sector industries could take root in the site due to its attractive location, lower rental cost and proximity to Retford. At opposite sides of the central hub are a school and community area would offer employment in public and community services.

The combined masterplan for bringing forward both Gamston and the Bevercotes includes an EGC. It would cumulatively provide 21.69 ha, with the Gamston EGC located in the south east of the site close to Elkesley Business Park. This would encourage further jobs and innovation into the area. It is anticipated that a range of businesses could potentially locate in this area including rural businesses, science hubs, industrial units, business parks and start-up companies across a range of A2, B1 and B2 uses. Further research would help to identify the supply and demand for different types of employment in this location.

Social and Green Infrastructure – The villages of Elkesley and Gamston, which are located within 800m of the site, provide several key social infrastructure services. This includes two primary schools, a shop, a post office, medical centre and a pharmacy can be found collectively in the villages. Furthermore, Elkesley Memorial Hall is a focus point for community events such as Brownies, bingo and private functions. The nearest secondary schools are Retford Oaks Academy (located 4.6km north from the centre of the site), The Elizabethan Academy (6km north) and Tuxford Comprehensive (located 8km south east). There are likely to be existing school bus routes that would need to be explored in further detail as part of any development coming forward to provide public transport from the site.

Due to the close proximity of Elkesley and Gamston, the potential services and green infrastructure/public space will also support existing communities and will provide facilities for residents of the new settlement during the initial phases of development.

The masterplan for the site provides community (3.37ha) and educational facilities (5.14ha) within the centre of the site. These facilities could provide the opportunity for community function needs within the site such as; a primary school, a GP/pharmacy, community hall, local centre, library or hairdressers. Essential pieces of social infrastructure that would be beneficial in this location.

Significant areas of central land in the masterplan have been allocated for recreational (29.1ha) and open space (16.86ha), including lakes as a main feature within the central hub. In the north, the masterplan identifies the potential to incorporate recreational fields featuring an athletics track and ancillary

buildings. To the south east of the site an area for allotments has been allocated. This retains the open nature of a rural village but also benefits the social and green infrastructure within the development. Open space provides an essential role in maintaining and enhancing the social cohesion for both future residents and the wider community. Due to the sites proximity to Gamston and Elkesley, these communities will also be able to take advantage of the new open space and recreation facilities. Encouraging cohesion between the existing and new community.

To the north of the site is an area identified as an Energy Farm (6.3 ha). This provides the opportunity to reduce the carbon footprint of the development and create a truly sustainable approach for a new settlement. Further feasibility studies are required to indicate what energy options could be provided through development and within the energy park. This could also explore grid capacity and connection availability in further detail. The NPPF sets out that in planning for new development, local planning authorities should plan for development in locations and in ways which reduces greenhouse gas emissions and promotes energy from renewable and low carbon sources (Paras 95 and 97).

4.6.3 Land East of Carlton-in-Lindrick

Land Use- The singular economic activity on site is agriculture, which would be lost to the development. The agricultural land on site and the surrounding three farmsteads is classed as ALC Grade 3. There would be no other employment land lost to the development. Adjacent to the western edge of the site is a fishery farm which supports the local rural economy and is also open to the public. Similarly, Hodsock Priory hotel and wedding venue supports the local tourist economy, located to the south east of the site. Hodsock Park/Priory form part of an unregistered park and garden which can be found to the east of the site too. Looking to the west of the site are the villages of Carlton-in-Lindrick and Langold, where a small retail centre can be found with two shops in the former and a supermarket in the latter.

Agricultural industries are the prevailing land use in the area and the site conforms to the wider economic composition of the rural economy. Developing the site here would result in a strong economic boost from the construction and the establishment of a new settlement.

Employment- The villages of Carlton-in-Lindrick and Langold are adjacent the site, providing areas of limited employment. With a large shop, two small shops and two post offices being found collectively. Approximately 1km from the western edge is a light industrial space which focuses on distribution and construction. Worksop, the largest town in Bassetlaw is approximately 6km south of the site and is accessed through public transport taking approximately 25 minutes by bus. The town's traditional economic heritage is derived from the coal mining industry but has now reoriented towards a service and manufacturing base. Furthermore, warehousing and distribution also form a key part of Worksop's current economic base. Allocating this site as a new settlement would be the strongest economically due to its proximity to Worksop and ensuring a strong real estate performance.

The masterplan indicates that there will be no provision for retail/employment on the site. However the site is located close to Worksop where key employment in services and manufacturing is located. The masterplan (**See Figure 4.3.14**) identifies that there would be a Central Hub comprising of a school and community buildings, education is expected to take up 1.66ha of land on the site. 500m from the site's western boundary is a supermarket in Carlton-in-Lindrick which would also offer some limited employment opportunities. 1.3km North West from the site is two small shops and like the supermarket in Carlton-in-Lindrick would offer very limited employment opportunities. Onsite employment can be found in public services such as education and community facilities.

Social Infrastructure- The site is in close proximity to the villages of Carlton-in-Lindrick and Langold. There is a primary school located in the former whereas, the latter contains two post office, GP and a primary

school. The existing social infrastructure between the two villages is substantial to support the existing villages and, due to their close proximity to the site, would be interdependent on one another.

The nearest secondary schools are Outwood Academy Valley (located 5.1km south from the centre of the site) and Outwood Academy Portland (7.7km south). There are likely to be existing school bus routes that would need to be explored in further detail as part of any development coming forward to provide public transport from the site.

The masterplanning for this site indicates that the central eastern segment will support a local centre; complete with a school, playing fields and community buildings. There would be opportunities for a GP/Pharmacy and other social infrastructure such as a library and community hall. Due to the close proximity of Carlton-in-Lindrick and Langold, the potential to provide additional services and green infrastructure/public space will also support existing communities and any existing services close by will provide facilities for new residents during the initial phases of site development.

The plan indicates that a provision has been made for landscaping (11.8ha) as well as recreation space (4.1ha). The plans locate the main provision east of the centre of the site which is in walking distance of the entire sites residential allocation.

5 Stage 4: Delivery Mechanisms and high level Viability Appraisal

5.1 Introduction

As part of the overall study in identifying potential sites to accommodate a new settlement in Bassetlaw, RLB were requested to undertake a high level viability appraisal of the three shortlisted sites located at the Former Bevercotes Colliery, Gamston Airport and Carlton-in-Lindrick.

The three sites differ in characteristics relative to redevelopment potential, with Carlton-in-Lindrick being an agricultural greenfield site, Gamston being an old RAF airbase which is still in active commercial use and Bevercotes which is an old colliery site. These characteristics are reflected in the individual viability appraisals by way of differing allowances for abnormal development costs with Carlton-in-Lindrick being the least constrained, followed by Gamston Airport which will require removal of old runways, hardstanding, old hanger bases and existing buildings. Followed by Bevercotes Colliery which is likely to need relatively more significant remediation and reclamation of colliery spoil residues which appear to be present across large areas of the site where housing and other development would be located.

The sites differ in size with Gamston Airport being the largest at 303 acres (122ha) with Carlton-in-Lindrick and Bevercotes Colliery being 146 Acres (59ha) and 186 Acres (75ha) respectively.

In respect of the mix and potential range of uses required to create a new settlement the indicative masterplans (Figures 4.3.1-4.3.14) prepared by AAD Architects set these out for each site including roads, landscaping and ancillary development and these have been used as a basis for the individual appraisals.

RLB have considered the average density which would be most appropriate at this stage to be applied to the appraisals and indicative masterplans which takes into account the following:

1. This needs to be at a level to produce reasonable commercial outcomes in respect of residual land values and developer returns. In this context not only must a scheme be viable from a developer's perspective (usually to meet a target return on GDV of between 15 to 20%) but the land value must also provide sufficient incentive for the landowner to release the land for development. This is clearly set out in paragraph 19 of the NPPF as *"Planning should operate to encourage and not act as an impediment to sustainable growth. Therefore significant weight should be placed on the need to support economic growth through the planning system"*. Therefore, encouraging development to take place.
2. The density needs to generate sufficient housing numbers to achieve the objective and housing numbers to create a new settlement.
3. The density needs to be sufficient to establish efficient use of land relative to the area of land take at each of the three locations otherwise it would bring into play consideration of smaller sites.
4. Whilst the density needs to be at a sufficient level to satisfy the above, the objective is also to create a rural rather than urban settlement environment which would tend to involve density below normal urban assumptions.

Normally for a strategic site of this nature developers and landowners at this strategic stage would look to create densities of between 40 and 50ha in the housing zones to achieve efficient use of land and create the right levels of potential land value and developer returns. However with regard to the objectives here to create a rural rather than urban community we have proposed an average assumed density of 35ha which would enable a range of density around that average reflecting what might be required from a commercial requirement but also reflecting some lower density areas to reflect the rural settlement objectives.

Approach and Definition of Viability

There are two basic criteria that need to be satisfied for a development to be considered viable:

1. The residual value of the land calculated by reference to the total value created by the development (e.g. for a housing scheme the total sales value that would be realised in selling all of the units in the completed scheme, also referred to as the Gross Development Value (GDV)) when set against the total estimated costs of development i.e. construction costs, fees, finance and profit should generate a **residual land value** that is **positive** and **exceeds the existing use value** in the land prior to the granting of Planning for redevelopment.
2. The development appraisal (i.e. considering the GDV set against the cost of development) in addition to demonstrating a positive residual value for the land described in 1 above also needs to cover a **development profit** for the Developer of the land of **between 15 to 20 % of GDV**.

These two basic criteria of viability are referred to in various guidance documents as follows:

RICS Professional Guidance: Financial Viability in Planning 2012.

Paragraph 2.1.3 states that a proper understanding of financial viability is essential in ensuring that:

- *land is willingly released for development by landowners.*
- *developers are capable of obtaining an appropriate market risk adjusted return for delivering the proposed development.*

Recent Government advice is contained in the DCLG document 'Section 106 affordable housing requirements— review and appeal' April 2013.

The DCLG guidance states:

- *'The test for viability is that the evidence indicates that the current cost of building out the entire site (at today's prices) is at a level that would enable the developer to sell all the market units on the site (in today's market) at a rate of build out evidenced by the developer, and make a competitive return to a willing developer and a willing landowner.'*

Viability is also referred to in the National Planning Policy Framework

NPPF paragraph 173, defines financial viability for planning purposes as:

- *"An objective financial viability test of the ability of a development project to meet its costs including the cost of planning obligations, while ensuring an appropriate Site Value for the landowner and a market risk adjusted return to the developer in delivering that project."*

The viability appraisal method

The RICS Professional Guidance Paragraph 2.2.2 states:

- *'The residual appraisal method can be used in two basic ways; first, to assess the level of return generated from the proposed project where site cost is an input into the appraisal, and second, to establish a residual Site Value by inputting a predetermined level of return.'*

We have set out an example below using assumed costs and values how the appraisal works in consideration of the guidance above and in using the residual appraisal method to calculate a residual land value.

Figure 5.1.1 Viable Example

Viable Example	
Total Development Value GDV	Total Development Cost Including Profit
£	£
10,000,000	7,000,000
Total Value Created by the Development	Profit
£10,000,000	£2,000,000
	(20 % of GDV)
	Finance Costs
	£400,000
	Planning and related costs
	£200,000
	Professional Fees
	£400,000
	Construction Cost including site preparation, remediation, servicing and infrastructure
	£4,000,000
Viability	£
GDV	10,000,000
Total Development Cost	7,000,000
RESIDUAL LAND VALUE	3,000,000

Figure 5.1.2 Non-Viable Example

Non-Viable Example	
Total Development Value GDV	Total Development Cost Including Profit
£	£
10,000,000	10,400,000
Total Value Created by the Development	Profit
£10,000,000	£2,000,000
	(20 % of GDV)
	Finance Costs
	£500,000
	Planning and related costs
	£200,000
	Professional Fees
	£700,000
	Construction Cost including site preparation, remediation, servicing and infrastructure
	£7,000,000
Viability	£
GDV	10,000,000
Total Development Cost	10,400,000
RESIDUAL LAND VALUE	£400,000

In appraising the three sites at Carlton-in-Lindrick, Gamston and Bevercotes a predetermined level of return (20% of GDV) is inputted as a cost, therefore generating a residual land value in each case.

RLB have set out below a summary of key input assumptions and respective outputs which were modelled on a standard detailed development appraisal format following the published guidance as set out above.

Summaries in respect of inputs and outcomes on a summary sheet where various differing assumptions could be used to test various sensitivities and the summary at the end of this chapter represents RLB's most likely view on outcomes based on today's costs and values

Full details of RLB's calculations can be found in Appendix 12.

5.2 Bevercotes Colliery

A summary of the uses and areas measured from the indicative masterplan are summarised in table 5.2.1 below.

Bevercotes Colliery is under control of one known landowner, Gladman, which reduces the complexities of land acquisition and benefits delivery of the site. It is acknowledged that third party land maybe required in order to carry out the infrastructure improvements (upgrades to the A1) off site.

Note the average density of units in the housing zone on the masterplan is an average of 35ha or 14 units per acre.

With regard to housing mix assumptions this is set out in the table below and shows a balance between 2 bedroom (B) and 3B semi-detached and terraced units with an emphasis on 4B and 5B higher value units. In essence the 2B and 3B units would achieve a density above 35ha but with a greater emphasis of 4B and 5B detached properties at a lower more rural density.

Figure 5.2.1 Summary of Uses and Area Measured for Bevercotes Colliery

Bevercotes Colliery				Total Number of Dwellings	Total Floor Area in ft.
Site		Ha Area	Acres		
Total Site Area		75.08	186.20		
Residential Area		50.70	125.74	1,775 dwellings	2,315,723 sq. feet
Landscaping		15.82	39.23		
Schools		1.71	4.24		
Leisure and Sports		4.47	11.09		
Community Buildings		0.90	2.23		
Energy Centre		0	0		
Retail and Employment		1.48	3.67		
Major Roads		6.72 ha	16.66		
Minor Roads		4,897	6.07		

	House Type		Total Number of Dwellings	Floor Area in Square Feet Per Dwelling	Cumulative Floor Area in Square Feet for Dwellings
	2 Bed Room Houses	10%	177	750	133,088
	3 Bed Room Houses	20%	355	925	328,283
	4 Bed Room Houses	40%	710	1300	922,740
	5 Bed Room Houses	30%	532	1750	931,613
	Total Number of Dwellings		1775		2,315,723

In respect of assumptions for key costs for basic build, abnormals and infrastructure these are summarised in table 5.2.2 as follows:

Figure 5.2.2 Basic Build Costs at Bevercotes Colliery

Basic Build Costs	£95.00 per sq.ft
Roads	£2,000 per metre
Plot Development Costs	7.5% of build cost
Abnormals	10% of build cost. The site is contaminated and it allows for the remediation of the contaminated land.
Contingency	2% of build cost

Key outputs and indicators for the Bevercotes site from the detailed viability appraisals may be given as follows in table 5.2.3.

Figure 5.2.3 Outputs and Indicators for Bevercotes Colliery

Bevercotes Colliery	Floor Area in Square Metres		Ha	Acres
Gross Site Area	750,800		75	186
Net Development Areas				
Residential Area	507,000		51	126
Green Area	158,200		16	39
Schools	17,100		2	4
Leisure and Sports	44,700		4	11
Community Buildings	9,000		1	2
Energy Centre			N/A	N/A
Retail and Employment	14,800		1	4
Development Output		Total Number	Ave Per Ha	Ave Per Acre
Housing Units		1775	35	14
Financial Output		Total £	Value Per Ha £	Value Per Acre £
Gross Development Value		£466,920,255		
Development Costs (excluding land)		£ 366,467,557		
Developers Profit Allowance (20% GDV)		£72,232,253		
Residual Land Value		£28,220,445		
Housing Land Value		£19,813,245	£390,794	£157,578
Overall Land value		£28,220,445	£375,872	£151,561

Viability Assessment Bevercotes

In utilising the residual land value methodology detailed above, the appraisal for the Bevercotes site as set out in table 5.2.3 above, using current cost and value estimates indicates a marginally viable project in deriving a positive value for the land at a level which would be above the existing use value as general

industrial. General Industrial land value would typically be close to the value per acre projected by the appraisal indicated above of £ £151,561 per acre. Clearly at this level it is questionable whether this should prove attractive enough to the landowner to release the land for development, and would require more detailed discussions with the landowner on this matter as part of any next steps. The costs include a profit return for the developer of 20% of GDV so this aspect of viability would be achieved on this site based on the above costs and values.

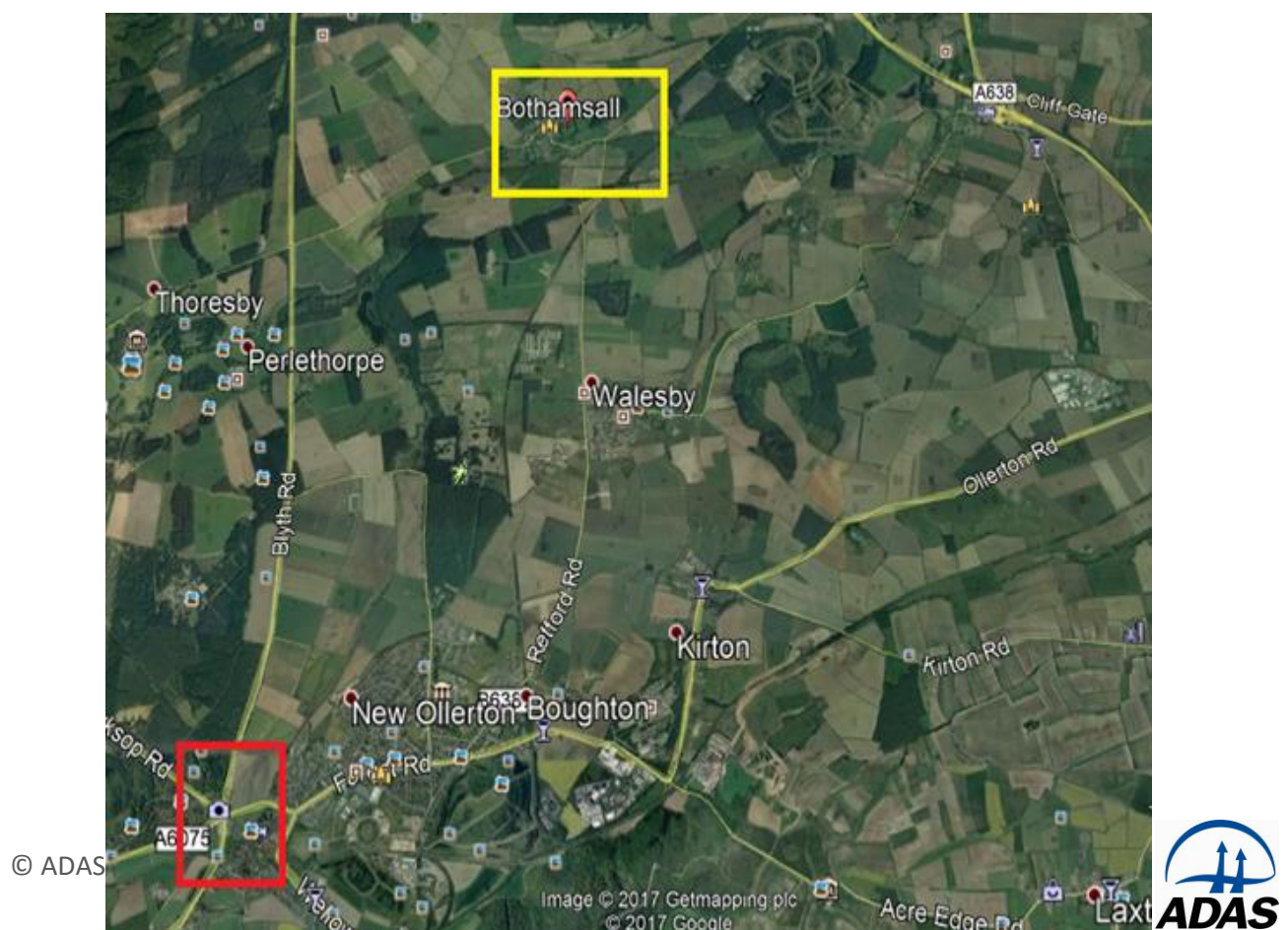
Access Infrastructure

This site does have direct access to the main road network and preliminary discussions have been held with Nottingham County Council Highways (NCC) to assess what might be required by way of access infrastructure but a more detailed assessment is beyond the scope of this report and hence no costs have been included in the viability appraisal in this respect. This would need to be factored in when considering the potential growth options at all three sites. As discussed in the report above, the site also has an extant planning consent (Planning ref: 09/05/00002) for commercial development and a requirement to improve the nearby junction of the A1.

The main issues to address access following discussions with Highways are set out below:

1. NCC Highways considered that introducing housing on this site would require additional highways work. At the moment the extant planning permission being entirely for a commercial use would see a majority of traffic head for the A1 and be catered for by the new junction improvements that have been secured through the existing planning consent. However, housing would introduce traffic movements to the west, with Bothamsall village being particularly constrained, where a by-pass may be necessary to access the A614 (see yellow box). This could also impact on Ollerton roundabout (see red box in Figure 5.2.4 below) where land has been safeguarded for road widening works, as this is currently at or nearing capacity with a cost of works in the order of £5 million.

Figure 5.2.4: Map of potential highway impacts



5.3 Gamston Airport

A summary of the uses and areas measured from the indicative masterplan can be summarised in figure 5.3.1 below.

The site at Gamston has two known landowners and the site is being promoted by Stadium Development, which reduces the complexities of land acquisition and benefits delivery of the site. It is acknowledged that third party land maybe required in order to carry out the infrastructure improvements (upgrades to the A1) off site.

Note the average density of units in the housing zone on the masterplan is an average of 35ha or 14 units per acre.

With regard to housing mix assumptions this is set out in the table below and shows a balance between 2 and 3B semi-detached and terraced units with an emphasis on 4B and 5B higher value units. In essence the 2B and 3B units would achieve a density above 35 per Ha but with a greater emphasis of 4B and 5B detached properties at a lower more rural density.

Figure 5.3.1 Summary of Uses and Areas for Gamston Airport

Gamston Airport					
		Ha	Acres	Units	Units Area ft.
Total Site Area		122.02	302.61		
Residential Area		56.74	140.72	1,986	2,591,600
Green Area		16.86	41.81		
Schools		5.14	12.75		
Leisure and Sports		29.10	72.17		
Community Buildings		3.37	8.36		
Energy Centre		6.73	16.69		
Retail and Employment		4.08	10.12		
Major Roads		6.08	15.08		
Minor Roads		2.78	6.89		
	House Type		Total Number of Dwellings	Floor Area in Square Feet Per Dwelling	Cumulative Floor Area in Square Feet for Dwellings
	2 Bedroom Houses	10%	199	750	148,943
	3 Bedroom Houses	20%	397	925	367,392
	4 Bedroom Houses	40%	794	1300	1,032,668
	5 Bedroom Houses	30%	596	1750	1,042,598
	Total Number of Dwellings		1986		2,591,600

The figure 5.3.1 above assumes a density of 14 units per Acre (35 per Ha) for the housing with a mix and overall area as indicated above.

In respect of assumptions for key costs for basic build, abnormals and infrastructure these may be summarised in table 5.3.2 as follows:

Figure 5.3.2 Basic Build Costs for Gamston Airport

Basic Build Costs	£95.00 per sq. ft.
Roads	£2,000 per metre
Plot Development Costs	7.5% of build cost
Abnormals	3% of build cost. The site is flat with little contamination.
Contingency	2% of build cost

Key outputs and indicators for the Gamston Airport site from the detailed viability appraisals may be given as follows in Figure 5.3.3 below:

Figure 5.3.3 Key outputs and Indicators for Gamston Airport

Gamston Airport	Floor Area in Square Metres		Ha	Acres
Gross Site Area	1,220,200		122	303
Net Development Areas				
Residential Area	567,400		57	141
Green Area	168,600		17	42
Schools	51,400		5	13
Leisure and Sports	291,000		29	72
Community Buildings	33,700		3	8
Energy Centre	67,300		7	17
Retail and Employment	40,800		4	10
Development Output		Total Number	Ave Per Ha	Ave Per Acre
Housing Units		1986	35	14
Financial Output		Total £	Value Per Ha £	Value Per Acre £
Gross Development Value		£561,399,981		
Development Costs (excluding land)		£393,059,715		

Developers Profit Allowance (20% GDV)		£75,918,994		
Residual Land Value		£92,421,272		
Housing Land Value		£44,157,992	£778,252	£313,811
Overall Land value		£92,421,272	£757,427	£305,414

Viability Assessment Gamston

In utilising the residual land value methodology described earlier the appraisal for the Gamston site as set out above, using current cost and value estimates indicates a viable project in deriving a positive value for the land. However it is difficult to ascertain what the existing use value of the land is as an operational airport to compare to the land value indicated by redevelopment above. Whether at this level of residual land value this would encourage the existing landowners to close down the existing use and make the land available for development is unclear without undertaking further direct consultation with them.

The costs include a profit return for the developer of 20% of GDV so this aspect of viability would be achieved on this site based on the above costs and values.

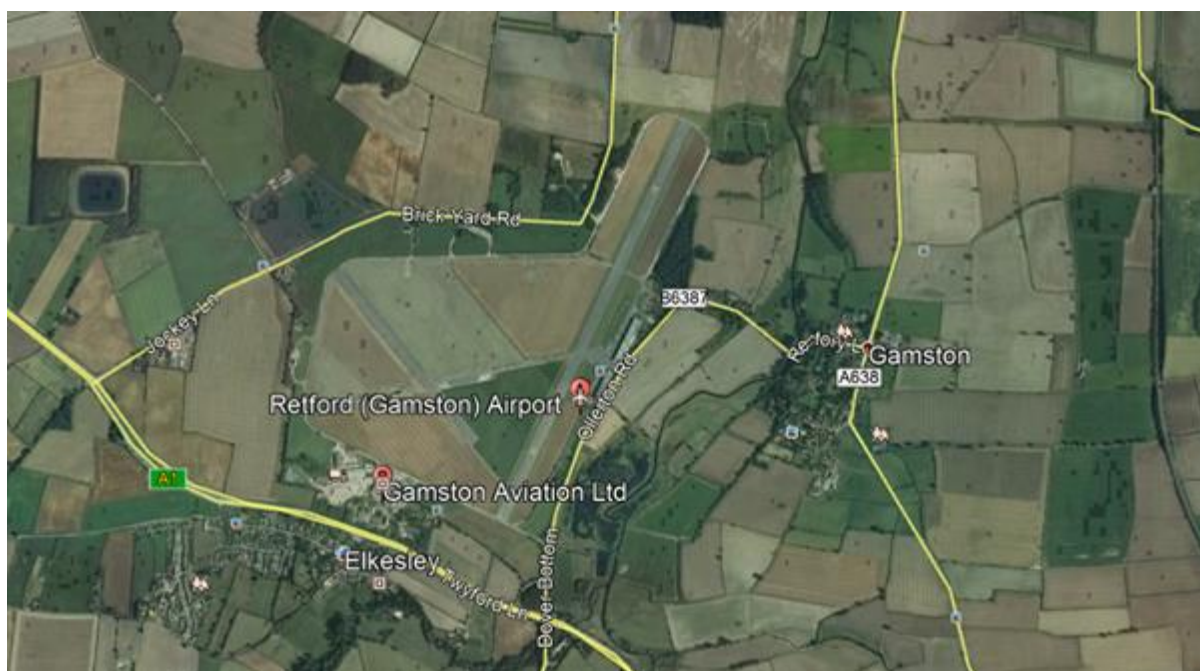
Access Infrastructure

This site does have direct access to the main road network and preliminary discussions have been held with NCC Highways to assess what might be required by way of access infrastructure but a more detailed assessment is beyond the scope of this report and hence no costs have been included in the viability appraisal in this respect. This would need to be factored in when considering the potential growth options at all three sites.

The main issues to address access following discussions with Highways are set out below:

1. This site would benefit from, and probably require, the same junction improvements at the A1 as for Bevercotes site as detailed above.
2. Traffic movements are also likely to want to access the A638 to go north avoiding Gamston village.
3. Traffic might also want to utilise Jockey Lane / Brick Yard Road north that would require upgrading and linking into any future growth at this site.

Figure 5.3.4 Map of Potential Highways Impacts



5.4 Land East of Carlton-in-Lindrick

A summary of the uses and areas measured from the indicative masterplan can be summarised in table 5.4.1 below.

This site is made up of multiple landownerships (at least three) that would result in a more complex land acquisition process in comparison to a site that has one or few landownerships. If seeking the allocation of this option the Council would need to be satisfied that all the parties were able to be brought together to work collaboratively (ideally tied up through a legal agreement and managed by a single agent).

Note the average density of units in the housing zone on the masterplan is an average of 35 per Ha or 14 units per acre.

With regard to housing mix assumptions this is set out in the table below and shows a balance between 2 and 3B semi-detached and terraced units with an emphasis on 4B and 5B higher value units. In essence the 2B and 3B units would achieve a density above 35 per Ha but with a greater emphasis of 4B and 5B detached properties at a lower more rural density.

Figure 5.4.1 Summary of uses and Areas Measured for Land East of Carlton-in-Lindrick

Carlton-in-Lindrick					
Site		Ha	Acres	Number of Units	Units Area ft.
Total Site Area		59.04	146.42		
Residential Area		41.48	102.87	1,452	1,894,599
Green Area		11.80	29.26		
Schools		1.66	4.12		
Leisure and Sports		4.10	10.17		
Community Buildings		0.00	0.00		
Energy Centre		0.00	0.00		
Retail and Employment		0.00	0.00		
Major Roads		5,915	m		
Minor Roads		4,740	m		
	House Type		Total Number of Dwellings	Floor Area in Square Feet Per Dwelling	Cumulative Floor Area in Square Feet for Dwellings
	2 Bedroom Houses	10%	145	750	108,885
	3 Bedroom Houses	20%	290	925	268,583
	4 Bedroom Houses	40%	581	1300	754,936
	5 Bedroom Houses	30%	436	1750	762,195
	Total Number of Dwellings		1452		1,894,599

In respect of assumptions for key costs for basic build, abnormals and infrastructure these may be summarised in table 5.4.2 as follows:

Figure 5.4.2 Basic Build Costs for Carlton-in-Lindrick

Basic Build Costs	£95.00 per sq. ft.
Roads	£2,000 per metre
Plot Development Costs	7.5% of build cost
Abnormals	0% of build cost. The site is a flat level green field site – Cost of acquiring Third party land is excluded.
Contingency	2% of build cost

Key outputs and indicators for the Carlton-in-Lindrick site from the detailed viability appraisals may be given in table 5.4.3 as follows:

Figure 5.4.3 Key Output and Indicators for Carlton-in-Lindrick

Carlton in Lindrick	Floor Area in Square Metres		Ha	Acres
Gross Site Area	590,400		59	146
Net Development Areas				
Residential Area	414,800		41	103
Green Area	118,000		12	29
Schools	16,600		2	4
Leisure and Sports	41,000		4	10
Community Buildings and Allotments	0		0	0
Energy Centre			N/A	N/A
Retail and Employment	8,739		1	2
Development Output		Total Number	Ave Per Ha	Ave Per Acre
Housing Units		1452	35	14

Financial Output		Total £	Value Per Ha £	Value Per Acre £
Gross Development Value		£380,214,602		
Development Costs (excluding land)		£279,623,353		
Developers Profit Allowance (20% GDV)		£54,518,170		
Residual Land Value		£46,073,080		
Housing Land Value		£40,989,080	£988,165	£398,454
Overall Land value		£46,073,080	£780,371	£314,666

Viability Assessment Carlton-in-Lindrick

In utilising the residual land value methodology described earlier the appraisal for the Carlton-in-Lindrick site set out above, using current cost and value estimates, indicates a viable project in deriving a positive value for the land at a level which would be above the existing use value as agricultural. Agricultural land value is typically £10,000 to £15,000 per acre compared to the land value projected by the appraisal above of £ 314,666 per acre. Clearly at this level this should prove attractive to the landowner to release the land for development in addition the costs include a profit return for the developer of 20% of GDV.

Access Infrastructure

This site has no direct access to the main road network and preliminary discussions have been held with NCC Highways to assess what might be required by way of access infrastructure but a more detailed assessment is beyond the scope of this report and hence no costs have been included in the viability appraisal in this respect.

The main issues to address access following discussions with Highways are set out below:

1. To work, this site would most likely need access to the A60 north and south to by-pass Carlton in Lindrick, itself involving third party land and costs etc.
2. Notwithstanding the above there are plans to improve the access where Long Lane meets the A60 to facilitate redevelopment of Firbeck Colliery and this could possibly link into this site to provide a northern access to the A60 – see yellow box below in Figure 5.4.4.

Figure 5.4.4 Map of Potential Highways Impacts



5.5 Summary

In summary and by way of a comparison of the three sites the table below summarises key outputs and built development.

Figure 5.5.1 Development Comparison

Development Outputs Comparison	Housing	Ancillary Built Development (Retail, Leisure, Education, Energy Centre)*		Value per Acre	Value per Hectare Area
	Units	Development	Development in Ha		
	Numbers	Acres		£ / Acre	£/Ha
Carlton-in-Lindrick	1452	18	7.26	£314,666	£780,372
Bevercotes Colliery	1775	24	9.68	£151,561	£375,871
Gamston	1986	65	26.21	£305,414	£757,427

* Ancillary development excludes, landscaping, Green Area, Road Infrastructure and Pavements and any none floorspace related development.

In comparing the three sites in the context of viability they are ranked as follows:

1. Carlton-in-Lindrick
2. Gamston
3. Bevercotes

Carlton-in-Lindrick represents the highest increase in land value over existing use value indicated by redevelopment and therefore can be considered the most robust in respect of viability.

Gamston generates a land value which can be considered viable but without any evidence of the sites worth as an operational airfield it is difficult to ascertain whether, at the level of land value produced by redevelopment, this would encourage the landowners to make the land available.

Bevercotes would be the most marginal in viability terms in respect of generating a residual value which would only be marginally above the existing use value as general industrial land. However it appears there has been little take up in demand for industrial use on the site despite it being available and marketed over a number of years, in addition there will be significant infrastructure costs and remediation costs in developing out the site and housing use might generate greater demand and confidence than it remaining as industrial and notwithstanding the marginal increase in land value indicated by the appraisal it may prove attractive to the landowners to release the land on that basis and change of use.

Gamston is considered to be the least constrained site and has fewer restrictions from a deliverability point of view. In summary the benefits of the Gamston site are:

- This site would deliver more development (housing numbers) and supporting facilities and services, due to its size, than the other two sites.
- The site has fewer restrictions to address than the other two sites, in terms of off-site highways and access requirements.

5.6 Combined Gamston and Bevercotes sites

A combined masterplan option has been prepared by AAD Architects showing how Gamston and Bevercotes could be linked. Table 5.6.1 below would generate the following in terms of built development.

Figure 5.6.1 Combined Development Outputs

Bevercotes and Gamston Linked	Housing Unit Number	Ancillary Development Area in Acres	Ancillary Development Area in Hectares	Value per Acre	Value per Hectare
Development Outputs	3760	90	223.20	£ 228,488	£56,650

Clearly in development terms these sites combined would have the greatest impact in respect of units and development delivered. The other benefit this would have is the ability to perhaps share the cost of the required infrastructure in particular the junction improvements at the A1. In considering viability, the appraisals incorporated above indicate an improved land value for Bevercotes as standalone but a lower one for Gamston. On this basis it may prove more attractive to the landowners of Bevercotes as opposed to Gamston for both of the sites to be developed jointly.

In respect of viability the previous appraisal summaries would remain unchanged as no allowance has been made for access infrastructure but clearly if the A1 junction improvements were shared this would be of benefit financially to both sites in funding necessary wider highways improvements. In respect of viability, the previous appraisals if the individual sites were to come forward, would remain unchanged as no allowance has been made for the access infrastructure requirements. However clearly if the A1 junction improvements were to be shared, this would be of benefit financially to both sites in funding the necessary wider highways improvements.

If both sites were to be brought forward, the infrastructure costs would need to be met by the landowners/developers of both sites, and it will also require third party land. If seeking the allocation of this option, the Council would need to be satisfied that all the parties were able to be brought together to work collaboratively (ideally tied up through a legal agreement and managed by a single agent) in order to deliver the shared infrastructure costs.

5.7 Next Steps

The next steps in following up this strategic assessment and report are summarised and set out in the flowchart below (figure 5.7.1). These are split between land considerations and negotiations, technical assessment and design including constraints, infrastructure and servicing requirements together with commercial viability appraisal including phasing and funding requirements.

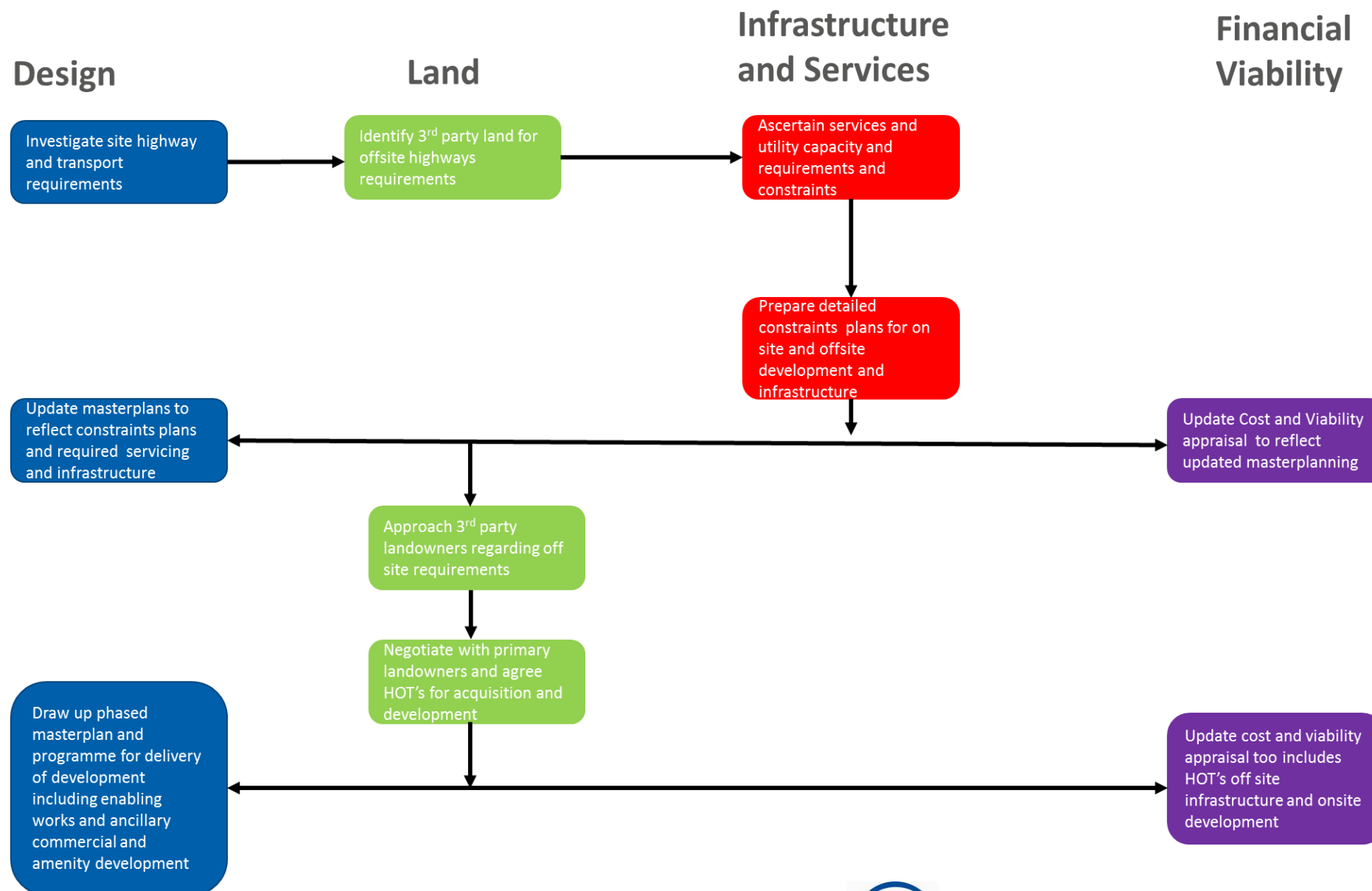
This would be of interest to major housebuilders/land promoters who would be attracted on a competitive masterplanning basis, setting out their approach at the onset, and for them to demonstrate how they would deliver the project and maximise value for the landowners and provide benefits for the local communities and how they will satisfy the strategic aims of the project.

With large strategic sites like these, an alternative approach rather than looking to a single housebuilder developer, would be to consider engaging with a development partner that specialises in strategic land development. In this context the strategic developer in such circumstances would typically look to secure a planning performance agreement with the landowners on a collaborative basis. This agreement would usually take the form of securing an option on the land including any third party land whereby the uplift in value created through planning would be shared between the strategic land developer and landowner

after recovery of planning and related costs invested by the strategic developer in gaining consent. The strategic developer may also fund the enabling infrastructure and market the individual phases to secure a number of housebuilders and look to maximise the end sale values to the benefit of the landowner(s).

The next steps to follow in bringing forward the delivery of any new settlement are summarised in Figure 5.7.1 overleaf.

Figure 5.7.1 Next Steps Visual Aid



6 Comparative Analysis and Conclusion

6.1 Comparative Analysis

The planning and delivery of a new settlement is a complex process and given the significance a new settlement will have for future generations it is important that it is planned carefully.

This Study draws on a broad range of information and technical studies that have been undertaken as part of the evidence base for the BDC Local Plan in addition to a review of existing facilities and services in the settlements within Bassetlaw

The policies within the NPPF have informed the identification and assessment of a new settlement. The NPPF explicitly states that local planning authorities should plan for development which is fully sustainable and seek opportunities to achieve economic, social and environmental sustainability.

Environmental and Landscape considerations

The NPPF clearly indicates areas where development should be limited and even restricted. Designations such as Green Belt, SSSI's, heritage assets and areas at risk of flooding carry significant weighting for restricting development where they lie.

Contributing to and enhancing the natural and built environment is one of the core principles of planning set out in the NPPF. By protecting and enhancing valued landscapes, minimising impacts on biodiversity and conserving heritage assets new developments should contribute positively to these opportunities or at the very least not cause any significant harm to these natural and built assets or their settings.

A new development is unlikely to be completely free of potential development constraints or landscape/visual impact. If there is likely to be significant harm to the environment then this will be considered against the potential social and economic benefits of the proposed development. Through careful master planning and appropriate mitigation, and such constraints and environmental impacts can be addressed and often significant improvements made.

Technical consideration

The identification of a suitable site for 1000 new dwellings, open space and employment provision present a number of technical considerations which must be scoped out. These namely relate to the following:-

- Avoiding areas in flood zones 2 & 3;
- Avoiding development in close proximity to Conservation Areas, Listed Buildings and other Heritage Assets;
- Ensuring there is a suitable land area to provide a new settlement;
- Identifying adequate access from the existing highway network and reviewing any impacts arising from new access provision;
- Identifying access to adequate public transport provision and public service provision;
- Identifying a site which is free of any significant restriction which may impede development – such as National Grid infrastructure easements, Ministry of Defence training sites and the route of HS2.

Access to services

Shops, education and healthcare facilities are essential services that can be provided by new settlements which are of a sufficient size to generate a demand for these. It is acknowledged that new settlements can complement the service provision in existing settlements and further sustain the demand to keep

them in business. It is further acknowledged that new settlements do not have to be self-sufficient if they have access to good public, road, rail and sustainable transport links which interconnect to provide provision to other essential services.

Sustainable transport

Managing patterns of growth ensuring widespread use of public transport, walking and cycling is a core principle of sustainable planning. Focusing development in locations which are, or can be made sustainable, is a substantial consideration. Assessing locations to whether they are or are not capable of being served by high quality and frequent public transport services is essential for the wider understanding of the sites sustainability links.

Deliverability

Enshrined in the NPPF is the rationale of deliverability. With regards to a new settlement it can be a complex issue which needs to be addressed. Issues regarding landownership and infrastructure provision could wield significant influence on cost, timing and phasing of the development. However, landownership and boundaries of ownership can be resolved and such matters will not weigh significantly in assessing the deliverability of a site.

Assessment Criteria

The final assessment criterion has been devised by combining the outcomes/assessments of the above key issues together with the Council's objectives. This approach ensures that there is a consistent and an evidence based approach.

Table 6.1.1: Appraisal scoring criteria which the new settlement locations have been assessed against.

Score	Description
Significant Positive Effect	The proposed option contributes significantly to the achievement of the objective.
Minor Positive Effect	The proposed option contributes to the achievement of the objective but not significantly.
Neutral Effect	The proposed option does not have any effect on the achievement of the objective
Minor Negative Effect	The proposed option detracts from the achievement of the objective but not significantly.
Significant Negative Effect	The proposed option detracts significantly from the achievement of the objective.
No Relationship	There is no clear relationship between the proposed option and the achievement of the objective or the relationship is negligible.
Uncertain	The proposed option has an uncertain relationship to the objective or the relationship is dependent on the way in which the aspect is managed. In addition, insufficient information may be available to enable an appraisal to be made.

6.1 Conclusion

Each of the three sites that has been brought forward through the 4 stages of assessment have been comparatively assessed against each other, the results of which are provided in the comparative table (Table 6.2.1). The comparative table has used assessment criteria based on the Sustainability Appraisal Objectives plus additional criteria that is required to bring forward a new settlement. Each site has been objectively assessed and compared against the sustainability objectives, to assess the appropriateness of each site and its suitability to accommodate a new settlement with at least 1000 new homes and associated social and transport infrastructure.

BDC has taken the initiative to identify and appraise sites which can accommodate and sustain a truly sustainable Garden Village settlement that meets social, economic and environmental objectives. Such settlements require extensive space to grow, expand and to respond to changing needs throughout their existence without imposing on or undermining existing settlements which may be negatively impacted by the creation of a new settlement if not properly assessed at the onset.

Such new settlements have at the core, opportunities to deliver high quality environments and the potential for a pace of development which can exceed objectives and expectations of the areas in which they are located in. This in itself poses new challenges which need to be met in order to create places which are attractive to live in, to work in and most importantly to be actually viable and delivered.

This section will look in detail how each of the three sites individually can meet these objectives and consider the optimum recommendation for the new settlement.

Site at Gamston Airport

As the comparative table shows the site at Gamston Airport was found to be relatively free from any significant constraints, the site also benefits from being classified as previously developed land due to its current use as an airport. The present use of the site is considered to be an inefficient use of land which could otherwise be developed for a use which is in much need, and a use which would ultimately provide a greater long term social and economic benefits to the local and wider District and economy through the creation of a sustainable settlement.

The amount of land available allows for the creation of a sustainable and standalone new settlement with a minimum yield of 1986 dwellings, and as the masterplan indicates, the scale and nature of development that can be provided on this site fits in well with the principles of the creation of a Garden Village settlement. The other main and prime advantage of this site is the physical location which provides ample room for future expansion without the risk of any such expansion coalescing with other settlements. It is free from this physical and locational constraint and would therefore be a logical location for any future expansion, which would have the potential to further bring additional long term sustainability benefits to the district.

Having ample land for future expansion entails and promotes sustainable development by providing suitable areas for further residential, employment and infrastructure improvements which can be planned either at a strategic scale or be left to respond to demand at a local and at a district wide level. Such settlements are able to respond to any service provision deficiencies in the future by having a ready supply of land to accommodate need. The opportunity of providing a new settlement with employment, retail and additional recreational space would also facilitate an enhanced offer to existing residents of the District including both rural villages nearby and larger settlements such as Retford which may have deficiencies with such provision.

The site offers significant opportunities for the improvement of services in the nearby settlements at Gamston and Elkesley as well as having adequate land available for the provision of a core number of essential services and amenities without having an impact on the overall viability of creating a new settlement. The masterplan for this site details an area of 4.08ha for employment and retail space. This will create numerous opportunities for further employment provision in addition to providing purpose built retail space. This provision of further employment and retail provision will contribute towards BDC's employment and retail land supply whilst further enhancing the sustainability of the potential new settlement and improving access for existing surrounding residents.

The provision of public recreational space, community facilities and a primary school would enhance the sustainability of this new settlement and introduce additional service provision for existing communities, in particular for the nearby settlements of Elkesley, Gamston, Eaton and Upper Morton. This benefit would equate to a better quality of life for the future residents as well as the existing residents who live in these adjoining and nearby settlements. The existing road network provides good road links to ensure that these new and enhanced services are easily accessible private motor vehicle users as well as by public transport users.

It is also considered that due to the site being free from any significant natural landscape features, that any development on this site has the potential to improve the overall landscape value of the site by introducing planting which would add relief and interest to this otherwise uninteresting landscape. This lack of natural landscaping is considered to be an opportunity for future development to provide such improvements.

The introduction of additional planting and landscape features would provide a significant benefit for the wider landscape and the creation of green networks throughout the site would result in a net gain for biodiversity enhancements. Furthermore, new green cycleways can be introduced into any landscaping which would further underline the wider green credentials of developing this site and enhancing the sustainability by the promotion of sustainable transport means. The site can be considered to have a blank canvas potential with regards to introducing these planting and landscape improvements, which would help to establish the new identity of this site within the local and wider landscape.

Establishing a new settlement and embracing the opportunity which the landscape and the physical location provides, can be realised without causing any significant harm to the setting of the heritage assets which are located within 1km of the site. The approach by the developers of this site need not be constrained by the location of the heritage assets, but should be viewed as an opportunity to include these heritage assets into any final masterplan and layout of a Garden Village type development.

The development of a settlement which is based upon the principles of the Garden Village movement on this site would have excellent potential to improve the public transport links to Retford for frequent bus services to interconnect the settlements and to provide an improved service to access the East Coast Train Station at Retford. These improvements to existing public transport provision can be further investigated by liaising with the public transport providers within the district and a case made for further enhanced public transport provision. The promotion of transport by bicycle and other sustainable transport modes can be made more attractive by providing green cycleways which have the potential to interlink the surrounding settlements by using a truly sustainable transport mode.

The viability assessment for the development of this site for residential with the provision of associated community, employment, retail, educational facilities and an energy site, places this site to be one of the best sites which can attain and achieve the Council's objectives to create a Garden Village Settlement which contributes a vibrant rural economy to the District and wider sub-region. The site is known to be under the ownership of two landowners who are willing to bring forward the site and due to the relatively

unconstrained nature of the site, it can easily be brought forward for development of a Garden Village settlement without causing any harm to the overall to Bassetlaw's Spatial Strategy. The greater site area ultimately aids the overall viability of the site by offering a greater return to developers due to the aforementioned and significant benefits of this site.

The development of this site will also require investment by the developer in providing junction improvements to the A1 and upgrading the existing road links to Jokey Lane and Brick Yard Road which are to the north of the site. The costs for these works and the overall implication it may have for the deliverability of this site has not been accounted for in the high level viability assessment due to the complex nature of such an exercise, however, as demonstrated by the viability assessment it is considered that the cost for these improvements will not pose in this instance any major or significant obstacles for the development of this site.

Overall, the site is considered to be suitable for a new Garden Village settlement and that with further investigation with regards to the access and road improvements, as would be required by NCC Highways and Highways England, will ultimately facilitate a development here.

Site at Bevercotes Colliery

The site at Bevercotes Colliery will entail the development of a brownfield site which has sufficient capacity for a minimum of 1000 new homes with further opportunity to expand as may be required in the future due the relative unconstrained physical location of the site. The north-eastern expanse of the site is especially favourable for a planned expansion of any new settlement here as the southern aspect of the site is constrained by the River Meden and the B6387 forms a natural boundary to the north western aspect of the site. It is identified that additional development could be located to the northern aspect of the B6387 but may cause further encroachment of built development into the open countryside which could have the potential to have an adverse impact on the existing character and landscape amenity of the locality, and would need to be mitigated. There will exist many opportunities to plan development which designs out any significant harm to the existing character areas of nearby settlements when such demand may arise in the future.

The opportunity of creating a sustainable settlement with a real sense of community can be provided here by utilising a site which is otherwise underused and can be considered to be used in a greater sustainable manner and support appropriate new housing development in locations which accord well main requirement of a Garden Village settlement and BDC's objectives. The road connectivity of this site is shared on an equal par with the site at Gamston Airport, the main thrust being the location of the site in relation to the A1 and Retford. With this in mind and the fact that Retford has easy and direct access via train (East Coast Mainline) to London, this site has significant potential in creating a diverse community with enhanced employment links to the wider economy as well as supporting economic growth elsewhere in the district by the creating of a new 1000 home settlement.

The provision of a suitable sized primary school would also sustain a vibrant new community into an otherwise underused area of land.

The development of this site would provide an educational facility, retail and employment, recreation and community space. This accords well with the ethos of Garden Villages settlements and aids the creation of a sustainable settlement which reduces the need to travel by private transport for the access of such facilities. The existing cycle and pedestrian links to Elkesley would also be improved which would further aid the utilisation of sustainable transport and the creation of an integrated community. Further cycleways can be investigated to link the site via car free routes to Retford which would improve sustainable transport connectivity by an appreciable margin to truly create a sustainable development which facilitates the ease of movement by such sustainable transport modes.

The proposed development opportunity at this site would further develop and improve biodiversity by the introduction of improved green corridors and the management of these new landscape features to establish these viable improvements. The opportunity of establishing a new settlement here would introduce its own and distinct landscape which from the onset can be planned to create a high quality landscape which will have its own identity and distinction. The planting of green corridors and the provision of new landscape features would create a settlement which has the potential to substantially improve the existing landscape.

The nearby heritage assets can also be protected from any harm to their setting and significance by designing a settlement which builds upon the principles of the Garden Village ethos, creating a high quality place which would pave a path to promoting high quality and low carbon design which may have the potential to be tomorrow's heritage assets in the future.

Any planned expansion of a new settlement at this site would not pose any significant risk of coalescence if carried out in the north eastern aspect of the site. The site has an area of 75.08ha as compared to 121.4ha of the site at Gamston Airport, this will have an impact on the overall financial return from the development of this site. However, this should not be viewed as a major or significant concern due to the good interconnectivity of the site to the overall transport network of the district, the wider region and beyond. Consideration has also been given to the fact that there may be some additional remediation costs which would have the potential to reduce the overall financial return when comparing a site which has relatively a low risk of on-site contamination. The remediation costs and the reclamation of the colliery spoil residues will result in expenditure which will have to be taken into account by the developers of this site.

It should be taken into account, as explained in Section 5, that reviewing the final density provision of residential development and the amount of area allocated for alternative uses can yield a difference in the overall financial return of any of the three sites. For the purpose of this report, an average density of 35 dwellings per ha has been used as to ensure a reflection of the scale of the development to be in line with the rural environment in which it is located within.

It has been identified that the site is owned by one developer, therefore it is considered that developing this site would not entail a lengthy and costly exercise to bring together a collective of landowners when assembling land for development.

The infrastructure costs and the provision of such improvements will have an impact on the overall deliverability of this site for the development of a Garden Village settlement. Consultation has been held with Nottinghamshire County Council (NCC) Highways, and they have indicated that a by-pass may be required to access the A614. The expense and time delay in providing this will also have an impact on the deliverability of this site.

Overall, the site is considered to be suitable for a new Garden Village settlement and that with further investigation with regards to the access improvements as would be required by NCC Highways will ultimately facilitate a development here.

Site at Land East of Carlton-in-Lindrick

This site is located in a sustainable location which has the potential to be developed for a new settlement in the ethos of a Garden Village settlement. This locational advantage also serves as a constraint to its longevity to become a settlement which would be able to provide a new settlement which truly fulfils the objectives of BDC's vision to create a truly sustainable settlement. This constraint is the close proximity of the existing settlement of Carlton-in-Lindrick. The impact of coalescence is the main long term constraint

which undermines the site's long term capacity to accommodate additional housing and other associated development.

The impact of coalescence in this instance is considered to have the potential to cause a level of harm to the nearby settlements of North Carlton, Langold, Oldcotes and Blyth, this harm would have the potential to be significant and would undermine the quality of the new settlement and go against BDC's long term vision for delivering a Garden Village settlement.

Coalescence will result in a detrimental landscape impact which would be challenging to be mitigated by a significant margin to be considered acceptable, this will have a consequence for the long term organic growth of a new settlement on this site. The constraint posed by the risk of coalescence does undermine the overall suitability and sustainability of the site to be developed for a standalone Garden Village settlement, when compared to the other two sites.

The other aspect of being located in close proximity to existing settlements does mean that the new settlement would have the potential to provide excellent sustainable transport links and great potential for the provision of cycleways to reduce dependency on carbon fuelled transport modes.

The site is a greenfield site, presently being used for arable farming and is currently under multiple ownership of at least three landowners which would make for a complex and lengthy land acquisition process when compared to the sites at Gamston and Bevercotes. The landowners of the site have not been active in promoting the site for development, therefore it can be considered that there appears to be a lack of active interest to deliver this site for a new Garden Village settlement. This ultimately poses a concern in delivering the aspirations of the Council for such a development opportunity.

The multiple landownership issue would also have the potential to undermine the provision of suitable road infrastructure to provide access to and from the site. This is a major constraint to unlocking the development potential of this site, as it is likely that additional public roads would be required to connect this site to the wider road infrastructure.

The largest advantage of developing this site would be the fact that the land is not known to be contaminated, therefore this abnormal cost for land remediation and reclamation can be factored out at this stage. The lack of contamination makes this site an attractive proposition in terms of rewarding investors with a healthy return for their initial outlay.

It is acknowledged that the site is very attractive in terms of financial return, it offers the strongest values out of the three sites which are the subject of this section, however, BDC requires a location which can respond readily and positively to change and allow for further expansion.

To conclude, the lack of suitable land for future expansion does in this instance pose a significant concern in order to create a truly sustainable development, and reduces the level of services and facilities that can be provided on site in comparison to the other two sites. The access to services and the amenities at Carlton-in-Lindrick and beyond is acknowledged, however, due to the sites location the provision of any significant and tangible employment space is limited which is curtailed by the threat of coalescence with the existing settlements.

It is also acknowledged that the location of the site is sustainable in terms of its interconnectivity to the other principle settlements within the district of Bassetlaw and beyond, both through the utilisation of public transport and by private car. The sustainability of the site is slightly eroded by the fact that the site has land which is being actively farmed for arable crop production and its greenfield status, whilst the sites at Gamston Airport and at Bevercotes mainly occupy areas of land which are considered to fall into the category of brownfield land.

The study has concluded that the site whilst being free of land contamination when compared to Gamston and Bevercotes is constrained due to its physical location, the lack of suitable access from the existing road infrastructure and multiple landownership issues, would not be suitable to deliver the objectives of a truly sustainable Garden Village settlement which has the space to grow in an organic manner, in order for it to respond to future structural change.

Combined Development of Gamston Airport and Bevercotes

The opportunity to deliver a new settlement on both of the sites at Gamston Airport and Bevercotes will assist in the provision of a larger scale development, which would have the potential to deliver two sustainable settlements, providing greater provision of housing, employment space and the provision of an EGC.

This potential opportunity as detailed in Section 4.3.4 of the report would provide an increased supply of dwellings (up to approximately 3000) and would provide a link into the existing Elkesley Business Park. The additional supply of dwellings and employment provision would further increase the sustainability benefits of this combined proposal.

The advantage of developing these two sites would mean that infrastructure provision costs could be shared amongst the developers and a bespoke infrastructure solution devised which would unlock the development potential for both of these sites. The key to providing a robust transport solution is improving the access to and from the A1 which as discussed need an outlay of significant investment. Therefore, to attain such investment, developers need to make a good return on their expenditure that would in this instance provide wider benefits for the residents of the nearby settlements and afar.

Cycleways and footpath provision would be easier to provide if both sites were to be developed at the same time, a co-ordinated masterplan would ensure the sustainability of the development is ingrained in the development from the onset.

The provision of social infrastructure in delivering schools, libraries, a health facility and a public transport hub would aid the local and regional economy in attracting new businesses to the newly created employment provision. These benefits would also be appreciated in the nearby cities and towns, such as Sheffield, Doncaster, Chesterfield, Lincoln and Newark and Sherwood, as well as providing a net benefit to the district's two principle towns of Worksop and Retford.

It is also acknowledged that both landowners of the sites at Gamston and Bevercotes are actively interested in developing their sites for development, which would accord well the Local Plan's housing and employment aspirations for Bassetlaw. Both sites are brownfield and have varying degrees of land contamination, which would also need investment into remediating for being suitable for a new settlement. By developing both sites, such costs can also be shared amongst the developers.

The scale of development would attract regional interest, therefore early engagement with the developers for the Council's chosen option would be advantageous in creating a sustainable location from the onset.

Summary

On balance it is concluded that the Gamston and Bevercotes sites perform at a similar level in terms of suitable locations to deliver a sustainable new settlement in line with BDC's objectives. Both of these sites offer a viable development potential that would unlock their full potential to be developed as fully integrated sustainable settlements.

They are both free of significant physical constraints, enabling them to accommodate future expansion without the risk of coalescence with surrounding settlements, their physical location in the district also

opens up many new opportunities for targeted economic investment as they are located along the A1 corridor. The East Coast railway line and station at Retford further enhances the interconnectivity of both of the sites at a national scale, as there is an efficient and direct train service to London and afar. Links to the station have the opportunity to be improved through the provision of a new settlement.

The relative unconstrained nature of the sites at Gamston and Bevercotes provides unlimited potential to introduce and provide useable cycleways to interlink the settlements via a carbon free transport modes. Greater public transport utilisation can be made more attractive by planning for at the onset the provision of enhanced bus services to serve the new settlement and interlink the two main principle towns of Bassetlaw – Worksop and Retford.

The study has identified that one of the biggest challenges in binging forward these sites, is the ability to fund and provide the wider infrastructure investment associated with the offsite highway improvements. These improvements would unlock the full potential of these sites and provide a steady stream of interest from potential developers that the Council can engage with to realise their aspirations of a new Garden Village Settlement.

The site at Land East of Carlton-in-Lindrick is constrained from having multiple ownerships and being located in closer proximity to existing established settlements that would preclude any significant sustainable expansion in the future. The site there is also undermined by the fact that it would require new road infrastructure to serve the new settlement, and creating this new road infrastructure has the potential to create a level of harm to the existing landscape of the site and surrounding environs.

This report and masterplanning has also provided a second option to deliver the two sites at both Gamston and Bevercotes in conjunction with one another, which would maximise the potential opportunities for housing and employment growth in this part of the District and the wider area. This would need to be informed by further technical work mainly concerning shared infrastructure costs and collaboration between the landowners of both sites.

7 APPENDICIES ENCLOSED IN SEPARATE DOCUMENT