

**NON TECHNICAL SUMMARY:**  
**LAND QUALITY IN THE**  
**HINCKLEY & BOSWORTH DISTRICT**

Report 1454/3

7<sup>th</sup> May, 2020

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**LAND QUALITY IN THE HINCKLEY & BOSWORTH DISTRICT**

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Report 1454/3  
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## 1.0 Introduction

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- 1.1** This document summarises the findings of a desk study and a semi-detailed land quality survey and their relevance to planning policy. The desk study involved a review of existing land quality information relating to the Hinckley and Bosworth Borough Council (HBBC) District. The land quality survey focussed on fourteen settlements within the District (for survey areas see Map 1 in an appendix to this report).

### **AGRICULTURAL LAND CLASSIFICATION**

- 1.1** Agricultural Land Classification (ALC) is the system used in England and Wales to grade the quality of land for agricultural use, depending on the extent to which physical and chemical factors limit its use for food production. Land is classified into five grades numbered 1-5, with grade 3 divided into two sub-grades (3a and 3b). The system was devised and introduced in the 1960s and revised in 1988 (current guidelines). The grades are described below:

**Grade 1** - excellent quality agricultural land with no or very minor limitations.

**Grade 2** - very good quality agricultural land with minor limitations which affect crop yield, cultivations or harvesting.

**Subgrade 3a** – good quality agricultural land with moderate limitations that affect the choice of crop, timing and type of cultivation/harvesting or level of yield. This land can produce moderate to high yields of a narrow range of crops or moderate yields of a wide range of crops.

**Subgrade 3b** – moderate quality agricultural land with strong limitations that affect the choice of crop, timing and type of cultivation/harvesting or level of yield. This land produces moderate yields of a narrow range of crops, low yields of a wide range of crops and high yields of grass.

**Grade 4** – poor quality agricultural land with severe limitations which significantly restrict the range and level of yield of crops.

**Grade 5** - very poor quality agricultural land with very severe limitations which restrict use to permanent pasture or rough grazing with the exception of occasional pioneer forage crops

- 1.2** Best and most versatile (BMV) land is considered land grades 1, 2 and subgrade 3a; this land is the most flexible, productive and efficient in response to inputs. BMV land is protected in National Planning Policy. Poorer quality land (subgrade 3b, grades 4 and 5)

produce lower yields, require more inputs and has restricted agricultural use.

## 2.0 Desk study

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**2.1** A desk study was carried out on land adjoining fourteen settlements and the wider HBBC District area (1454/1). It involved assessment of the following published data:

- British Geological Survey 1: 50,000 scale mapping
- 1:250,000 National soil mapping
- Detailed post 1988 revision Agricultural Land Classification surveys available from Natural England records
- 1:25,000 scale Ordnance survey topographic mapping
- EA flood risk mapping
- Climatological Data for Agricultural Land Classification

**2.2** The information gathered from these data sources was used to predict land quality across the District. It was also used in the remote assessment of limiting factors as required by ALC guidelines for the semi-detailed land quality survey (climate, flooding and slope gradient).

### **PUBLISHED ALC SURVEYS**

**2.3** There are few published ALC surveys for land within the HBBC District. From the limited information available, over half the land surveyed in the District was found to be of subgrade 3b quality (see Table 1 below). The remainder being of grade 2 and subgrade 3a land quality (within the BMV category). No land of grade 1, 4 or 5 is recorded.

**Table 1: Existing ALC surveys within the HBBC District available from Natural England**

Grade/subgrade	Area (ha)	% of the land
Grade 1	0	0
Grade 2	78.3	12
Subgrade 3a	164.0	25
<b>BMV land total</b>	<b>242.3</b>	<b>37</b>
Subgrade 3b	409.0	63
<b>Total land area</b>	<b>651.3</b>	<b>100</b>

- 2.4** On the basis of the findings, land quality in the District is slightly below average for the Midlands where you would expect a more even split between BMV land and poorer quality land.

#### **LAND QUALITY PATTERN**

- 2.5** The Hinckley and Bosworth District is almost entirely underlain by mudstone geology. In places this is overlain by Bosworth Clay Member deposits or glacial till. Land formed in mudstone or Bosworth Clay Member deposits is likely to be heavy and wet of mainly subgrade 3b agricultural quality with small areas of subgrade 3a. Where land is formed in glacial till it is likely to be heavy with variable wetness restrictions limiting it to subgrade 3a or 3b.
- 2.6** Sand and gravel and other lighter deposits are also mapped across the District. These give more freely draining soils providing land within the BMV category limited by slight wetness, droughtiness or stoniness in Leicestershire.

## 3.0 Semi-detailed ALC survey

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**3.1** In order to obtain more information on the land quality within the HBBC District, a semi-detailed ALC survey was carried out between October 2018 and March 2019 on land adjoining fourteen main settlements (see report 1454/2). The survey was based on soil augerings conducted at a sampling density of one observation every two hectares. It was carried out in accordance with the Agricultural Land Classification for England and Wales guidelines (1988).

**3.2** Where access to land was not obtained, land grades were interpolated using nearby observations and information from the desk study (1454/1).

### **LIMITATIONS OF THE SURVEY**

**3.3** The observation density of the ALC survey provides semi-detailed information on land quality. This provides a useful overview of broad areas of land grades to direct development towards lower quality land. However, it should be noted that Natural England (statutory consultees for agricultural land) require local planning authorities to consider detailed ALC mapping (one observation per hectare) when assessing planning applications.

### **SURVEY FINDINGS**

**3.4** The survey found the land quality across the District to be evenly split between BMV land and lower quality subgrade 3b land (see Table 2). However, the distribution of land quality was not even around the settlements surveyed (see Table 1 in an appendix to this report).

**3.5** The poorer quality subgrade 3b land is dominant around six settlements in the District (see Table 2 below). Two of which, Groby and Thornton, are adjoined almost exclusively by subgrade 3b land. The village of Groby is underlain by glacial till deposits in the south and mudstone in the north found to give heavy land limited by wetness. Land at Thornton is principally limited by steep slope gradients.

**3.6** Seven settlements in the HBBC District are adjoined by predominantly BMV land (see Table 2). Of these settlements, Barlestone and Newbold Verdon are surrounded almost entirely by BMV grade 2 and subgrade 3a land. Land adjoining Barlestone is formed in sand and gravel deposits and glacial till giving predominantly grade 2 and subgrade 3a quality land slightly limited by droughtiness or wetness. Land around Newbold Verdon is formed in similar geology with glacial till to the east and west and sand and gravel to the north and south.

**Table 2: ALC survey findings for Hinckley and Bosworth District**

	ALC grade areas (ha)									
	1	2	3a	3b	Total				3b	%BMV
Bagworth	2	9	12	4	27	7	34	43	16	84
Barlestone	0	28	26	6	60	0	46	44	10	90
Barwell	0	0	2	5	8	0	0	30	70	30
Burbage	22	79	65	56	222	10	36	29	25	75
Desford	0	4	21	12	37	0	11	56	33	67
Earl Shilton	0	33	35	54	122	0	27	29	44	56
Groby	0	0	4	40	44	0	0	9	91	9
Hinckley	0	40	17	66	122	0	32	14	54	46
Market Bosworth	0	5	8	72	85	0	6	9	85	15
Markfield	0	5	1	25	31	0	17	4	80	20
Newbold Verdon	0	47	37	28	113	0	42	33	25	75
Ratby	0	0	8	37	45	0	0	18	82	18
Stoke Golding	0	4	19	10	33	0	13	57	29	71
Thornton	0	0	0	28	28	0	0	0	100	0
<b>Total</b>	<b>23</b>	<b>255</b>	<b>254</b>	<b>443</b>	<b>976</b>	<b>2</b>	<b>26</b>	<b>26</b>	<b>45</b>	<b>55</b>



## 4.0 Use in planning

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- 4.1. The relevant legislative framework from the National Planning Policy Framework is summarised below (NPPF, 2019):

*“Planning policies and decisions should contribute to and enhance the natural and local environment by:*

*“a) ...protecting and enhancing... soils (in a manner commensurate with their... identified quality in the development plan)*

*b)...recognising the economic and other benefits of the best and most versatile agricultural land”*

*“Plans should:...allocate land with the least environmental...value, where consistent with other policies in this Framework...Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.”*

Chapter 15 para 170-171 footnote 53

- 4.2. The policy is relevant to all planning applications, including on smaller land parcels, although it is for the planning authority to decide how significant the agricultural land issues are and the need for information. Natural England are the statutory consultees. Applications for mineral working or waste disposal are also required to produce an ALC where agricultural land is to be affected. Natural England are required to be consulted on planning applications involving the potential loss of 20 or more ha of BMV land. Guidance produced by Natural England (Technical Information Note 049) provides useful information on the application of ALC.
- 4.3. The policy states that authorities should seek to guide development to areas of poorer quality agricultural land where significant development is necessary. The information obtained through the desk study and land quality survey can be used to inform HBBC policy by avoiding development on areas identified to have BMV land. The settlement maps in report 1654/2 provide semi-detailed ALC survey of land under most pressure of development; these could be used as an initial precursor to direct development to areas of poorer quality. As the surveys were carried out at a density of one observation per two hectares, it is advised that developers are requested to carry out a detailed survey of any potential sites.

4.4. The NPPF also refers to the protection of soils, this could be implemented in a policy which requires developers to adhere to a Soil Management Plan. Such a plan should be created by a suitably qualified professional and include the following details:

- Depth and method of topsoil stripping and stockpiling
- Identification of landscaping topsoil requirements and assessment of suitability and availability of on-site resources
- Means of subsoil protection from compaction damage and remedial measures (such as ripping/subsoiling) to remove damage

## 5.0 Conclusions

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- 5.1** The land quality study has found land quality within the HBBC District to be evenly split between higher quality BMV land and poorer quality subgrade 3b land. This is to be expected for a District in the Midlands where the climate is moderate and land is typically formed in mudstone with variable deposits.
- 5.2** The settlements are split with six adjoined by predominantly BMV land and six adjoined by poorer quality subgrade 3b land. Settlements were commonly first formed on 'dry points' (area of firm, flood free ground with fertile soil) and expanded onto the wetter heavy land as the community grows. This broadly follows for the Hinckley and Bosworth settlements studied; villages surrounded by BMV land typically have smaller populations with the larger towns bordered by heavier poorer quality land.
- 5.3** The land quality pattern predicted through the desk study was confirmed by the land quality survey, enabling the estimation of land grades for un-surveyed areas. As land formed on mudstone and Bosworth Clay Member deposits typically gave poorer quality land, broad areas estimated to be of this quality can be mapped within the District (see Map 2 in the appendix). The largest area of predicted subgrade 3b land surrounds Orton-on-the-Hill in the west of the District. Smaller areas are located across the District where significant areas of Bosworth Clay Member deposits are mapped or where land is formed in the mudstone basal geology. Land outside these areas are likely to be BMV with areas of poor quality land on the boundaries between soil types. It is advised that new settlements are directed to these areas, in line with recommendations from the NPPF.

## Glossary

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ALC – Agricultural Land Classification

AOD – Above Ordnance Datum

BGS – British Geological Society

BMV – best and most versatile

DEFRA – Department for Environment, Food and Rural Affairs

EA – Environment Agency

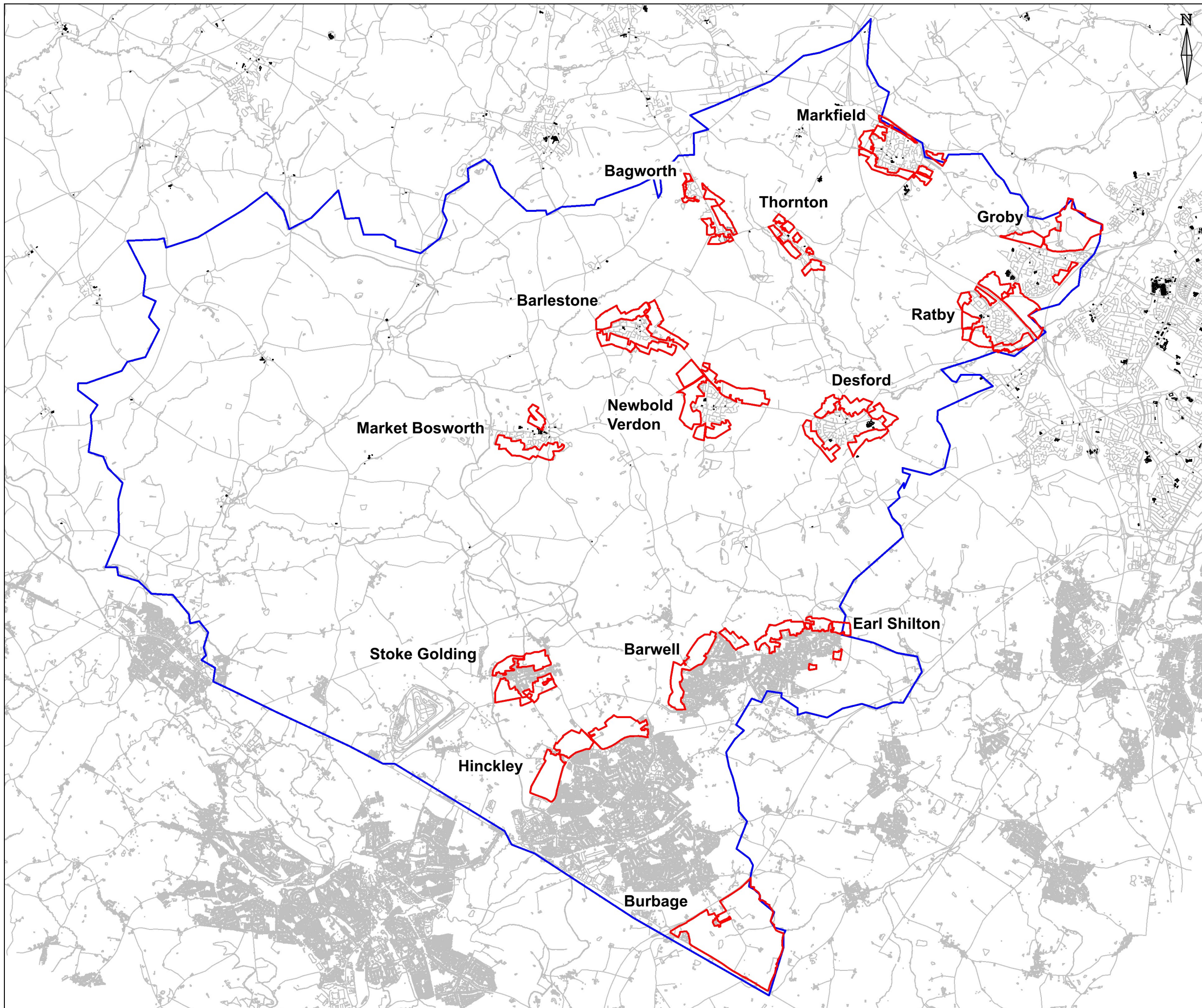
HBBC – Hinckley and Bosworth Borough Council

NPPF – National Planning Policy Framework

MAFF – former Ministry of Agriculture, Food and Fisheries

## **APPENDIX**





- D** Survey area
- D** Hinckley and Bosworth Borough Council District

Client:

Hinckley & Bosworth  
Borough Council

Site:

**Hinckley and Bosworth District**

Map title:

**Map 1  
Survey areas in the  
Hinckley and Bosworth District**

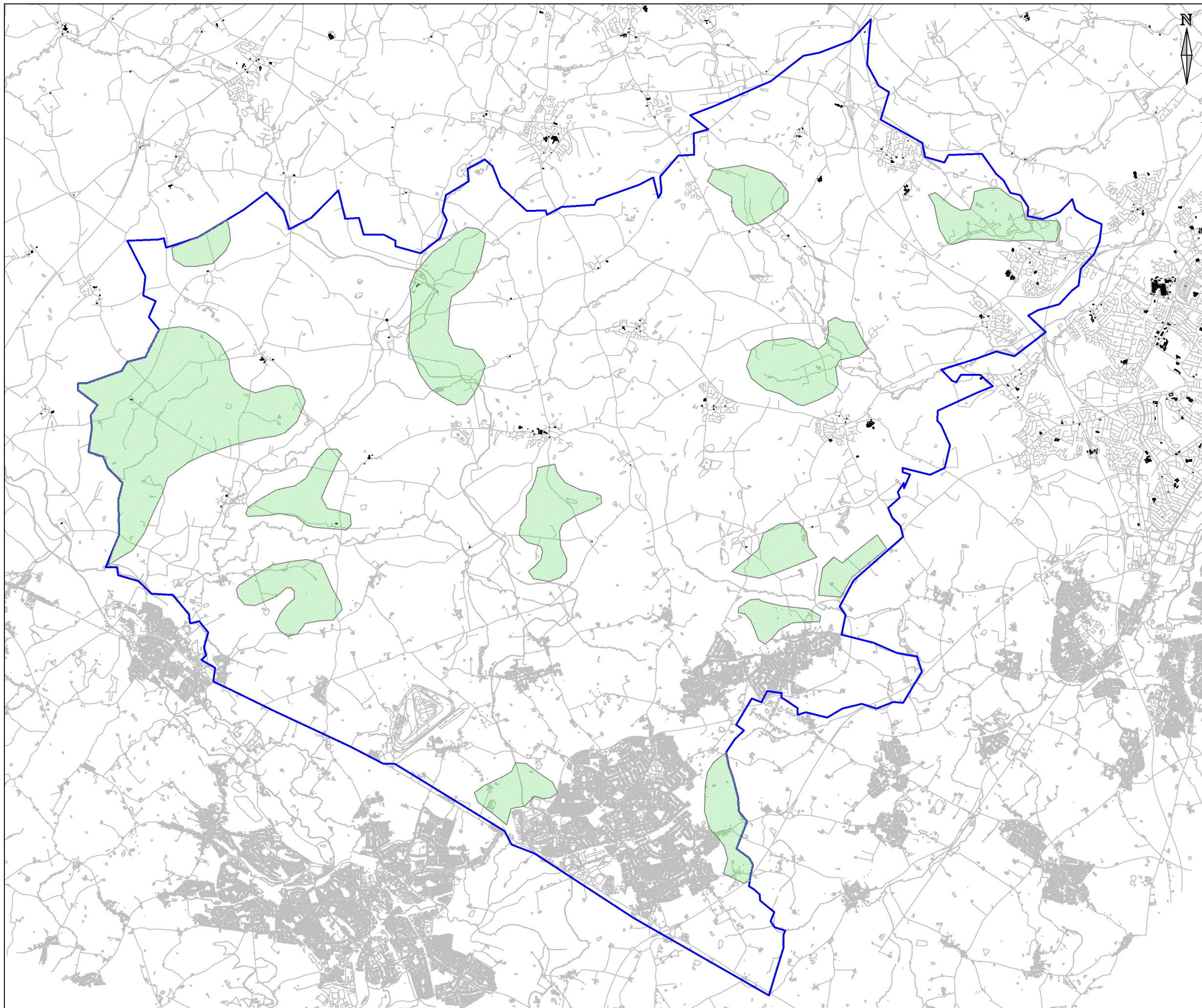
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Scale: 1:90,000

Date: 20/05/2019





 Predicted areas of non  
BMV land

 Hinckley and Bosworth  
Borough Council District

Client:

Hinckley & Bosworth  
Borough Council

Site:

**Hinckley and Bosworth District**

Map title:

**Map 2  
Areas of poorer quality land in the  
Hinckley and Bosworth District**

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