



Agricultural Land Classification (ALC) Report

Land off Mansfield Road, Warsop

March 2026

Mansfield District Council

Reference: 250905.04.AC.02

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Client: Mansfield District Council

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1. Scope & Objectives

The Services	Agricultural Land Classification (ALC) Report	
The Client	Mansfield District Council	
Appointment Details	The Services have been carried out in accordance with the Proposal dated 4 September 2025 and REL's Terms and Conditions of Engagement, (together " the Agreement ") as accepted by the Client on 5 September 2025.	
Site Name	Land Off Mansfield Road.	
Site Address	Mansfield Road, Warsop, Mansfield NG20 0EA (" the Site ").	
Information Sources (Where appropriate documents are contained in appendices with data extracts provided and summarised within pertinent sections of this report. List not exhaustive)	Online Source	Natural England Provisional Agricultural Land Classification Grade (pre-1988), accessed via Magic Web Mapping Service, DEFRA, 2025.
		Natural England Agricultural Land Classification Grades Post-1988 Surveys (Polygons) Database and Mapping, accessed via Magic Web Mapping Service, DEFRA, 2025.
		British Geological Survey (BGS) Database and Mapping.
		BGS GeoIndex Web Mapping Service.
		BGS 1: 50,000 scale Provisional Series, Geological Map, England and Wales, Sheet 113 (Ollerton), available on the BGS map portal.
		Google Historic Satellite Imagery.
	Documentation Source	National Library of Scotland Historical Ordnance Survey England and Wales, 1830s-1974 Maps.
		Soil Classification for Soil Survey, Monographs on Soil Survey, Butler, B E (1980), Clarendon Press, Oxford.
		Hodgson, J.M (ed.) (2022). <i>Soil Survey Field Handbook</i> . Soil Survey Technical Monograph No. 5, Cranfield.
		Meteorological Office (Met Office), 1989, Climatological Data for Agricultural Land Classification – Gridpoint Datasets of Climatic Variables, at 5km intervals, for England and Wales.
		MAFF, 1988, Agricultural Land Classification of England and Wales – Revised Guidelines and Criteria for Grading the Quality of Agricultural Land.
		Natural England, Technical Information Note TIN049 Second Edition, 2012.
	Previous Reports	No previous reports, including Post-1988 ALC surveys, are available for the site.
		Site Works The site works were undertaken by REL on the 13 November 2025.

2. Site Details

National Grid Ref.	Approximate centre of the site: 456116, 366947.
Ground Level Topography	Range 63m-83m AOD, average for site: c.75m AOD.
Site Area	32.7 hectares (ha).
HELAA Reference	For the purpose of this report, the 'site' corresponds to the red line boundary outlined in Figure 1 below and incorporates all relevant land parcels identified within the Council's Housing and Economic Land Availability Assessment (HELAA), namely HELAA sites 49 to the west of Mansfield Road (A60) and 338 to the east of Mansfield Road (A60).
Location	The subject site is located off Mansfield Road (A60), which is running between the HELAA sites 49 and 338. The site is located adjacent southwest of the civil parish of Warsop, approximately 5.9km northeast of Mansfield town centre.



Figure 1: Site Boundaries (highlighted in red)

Current Site Description and Usage	The subject site comprises agricultural fields which are currently used for arable crop (based on observations made during the site visit).
Surrounding Land Uses	Surrounding land uses comprise agricultural fields to the south, east and west, with urban development adjacent to the north of the site. Mansfield Road intersects the site in the west, and a railway is situated along the northern boundary of the site. The River Meden runs along the eastern boundary, with The Bottoms (watercourse) running partially along the southwestern boundary. There is also a small pond noted in the southwestern portion of the site.
Site History	From the earliest mapping dated 1830s, the site is shown as agricultural land.
Current Grading	The site is currently mapped as Grade 2 , with areas in the northwest and southeast mapped as Grade 3 on the provisional 1: 250,000 scale ALC map (MAFF, 1983) see Appendix V for key to the gradings.

3. Methodology

Desk Study

This site-specific Agricultural Land Classification (ALC) assessment has been undertaken as part of a wider district-wide ALC study, which established the overarching baseline conditions, datasets, and methodological approach across the district. The desk study information presented within this report draws on that district-level assessment and applies it at a site-specific scale to inform the detailed field survey and subsequent ALC grading. This report therefore presents the findings for the site only, while being informed by the consistent district-wide evidence base.

Using published data sources, an initial desk-based study has been undertaken to provide a reconnaissance of the general site characteristics, including soil type(s) and agricultural classification.

Where available, Post-1988 ALC Surveys (undertaken at varying scales and levels of detail, ranging from 1:5,000 to 1:50,000 scale) have been consulted. Surveys included on this map provide the most detailed and up to date ALC grading following surveys between 1989 and 1999 by MAFF (now part of DEFRA).

Climatological data provided by the Met Office has been used to determine the overriding agroclimatic site limitations, using interpolated values based on the central point of the site.

Intrusive Soil Survey

The intrusive soil survey comprised at least one hand auger boring per hectare to a depth of 1.20m below ground level (where achievable) in accordance with current guidance. These were undertaken to examine the soil profiles, using standard soil survey methods.

In accordance with instructions to protect the standing crop and avoid causing damage, no inspection pits were excavated on the site; however, representative information for Soil Type 1 has been obtained from Land North of Debdale Lane, Mansfield (NG19 7HA), located approximately 6.7km southwest of the site, and a corresponding photographic record for Soil Type 2 has been taken from Land at Peafield Lane, Mansfield (NG19 9EG), approximately 4.3km to the south. The representative information for Soil Type 3 has been obtained from Land at New Mill Lane, Mansfield (NG19 0NS) located approximately 6.9km south of the site. This will provide representative soil inspection for the soil types encountered, as these areas are within a similar geological sequence to the subject site.

ALC Grade Assessment

All potential limiting ALC grade factors (listed in **Appendix V**) have been considered as part of the assessment, including those which pose no limitation on the ALC grading for the site.

Using the information collected during the site survey and the MAFF ALC guidance documents, an ALC grade was then determined for the site, or for each soil type based on the most limiting ALC grade (**Appendix I**). A brief overview of relevant terminology is included in **Appendix V**.

4. Desk Based Reconnaissance

Agricultural Land Classification (ALC) provides a framework for assessing the quality of agricultural land and is briefly outlined below. It is a nationally standardised system used to classify land based on its inherent physical characteristics. The grading is determined by considering a range of baseline factors, including climate, topography, soils, and site drainage, with the most limiting factor governing the final classification. These factors are assessed against the requirements of a standard set of reference crops, such as cereals and root crops, to determine how consistently the land can support agricultural production. The presence and severity of any limitation influence the final ALC grade.

Prior to the intrusive site investigation, a review of available desk-based information was undertaken. Pertinent information has been summarised below.

Climate Data

Using the climatological data set (Met Office, 1989) the following information (**Table 1**) has been calculated for the site. Calculations comprised altitude adjustment and interpolation, using the formula presented within the data set.

Table 1: Summary of Agroclimatic Data for the Site

(Site Centre Grid Reference: 456116, 366947)		
Average Annual Rainfall (mm)	AAR	674.07
Accumulated Temperature (°C)	ATO	1355.10
Field Capacity Duration (Days)	FCD	144.38
Moisture Deficit Wheat (mm)	MDWHT	102.75
Moisture Deficit Potatoes (mm)	MDPOT	93.00

The site is identified to have slightly below average AAR, with average ATO and FCD when compared to the mapped values for the area north of Mansfield (Soils and their Use in Midland and Western England, 1984).

Using the AAR and ATO values within **Table 1**, the site is not considered to be limited by climate (Figure 1, MAFF 1988).

Topography

The site was identified to have a gradient between 0° and 1°, therefore topography is identified to not be a limiting factor of the ALC grade of the site (Table 1, MAFF 1988).

BGS Published Data

A review of BGS information has identified that no Made Ground areas are indicated across the site.

The majority of the site is situated within an area free of superficial deposits, with areas in the northwest situated within an area of superficial Alluvium deposits (clay, silt, sand and gravel).

The bedrock geology for the majority of the site is indicated as the Lenton Sandstone Formation (Sandstone), with areas in the northwest indicated as the Cadeby Formation (Dolostone).

Published Soils Data

Soils mapping for the area as shown on *Soils and their use in Midland and Western England*, 1984, Soil Survey of England and Wales Memoir and accompanying 1:250,000 scale map has been reviewed as part of this assessment. The location of the site is shown in the soils mapping extract below in **Figure 2**.

The soils mapping suggests the soils on site comprise the Bearsted 2 Association in the west, the Wick 1 Association in the east, with the potential for soils of the Everingham Association to encroach on the west of the site. The soils are described as follows:

- **Bearsted 2 Association (541b)** - Deep well drained coarse loamy soils mainly on steep scarps, locally very stony. Permeable peaty-topped and non-peaty soils affected by groundwater on some footslopes. Landslips and associated irregular terrain locally.
- **Wick 1 Association (541r)** - Deep well drained coarse loamy and sandy soils locally over gravel. Some similar soils affected by groundwater. Slight risk of water erosion.
- **Everingham Association (821a)** - Deep stoneless permeable fine sandy soils some with bleached subsurface horizon. Groundwater controlled by ditches. Risk of wind erosion.

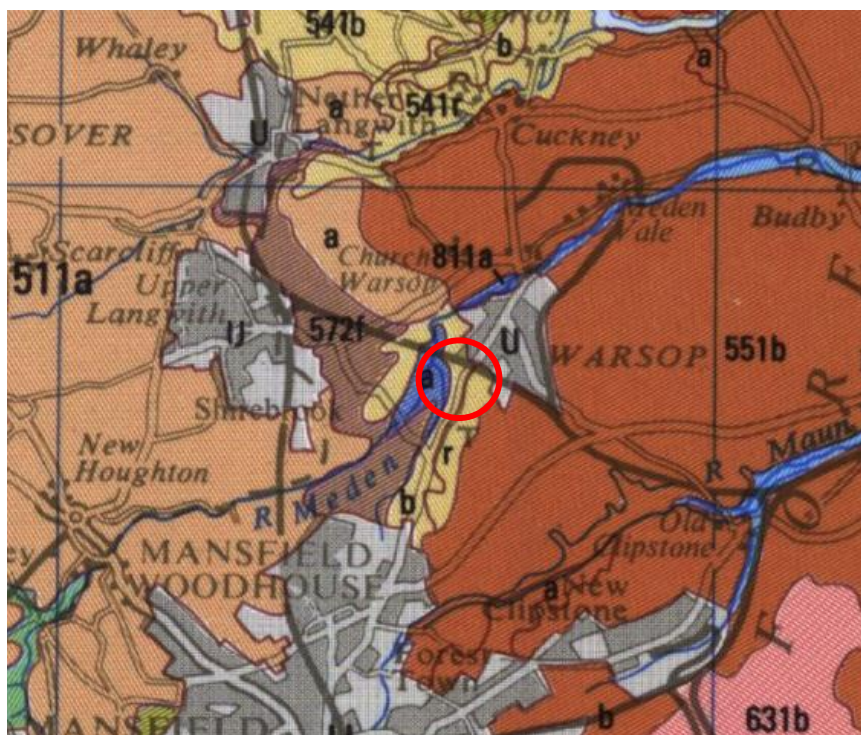


Figure 2: Soils Mapping for the Site and Surrounding Area (site location indicated in red)

Previous Reports

No previous ALC reports are available for the site or adjacent surrounding areas.

Flood Risk Assessment

Since the ALC guidance document was published in 1988, the Environment Agency (EA) has updated the way the risk of flooding is assessed. Therefore, the terms used in the MAFF 1988 guidance (**Table 2**) have been paired to the current EA flood risk classifications below.

Table 2: Summary of Flood Risk for the Site

EA Flood Classification	MAFF Flood Classifications
Zone 3a High Probability	Frequent
Zone 3b Functional Floodplain	Frequent
Zone 2 Medium Probability	Occasional
Zone 1 Low Probability	Rare to Very Rare

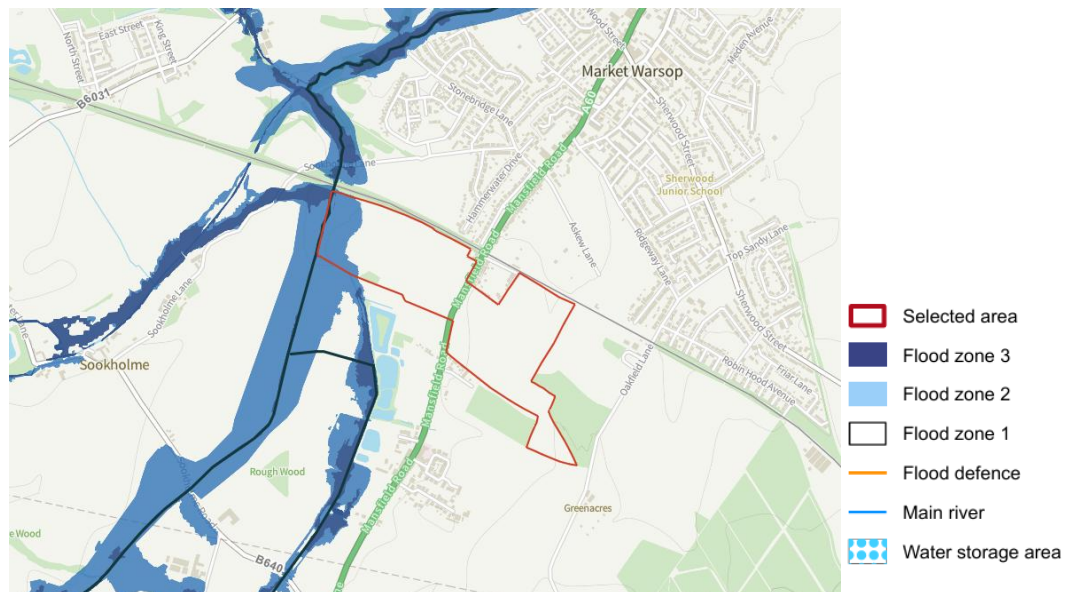


Figure 3: Flood Risk Present from Rivers and the Sea for the Site (site boundary defined in red)

The interactive EA Flood Map for Planning on the UK Government website identifies an area within and surrounding the western boundary of the site to be within a Flood Zone 2 and 3 (High Probability) area, whilst the remainder of the site lies within a Flood zone 1 (Low Probability) Area.

As the areas located within a higher probability area are small, localised sections of the site and are not representative of the overall site, it is considered that the flood risk is not considered to pose enough of a limitation to the cultivation of the site to reduce the overall site ALC Grade (**Figure 3**).

5. Intrusive Survey Findings

The survey identified Three similar Soil Types across the entire site. Generalised profiles of the soil types encountered have been described as below (**Table 3**) however, please note some localised variations were recorded. Complete soil logs are provided in **Appendix II** and photographs of the surveyed soils are presented in **Appendix III**.

Table 3: Summary of Soils Identified on Site

	Depth (cm)	Texture	Colour	Stones (%)	Mottles	Structure
Soil Type 1	0-45	Sandy Clay Loam (SCL)	Very Dark Brown (7.5YR 2.5/2)	5	No	Medium Subangular Blocky
	45+	Weathered Bedrock	NA	NA	NA	NA
Soil Type 2	0-45	Sandy Clay Loam (SCL)	Very Dark Brown (7.5YR 2.5/2)	5	No	Medium Subangular Blocky
	45-120	Fine Sand (fS)	Dark Reddish Brown (2.5YR 3/4)	0	No	Single Grained
Soil Type 3	0-50	Sandy Clay Loam (SCL)	Very Dark Brown (7.5YR 2.5/2)	5	No	Medium Subangular Blocky
	50-120	Sandy Clay (SC)	Dark Reddish Brown (2.5YR 3/4)	10	Numerous Ochreous (2.5YR 4/6) Mottles	Coarse Subangular Blocky

Soil Descriptions

The soils on site comprise, slightly stony, non-calcareous sandy soils with profiles varying in depth to bedrock and subsoil textures from sand to sandy clay. Topsoil texture remains homogenous across the entire site.

Soil Type 1 consist of slightly stony very dark brown sandy clay loam (7.5YR 2.5/2) Ap horizon to an average depth of 45cm bgl, with no mottling visible. The structure was recorded as moderately developed medium subangular blocky, to coarse subangular blocky in places, of friable consistency. Shallow weathered bedrock was identified at depths between c.45cm bgl.

Soil Type 2 was observed as identical to the topsoil of Soil Type 1 with the presence of stoneless dark reddish brown sand (2.5YR 3/4) B horizon of the fine textured classification, with no mottling visible. The structure was observed as moderately developed, very loose single grained to a depth of c.120cm bgl.

Soil Type 3 was observed to have identical topsoil as Soil Type 1 and 2, with the presence of reddish brown sandy clay (2.5YR 3/4) B horizon to an average depth of 120cm bgl, with numerous distinct mottles of Ochreous colours. The structure was observed as strongly developed coarse subangular blocky of friable consistency.

The general profiles for the soil types identified on the Site has been used to assess the Wetness Class (WC) for the Soil Type (see **Appendix V** for the MAFF decision flow chart). The general profile is reflective of the findings in the soil pit associated with the Soil Type identified on site. The assessment process and results of the in-field wetness assessment is provided within **Table 4** below with a plan of the distribution of the soil types across the site shown in **Appendix I**.

Table 4: Wetness Class Assessment for Soil Types Encountered on Site

Soil Type	Parameters (Figure 6, MAFF)						Wetness Class
	Disturbed	FCD	SPL (depth cm) Justification	Colour	Gleying (depth cm) Justification	Ref	
Soil Type 1	No	144.38	No SPL layer was identified to be present within the top 120cm.	Other	Gleying was not identified to be present within the top 120cm.	N/A	I
Soil Type 2	No	144.38	No SPL layer was identified to be present within the top 120cm.	Other	Gleying was not identified to be present within the top 120cm.	N/A	I
Soil Type 3	No	144.38	At a depth of c.50cm, the SPL was identified to be present due to the following characteristics: Sandy Clay (SC) coarse subangular blocky structure strongly developed less than 0.50% biopores greater than 0.50mm diameter evidence of wetness in the layer; ochreous mottles	Other	Gleying was not identified to be present within the top 120cm.	Figure 7	III

Notes: This Table follows the flow chart of Figure 6 of the MAFF ALC guidance to identify the wetness classification per Soil Type.

Soil Interactive Limitations

Soil Type 1 – Droughtiness Limitation

The combination of the topsoil texture (Sandy Clay Loam), Wetness Class (I) and the number of Field Capacity Days (144.38), together with the climate calculations results in **ALC Grade 3b** for Type 1 soils due to droughtiness limitation for wheat.

A total of c.5.7ha in the northwest has been identified with deeper soil profiles, and with the combination of the topsoil texture (Sandy Clay Loam), Wetness Class (I) and the number of Field Capacity Days (144.38), together with the climate calculations which results in **ALC Grade 3a** due to droughtiness for wheat. However, it is noted that approximately 0.6ha of this section is not managed differently to the wider site area and there is no visual difference between this area and the lower graded adjacent land. It is therefore justifiable to group the singular sample of Grade 3a into the surrounding Grade 3b land.

Soil Type 2 – Wetness Limitation

The combination of the topsoil texture (Sandy Clay Loam), Wetness Class (I) and the number of Field Capacity Days (144.38) results in **ALC Grade 1** for Type 2 soils. However, it is noted that approximately 0.9ha of this soil type is not managed differently to the wider site area and there is no visual difference between this area and the lower graded adjacent land. It is therefore justifiable to group this singular sample of Grade 1 into the surrounding Grade 3a land.

Soil Type 3 – Wetness Limitation

The combination of the topsoil texture (Sandy Clay Loam), Wetness Class (III) and the number of Field Capacity Days (144.38), together with the climate calculations results in **ALC Grade 2** for Type 3 soils.

Soil Calcium Carbonate determinations

The topsoils (Medium Sandy Clay Loam) demonstrated a negative test for calcium carbonate content.

6. Conclusions

The ALC grading for the site area is summarised below within **Table 5**, overall findings of this assessment can be found in **Appendix IV**. The table below identifies the grades of the areas of agricultural land present across the site (**Appendix I**).

Table 5: ALC Classification

ALC Grade	Area (Ha)	Percentage
Grade 1	2.1	6.4%
Grade 2	11.8	36.1%
Subgrade 3a	8.3	25.4%
Subgrade 3b	10.3	31.5%
Grade 4	0.0	0.0%
Grade 5	0.0	0.0%
Non-Agricultural	0.2	0.0%
Total BMV	22.2	67.9%
Total Non-BMV	10.5	32.1%
Total Site Area	32.7	100%

Overall Site ALC Grade and Conclusions

The majority of the land surveyed as part of this assessment has been identified as **ALC Grade 2**, with approximately 2.1ha centrally on site identified as **ALC Grade 1**, 8.3ha identified as **ALC Grade 3a**, 10.3ha in the western part of the site identified as **ALC Grade 3b** and 0.2ha identified as **Non-Agricultural**. As such, BMV land has been identified on 67.9% of the overall site area.

APPENDIX I

SITE PLANS



Legend

- Site Boundary
- ALC Grade 1
- ALC Grade 2
- ALC Grade 3a
- ALC Grade 3b
- Non-Agricultural

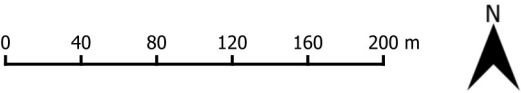


Figure Auger Samples and ALC Grades

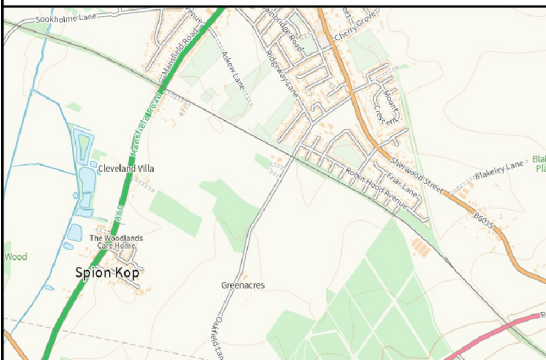
Job Land at Mansfield Road

Client Mansfield District Council

Figure No.	Revision	Date
1	2	14 April 2026

Drawn by	Checked by	Scale
SS	EH	1:4,000

Job No.	250905.04
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Legend

- Site Boundary
- HELAA 49
- HELAA 338
- ALC Grade 1
- ALC Grade 2
- ALC Grade 3a
- ALC Grade 3b

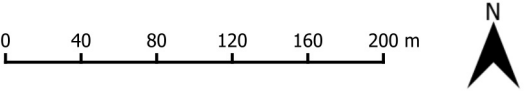
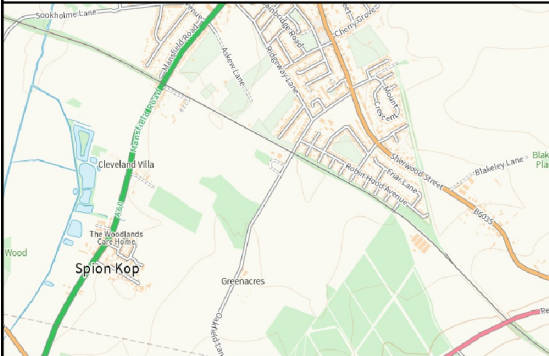


Figure ALC Grades and HELAA References		
Job Land at Mansfield Road		
Client Mansfield District Council		
Figure No. 2	Revision 2	Date 14 April 2026
Drawn by SS	Checked by EH	Scale 1:4,000
Job No. 250905.04		



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Legend

- Site Boundary
- ALC Grade 1
- ALC Grade 2
- ALC Grade 3a
- ALC Grade 3b

Agricultural_Land_Classification_Provisional_England

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Non Agricultural
- Urban

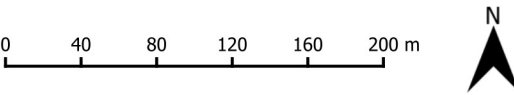
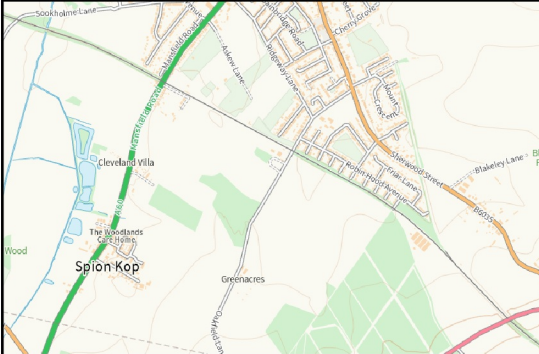


Figure ALC Grades with the Provisional ALC Grades		
Job Land at Mansfield Road		
Client Mansfield District Council		
Figure No. 3	Revision 2	Date 14 April 2026
Drawn by SS	Checked by EH	Scale 1:4,000
Job No. 250905.04		



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APPENDIX II

SITE SURVEY LOGS

FCD: 132.22

MDWHT: 107 MDPOF: 98.5

Auger Sample	Top Depth(cm)	Bottom Depth (cm)	Texture	Matrix				Mottles 1				Mottles 2				Stones	Structure	SPL	GLEIVING	Figure	Wetness class	Wetness Grade	condition		Droughtiness Grade		Overriding Limitation	
				Hue	Value	Chroma	colour	Hue	Value	Chroma	colour	Hue	Value	Chroma	colour								Wheat	Potatoes				
1	0	60	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3a	1	3a	Droughtiness
2	0	65	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3a	1	3a	Droughtiness
3	0	40	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3a	3b	Droughtiness
4	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	10 CSAB	No	No	good	moderate	WC1	I	1		3a	2	3a	Droughtiness
5	0	55	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3a	2	3a	Droughtiness
6	0	45	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3a	3b	Droughtiness
7	0	40	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3a	3b	Droughtiness
8	0	55	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	15 MSAB	No	No	good	moderate	WC1	I	1		3a	2	3a	Droughtiness
9	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3a	2	3a	Droughtiness
10	0	34	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3a	2	3a	Droughtiness
11	0	40	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3b	3b	Droughtiness
12	0	43	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3a	3b	Droughtiness
13	0	30	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3b	3b	Droughtiness
14	0	35	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3b	3b	Droughtiness
15	0	30	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3b	3b	Droughtiness
16	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3b	3b	Droughtiness
17	0	37	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3a	2	3a	Droughtiness
18	0	40	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		3b	3a	3b	Droughtiness
19	0	48	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		1	1	1	Wetness Grade
20	0	48	FS	2.5YR	3	4	Reddish	n/a	n/a	n/a	-	n/a	n/a	n/a	-	0 SG	No	No	good	moderate	WC1	I	1		1	1	1	Wetness Grade
21	0	47	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
22	0	40	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 7	III	3a		1	1	3a	Wetness Grade
23	0	43	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	III	3a		1	1	3a	Wetness Grade
24	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
25	0	42	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	WC1	I	1		1	1	1	Wetness Grade
26	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
27	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	10 CSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
28	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	III	2		1	1	2	Wetness Grade
29	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	10 CSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
30	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
31	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
32	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
33	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
34	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	III	2		1	1	2	Wetness Grade
35	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade
36	0	50	SCL	7.5YR	2.5	2	other	n/a	n/a	n/a	-	n/a	n/a	n/a	-	5 MSAB	No	No	good	moderate	Figure 8	II	2		1	1	2	Wetness Grade

Structure	
MSAB	Medium Subangular Blocky
AB	Angular Blocky
CP	Coarse Prismatic
MSAB	Massive
SAB	Subangular Blocky
CP	Coarse
W	Weak

Stones	
5	Very Slightly Stony
15	Slightly Stony
35	Moderately Stony

Texture	
C	Clay
ZC	Silty Clay
SC	Sandy Clay
CL	Clay Loam
ZCL	Silty Clay Loam
SCL	Sandy Clay Loam
SZL	Sandy Silty Loam
SL	Sandy Loam
LS	Loamy Sand
S	Sand
ZS	Silty Sand
MG	Made Ground
F (sand)	Fine
M (sand)	Medium
C (sand)	Coarse
H (clay)	Heavy
M (clay)	Medium

Rock Type	
Ca	Calcareous

Mottling	
*	No Mottling
X	Fine Grey
O	Fine Ochreous
N	Numerous Mottles
F	Few Mottles
D	Fine Brown

Cell Colours	Reason
	Livestock in field - not accessed
	Woodland/Made Ground/Urban
	Inaccessible areas
	N/A

APPENDIX III

SITE SURVEY PHOTOGRAPHS

Photograph Number	Photograph Description	Photograph
1.	Land Off Mansfield Road General Site View.	
2.	Land Off Mansfield Road General Site View.	
3.	Land Off Mansfield Road General Site View.	

Photograph Number	Photograph Description	Photograph
4.	Land Off Mansfield Road General Site View.	
5.	Land Off Mansfield Road General Site View.	

Photograph Number	Photograph Description	Photograph
6.	Land Off Mansfield Road Soil Type 1a – Pit.	
7.	Land Off Mansfield Road Soil Type 2 – Pit.	

Photograph Number	Photograph Description	Photograph
8.	Land Off Mansfield Road Soil Type 1a – Auger. Borehole 24	
9.	Land Off Mansfield Road Soil Type 1a – Topsoil Structure.	

Photograph Number	Photograph Description	Photograph
10.	Land Off Mansfield Road Soil Type 1a – Subsoil Structure.	
11.	Land Off Mansfield Road Soil Type 1b - Auger. Borehole 12	

Photograph Number	Photograph Description	Photograph
12.	Land Off Mansfield Road Soil Type 1b - Auger. Borehole 18	
13.	Land Off Mansfield Road Soil Type 2 - Auger. Borehole 20	

Photograph Number	Photograph Description	Photograph
14.	Land Off Mansfield Road Soil Type 2 – Topsoil Structure.	
15.	Land Off Mansfield Road Soil Type 2 – Subsoil Structure.	

APPENDIX IV

SUMMARY OF FINDINGS

Job Name:	Land off Mansfield Road
Job Number:	250905.04
Date:	23/12/2025
Completed By:	CL

Site Altitude:	75
Centre Grid Ref:	456116 366947

AAR	674.07
ATO	1355.10
FCD	144.38
MDMWHT	102.75
MDMPOT	93.00

	Soil Type 1a	Soil Type 1b	Soil Type 2
AP WHT	144.44	71.28	112.32
MB WHT	41.69	-31.47	9.57
AP POT	107.94	71.28	91.32
MB POT	14.94	-21.72	-1.68



Site Limitations Summary			
	Soil Type 1a	Soil Type 1b	Soil Type 2
Wetness Class	III	I	I
Wetness Grading	3a	1	1
Droughtiness Wheat	1	3b	2
Droughtiness Potato	1	3a	2
Gradient Limitation	1	1	1
Soil Depth Limitation	1	3a	1
Stoniness Limitation	1	1	1
	Overall		
Site Climatic Limitation	1	1	1
Overall Grade	3a	3b	2

Agricultural Land Classification (ALC)

The Agricultural Land Classification (ALC) provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The limitations can operate in one or more of four principal ways: they may affect the range of crops which can be grown; the level of yield; the consistency of yield and the cost of obtaining it. The classification system gives considerable weight to flexibility of cropping, whether actual or potential, but the ability of some land to produce consistently high yields of a somewhat narrower range of crops is also taken into account.

These factors form the basis for classifying agricultural land into one of five grades (with Grade 3 land divided into Subgrades 3a and 3b since the guidelines were revised in 1988), ranked from Excellent (Grade 1) to Very Poor (Grade 5). ALC grading is determined using the Ministry of Agriculture Food and Fisheries (MAFF) '*Agricultural Land Classification of England and Wales – Revised guidelines and criteria for grading the quality of agricultural land*'.

Definition of Agricultural Land Classification Grades

ALC Grade	Description
Grade 1	Excellent quality agricultural land No or very minor limitations to agricultural use.
Grade 2	Very good quality agricultural land Minor limitation which affect crop yield, cultivation or harvesting.
Subgrade 3a (pre-1988 Grade 3)	Good quality agricultural land Capable of producing moderate to high yields of a narrow range of arable crops or moderate yields of a wider range of crops.
Subgrade 3b (pre-1988 Grade 3)	Moderate quality agricultural land Capable of producing moderate yields of a narrow range of arable crops and/or lower yields of a wider range of crops.
Grade 4	Poor quality agricultural land Severe limitations which significantly restrict the range of crops and/or levels of yield.
Grade 5	Very poor quality agricultural land Very severe limitations which restrict use to permanent pasture or rough grazing.

Best and Most Versatile (BMV) Agricultural Land

The National Planning Policy Framework (NPPF) (Department for Communities and Local Government, 2012) defines Best and Most Versatile (BMV) agricultural land as land of Excellent (ALC Grade 1), Very Good (Grade 2) and Good (Grade 3a) agricultural quality. BMV land is provided a degree of protection against development within planning policy, with most Local Plans including specific policies which refer to the protection of BMV agricultural land.

Non-BMV agricultural land, i.e. Moderate, Poor and Very Poor quality agricultural land is designated subgrade 3b or Grades 4 and 5 respectively, and is restricted to a narrower range of agricultural uses. Limited to no protection is provided against development on this grade land within planning policy.

Limiting Factors

Main Factor	Sub Factor	Explanation
Climatic Limitations	Overall Climatic Limitation	Using a dataset of five parameters, as set on a 5km grid for the whole of the UK, the site climatic values are used to determine if there is an overriding limiting factor for the site with regard to the wider climate.
	Local Climatic Factors	Where the above climatic factors are liable to be modified by local factors such as aspect, gradient and elevation then one or more of these factors may become a limiting factor for the site.
Site Limitations	Gradient	Gradient may have an impact on mechanised farm operations and also on soil erosion. The ALC grade limitations with reference to gradient are given in Table 1 of the MAFF guidance.
	Microrelief	Complex changes in slope angle and direction over short distances may have an impact on agricultural machinery. The effect of microrelief is considered in conjunction with overall gradient.
	Flooding	The extent, duration, frequency and timing of flooding may have an influence over the ALC Grade and could become the limiting site factor. The ALC grade limitations with reference to flooding are given in Tables 2 and 3 of the MAFF guidance.
Soil Limitations	Soil Texture and Structure	Soil texture and structure can influence the water retention, water movement and aeration of the soil and therefore affect the workability, trafficability, poaching risk and suitability for plant growth. Soil texture is determined by the proportions of sand, silt and clay and is used to assess the wetness class of the soil.
	Soil Depth	Soil depth can influence the available water capacity of the soil, restrict nutrient uptake, root growth and root anchorage. The ALC grade limitations with reference to soil depth are given in Table 4 of the MAFF guidance.
	Stoniness	Stone content can influence the cultivation, harvesting and crop growth and may negatively impact machinery. The ALC grade limitations with reference to stoniness are given in Table 5 of the MAFF guidance.
	Chemical Limitations	Certain physical limitations may limit soil chemical properties, such as saline conditions, organic matter and toxic elements.
Interactive Limitations	Soil Wetness	Soil wetness is assessed using a combination of factors including climate, soil water regime and soil texture. The ALC grade limitations with reference to soil wetness are given in Tables 6 and 7 of the MAFF guidance.
	Droughtiness	Soil droughtiness is assessed using a combination of factors including available water capacity, moisture deficit, moisture balance and irrigation. The ALC grade limitations with reference to droughtiness are given in Table 8 of the MAFF guidance.
	Soil Erosion	Soil erosion may be caused by wind or water action and is determined by interactions between weather, soil type, topography and vegetation cover.

Soil Series

Soil series is the lowest categorical level used for classifying soils in England and Wales. According to the Soil Survey of England and Wales 1984:

"Soil series are defined using a combination of three main properties, the broad type of parent material present (substrate type), the texture of the soil material (textural grouping) and the presence or absence of material with a distinctive mineralogy."

Higher categories are: Major Soil Group, Soil Group, and Soil Subgroup, which are not explicitly used in this report.

Soil Association

A soil association is a geographic grouping of soils identified by the name of the most frequently occurring soil series and by the combination of additional soil series.

Gleying

Gleying is the process of iron reduction (opposite to oxidation) in soils from ferric (reddish in colour) to ferrous compounds (grey or colourless), by microorganisms or by-products of decomposing organic matter. Gleying occurs in areas devoid of oxygen when the soil is waterlogged. The resulting mottling (spots or blotches of colour) can therefore be used to identify the existence of a Slowly Permeable Layer (SPL); as defined within the MAFF ALC guidance.

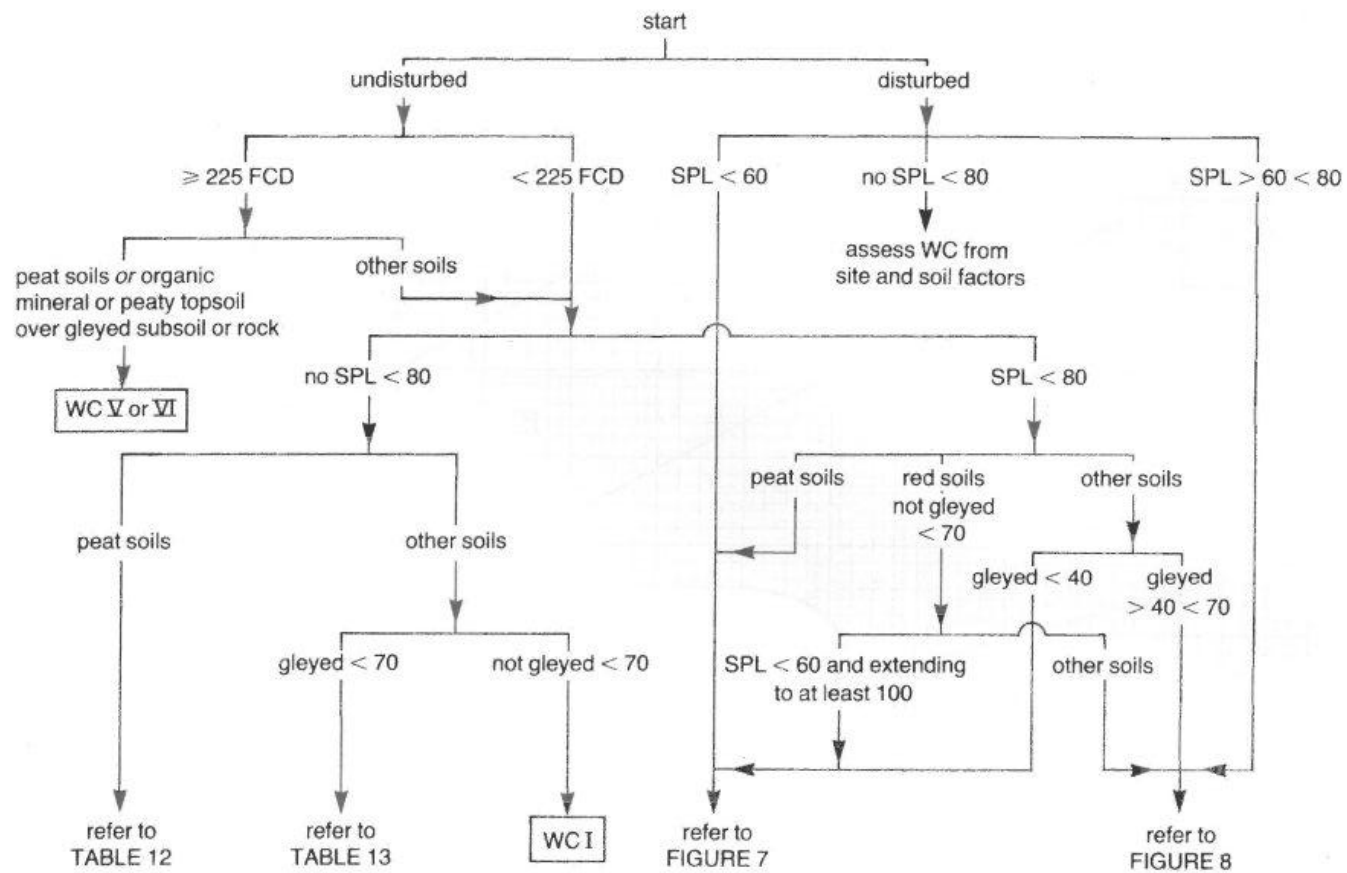


Figure 6. Flow diagram for assessing soil wetness class (WC) from field capacity days (FCD), depth to gleying (in cm) and depth to a slowly permeable layer (SPL, in cm)

Figure 6