

**LAND AT PEARCE'S FARM
SOUTH WOKINGHAM**

**AGRICULTURAL LAND
CLASSIFICATION AND
CONSIDERATIONS**

March 2024





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1 INTRODUCTION

1.1 This report considers the agricultural land quality and other relevant considerations of a Site extending to 7.4ha at Pearce's Farm, South Wokingham. The Site is proposed for allocation in the emerging Wokingham Local Plan.

1.2 The area is shown on the aerial image, outlined in red below.

Insert 1. The Site (boundary approx.)



1.3 A detailed Agricultural Land Classification was carried out at the site on the 30th January 2024. The survey found that the Site comprised of Grade 2, Subgrade 3a, Subgrade 3b and non-agricultural land.

1.4 This report:

- (i) describes the Site and the agricultural land quality in section 2;
- (ii) sets out planning policy of relevance in section 3;
- (iii) provides an assessment in section 4; and
- (iv) summarises the points in section 5.

1.5 This report has been prepared by Kernon Countryside Consultants Ltd (KCC), who specialise in assessing the effects of development proposals on agricultural land and businesses.

2 RELEVANT PLANNING POLICY AND GUIDANCE

National Planning Policy

- 2.1 The National Planning Policy Framework (NPPF) (2023), paragraph 180 notes that planning policies and decisions should contribute to enhance the natural and local environment by, inter alia, recognising **“the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land”**.
- 2.2 The best and most versatile (BMV) agricultural land is defined in Annex 2 of the NPPF as land which is of Grade 1, 2 and Subgrade 3a of the Agricultural Land Classification.
- 2.3 Paragraph 181 of the NPPF discusses plan making. It requires plans to, inter alia, allocate land with the least environmental or amenity value, where consistent with other policies in the Framework. Footnote 62 of the NPPF identifies that **“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”**.
- 2.4 There is no definition of what constitutes “significant” development. However, the “Guide to assessing development proposals on agricultural land” (Natural England, February 2021) advises local planning authorities to **“take account of smaller losses (under 20ha) if they’re significant when making your decision”**, suggesting that 20ha is a suitable threshold for defining “significant” in many cases.
- 2.5 The December 2023 amendments to the NPPF added the requirement to consider the availability of land for food production to the plan making paragraph 181, via an expanded footnote 62.

Local Plan

- 2.6 Core Policy CP1 (Sustainable development) of the Wokingham Borough Core Strategy (adopted January 2010) states that **“Planning permission will be granted for development proposals that:**
- 7) **avoid areas of best and most versatile agricultural land”**.

Guidance

- 2.7 Natural England’s “Guide to Assessing Development Proposals on Agricultural Land” (February 2021) describes the ALC process and sets out guidance on managing soils. It advises on the consultation process where more than 20ha of BMV land is involved.

- 2.8 The Institute of Environmental Management and Assessment (IEMA) produced a Guide “A New Perspective on Land and Soil in Environmental Impact Assessment” in February 2022. Whilst this refers to EA development, it identifies in table 3 (page 49) the magnitude of the impacts on soil resources. Losses of less than 5ha are minor and losses of 5 - 20ha are considered to be moderate. Only losses over 20ha are considered to be major.

3 AGRICULTURAL LAND QUALITY OF THE SITE

The ALC System

- 3.1 The Agricultural Land Classification (ALC) system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on the agricultural use of the site. The ALC system divides agricultural land into five grades. Grade 1 of the ALC is described as being of excellent quality and Grade 5, at the other end of the scale, is described as being of very poor quality. The current guidelines and criteria for the ALC were published by the Ministry of Agriculture, Fisheries and Food (MAFF) in 1988.
- 3.2 The ALC system is further described in Natural England's Technical Information Note TIN049 which can be found reproduced in **Appendix KCC1**.

Detailed ALC Survey Results

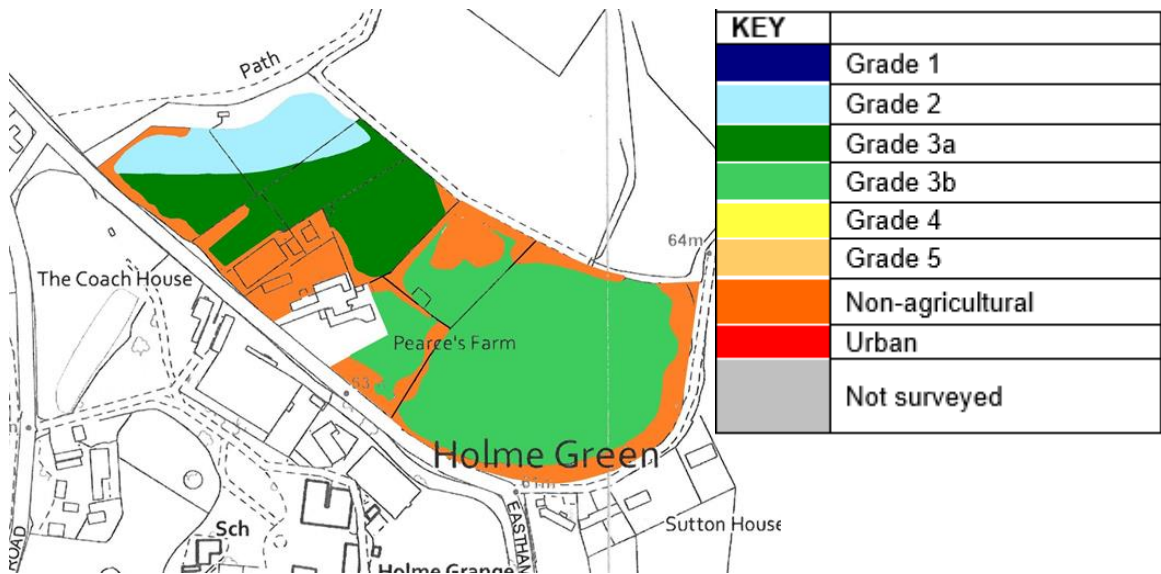
- 3.3 An ALC survey was carried out in January 2024. The survey included seven auger inspection sites. Two of these samples were sent for laboratory analysis to determine the percentage of sand, silt and clay within the soil.
- 3.4 One soil pit was dug to measure the stoniness and to better describe the soil profiles.
- 3.5 The full Agricultural Land Classification is set out in **Appendix KCC2**.
- 3.6 The results of the survey which covers the Proposed Development Site can be seen in the table below, as measured for the site edged in red on Insert 1.

Table 1. KCC1 ALC Results

ALC Grade	Description	Area (ha)	Proportion (%)
Grade 2	Very Good	0.7	9.5
Subgrade 3a	Good	1.4	18.9
Subgrade 3b	Moderate	3.5	47.3
Non-agricultural	-	1.8	24.3
Total	-	7.4	100

- 3.7 The distribution of grading can be seen on the extract of the ALC plan below. The full plan can be found at the back of this report (**Plan KCC3651/02**).

Insert 2. Extract of the ALC Plan



4 POLICY ASSESSEMENT

- 4.1 The NPPF (2023) identifies land of Grades 1, 2 and 3a as the best and most versatile agricultural land and requires, in the context of plan making, that where significant development of such land is demonstrated to be necessary, poorer quality land is to be used in preference.
- 4.2 Wokingham's Core Policy 1 indicates that it is supportive of development proposals that avoid areas of BMV quality. However, consideration should be given to the quantity of BMV land available within the area and the significance of the development.

Whether this is "Significant" Development

- 4.3 This proposal would not be considered to be "significant" development of agricultural land in the context of the NPPF.
- 4.4 Footnote 62 to paragraph 181 of the NPPF considers whether poorer quality land is available with the trigger for an assessment being that the proposal involves "**significant development of agricultural land**". This paragraph is in the context of plan making, not decision making. "**Significant Development**" is not defined in the NPPF. One threshold for determination of what is significant is the threshold for consultation with Natural England, which is set at the loss of 20ha or more of BMV land (as can be seen in the TIN049 in **Appendix KCC1**). This has been the threshold for consultation with MAFF since 1987.
- 4.5 At 2.1ha, the quantum of BMV is under 11% of the threshold for consultation with Natural England. Therefore, this quantum is not "significant development".
- 4.6 The "Guide to assessing development proposals on agricultural land" (Natural England, 5th February 2021) (**Appendix KCC3**) does not define a threshold but does provide some guidance. This adds to our view that 20ha is a reasonable threshold for defining what is significant development:
- Paragraph 6 states "**you should take account of smaller losses (under 20ha) if they are significant when making your decision**", which suggests that losses of under 20ha would not be significant unless there are particular local circumstances. What those particular local circumstances are, is not defined but it would be reasonable consider that the loss of 20ha may be significant in an area where BMV land is rare, for example. That is not the case at this site, where the predictive maps have a large proportion of the area as 20% - 60% BMV quality; and

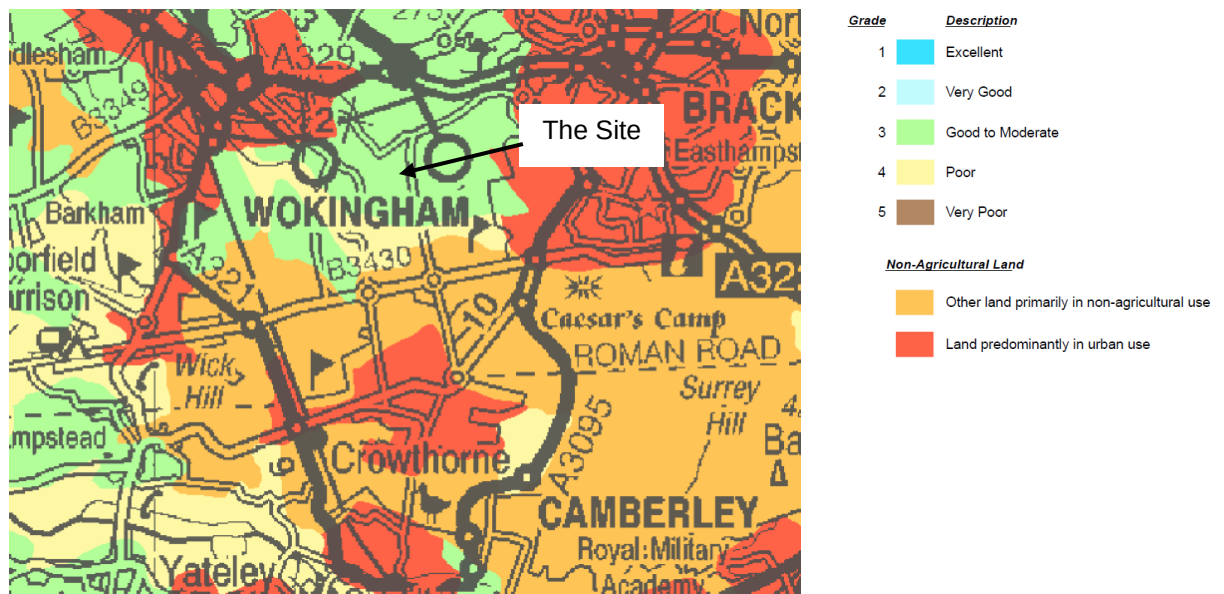
- Paragraph 7.1 states that you can use Natural England's chargeable discretionary advice system **"if your proposal is large, for example 20ha or more, and requires more detailed advice"**. The definition of large as being more than 20ha suggests that a site under 20 ha is considered small, and hence, not significant.

4.7 This is not significant development of BMV land. Therefore, the requirement to consider if poorer quality land is available under footnote 62 is not triggered. However, for completeness, they are assessed below.

Land Quality in the Area Generally and Whether Poorer Quality Land is Available

- 4.8 The significance of development involving agricultural land needs to be considered in context. Across England it is estimated that 42% of farmland is of Grade 1, 2 and 3a quality (see TIN049, **Appendix KCC1**).
- 4.9 The Utilised Agricultural Area (UAA) of England, which is less than the total amount of agricultural land, was 8.8 million hectares in 2023 (Agricultural Land Use in England on 1 June 2023, DEFRA, updated 9 November 2023). This suggests that 3.7 million hectares of BMV land is in active agricultural use.
- 4.10 Statistically about 40% of Grade 3 land falls within Subgrade 3a. However, in parts of the country the proportion of Subgrade 3a is expected to be much higher, as there are large areas of the country where land is poor (eg Lake District, Pennines, Dartmoor etc).
- 4.11 Therefore, it is not considered that BMV quality is a rare resource.
- 4.12 On the 'provisional' ALC maps from the 1970's the land is shown as undifferentiated Grade 3. This can be seen on the below map.

Insert 3. Provisional ALC Map

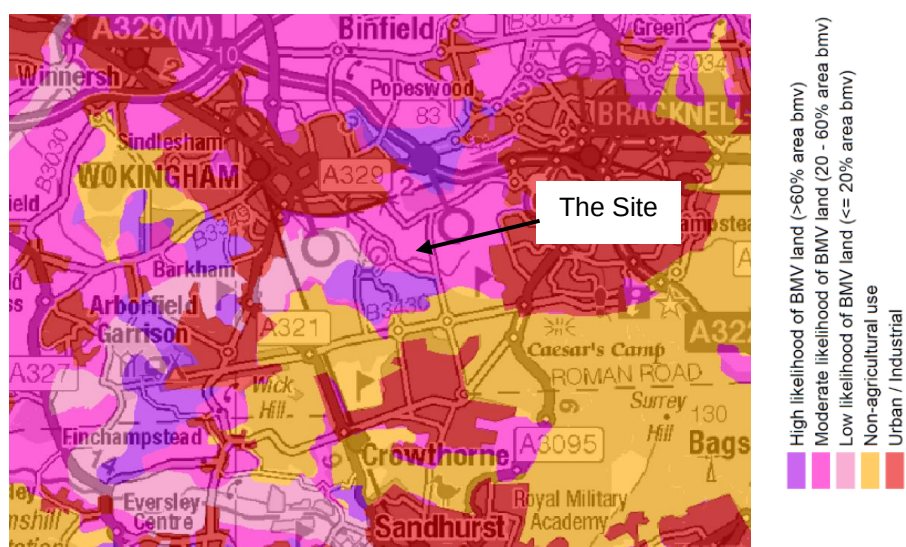


4.13 The map shows that as a whole land within the immediate vicinity of the Site, is undifferentiated Grade 3, and of a similar quality.

4.14 There are limitations with the “provisional” maps, which are described in TIN049 (**Appendix KCC1**). In 2017 Natural England produced predictive likelihood of best and most versatile maps. These estimate the proportion of land within an area that is of BMV quality. There are three categories which are low (<20% area BMV), moderate (20-60% area BMV), and high (>60% area BMV).

4.15 The predictive BMV likelihood maps predict that the majority of the land is of moderate likelihood (20-60% area BMV). This can be seen on the insert below.

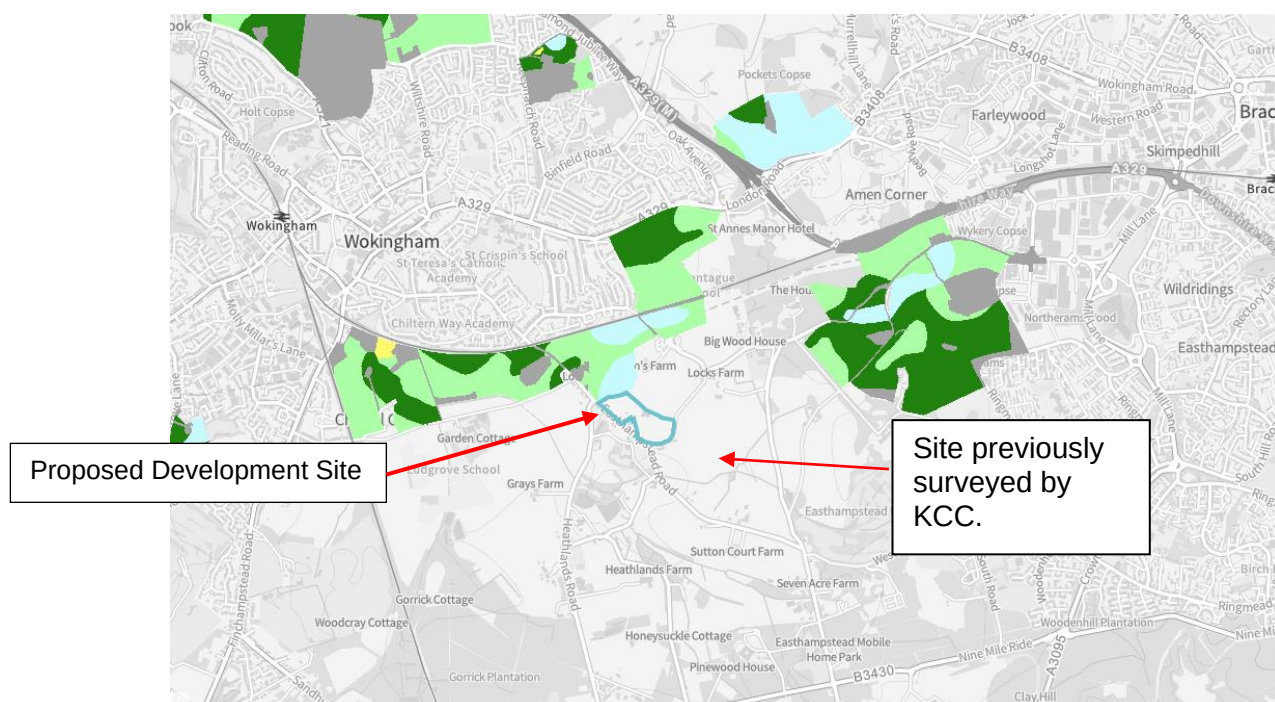
Insert 4. Predictive BMV Map



4.16 It can be seen from the results that the majority of land within the area also falls within this category, such that there is no evidence that poorer quality land is widely available.

4.17 In addition to the ALC that has been completed at the Site, there is also ALC data available for a number of sites within close proximity. The following surveys are available via www.magic.gov.uk.

Insert 5. Surveyed Sites



4.18 Land which neighbours the Site has been previously surveyed by Kernon Countryside Consultants Ltd. Results show that adjacent land is a mixture of Grade 2, Subgrade 3a and Subgrade 3b. These results are not yet available on the Magic mapping service. However, the location if the surveyed Site has been illustrated above.

4.19 In addition to the above, land directly north of the Site was also found to contain Grade 2 and Subgrade 3a land. Indicating that that BMV land is not unusual in the area.

4.20 Land in the area is therefore generally a mixture of BMV and non-BMV quality. The evidence shows that the mix of quality on the site, with about 30% BMV, is similar to the surrounding area.

Economic Benefits

4.21 There is no research available that we are aware of that seeks to analyse the productive economic advantages of BMV to non-BMV land.

- 4.22 In the absence of any empirical data, an economic assessment is inevitably crude. Taking standard budgeting textbooks, such as the John Nix Pocketbook for Farm Management (extracts which have been reproduced in **Appendix KCC4**), it is possible to show the difference between moderate and high yields as an illustration between crops.
- 4.23 Taking that crude measure and applying it to winter wheat and oilseed rape, the differences are shown below.

Table 2. Assessment of Economic of Farmed Land

Item	Winter Wheat		Oilseed Rape	
	Average	High	Average	High
Yield (t/ha)	8.6t/ha	10.0t/ha	3.5t/ha	4.0t/ha
Output (£)	£1,813/ha	£2,086/ha	£1,523/ha	£1,740/ha
Gross Margin (£)	£1,116/ha	£1,389/ha	£944/ha	£1,161/ha
Uplift (£)	-	£273/ha	-	£217/ha

John Nix Pocketbook for Farm Management, September 2023

- 4.24 The economic benefits of the 2.1ha of BMV land to non-BMV land would be £573 (£456 - £573 on 2023 budgets). Hence the economic benefits of a land parcel of this size are moderately limited.
- 4.25 Note must also be had to the practicalities of farming this Site. The Proposed Development Site is split into small paddock areas. Therefore, not only would there be limited opportunities to exploit the BMV land within those paddocks, practically those minimal areas would be unable to be farmed to make the most of the BMV land. This is as a result of the difficulties in getting modern agricultural machinery into the Site and generally the minimal overall sizing meaning the return would be modest.
- 4.26 It is not considered that the Proposed Development will have a significant impact on a full-time farm business and would not cause any severance or alienation of land.

Food Production

- 4.27 Footnote 62 requires that the availability of land for food production be considered. Using the crude assessment in Table 2, the annual increased production from 2.1ha of BMV would be of the order of 3 tonnes (2.1 x 1.4 t/ha). That needs to be considered in the context of the UK's production in 2023 of almost 22 million tonnes (Cereal and Oilseed Production in the United Kingdom 2023, Defra (21st December 2023)).

Conclusion

- 4.28 A survey of the Site was carried out in January 2024. This identified that the Site was made up of Grade 2, Subgrade 3a, Subgrade 3b and non-agricultural land.
- 4.29 At approximately 2.1ha of BMV land the Site is under 11% of the threshold for consultation with Natural England. Therefore, the quantum of BMV is not significant.
- 4.30 The BMV area of land is thought to produce a minimum of 3 tonnes of cereals, which in the context of the UK food production is a negligible amount.

5 SUMMARY AND CONCLUSIONS

- 5.1 The Proposed Development Site extends to 7.4ha. This Site is proposed for allocation in the emerging Wokingham Local Plan.
- 5.2 The land has been classified as comprising of 0.7ha (9.5%) of Grade 2, 1.4ha (18.9%) of Subgrade 3a, 3.5ha (47.3%) of Subgrade 3b and 1.8ha (24.3%) of non-agricultural land. Therefore, the Site contains some best and most versatile agricultural land.
- 5.3 The NPPF requires economic benefits to be considered. The economic benefits of this Site are limited at £573 per annum over the BMV land.
- 5.4 The proposal will not have a significant impact on the farming business.
- 5.5 The proposal does not cause any severance of land or farm holdings.
- 5.6 In terms of the NPPF, this is not considered significant development of agricultural land. Accordingly, poorer quality land does not need to be considered in preference.
- 5.7 Based on the above, it is concluded that only minimal weight can be given to this loss of agricultural land.

Appendix KCC1
Natural England's Technical
Information Note TIN 049

Agricultural Land Classification: protecting the best and most versatile agricultural land

Most of our land area is in agricultural use. How this important natural resource is used is vital to sustainable development. This includes taking the right decisions about protecting it from inappropriate development.

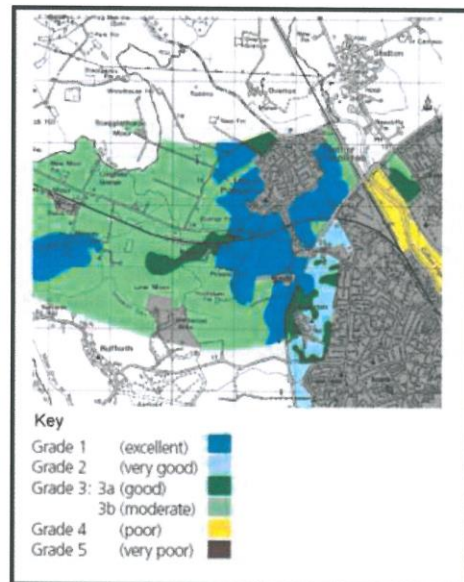
Policy to protect agricultural land

Government policy for England is set out in the National Planning Policy Framework (NPPF) published in March 2012 (paragraph 112). Decisions rest with the relevant planning authorities who should take into account the economic and other benefits of the best and most versatile agricultural land. 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 higher quality. The Government has also re-affirmed the importance of protecting our soils and the services they provide in the Natural Environment White Paper The Natural Choice: securing the value of nature (June 2011), including the protection of best and most versatile agricultural land (paragraph 2.35).

The ALC system: purpose & uses

Land quality varies from place to place. The Agricultural Land Classification (ALC) provides a method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system. It helps

underpin the principles of sustainable development.



Agricultural Land Classification - map and key

Second edition 19 December 2012

www.naturalengland.org.uk



Agricultural Land Classification: protecting the best and most versatile agricultural land

The ALC system classifies land into five grades, with Grade 3 subdivided into Subgrades 3a and 3b. The best and most versatile land is defined as Grades 1, 2 and 3a by policy guidance (see Annex 2 of NPPF). This is the land which is most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non food uses such as biomass, fibres and pharmaceuticals. Current estimates are that Grades 1 and 2 together form about 21% of all farmland in England; Subgrade 3a also covers about 21%.

The ALC system is used by Natural England and others to give advice to planning authorities, developers and the public if development is proposed on agricultural land or other greenfield sites that could potentially grow crops. The Town and Country Planning (Development Management Procedure) (England) Order 2010 (as amended) refers to the best and most versatile land policy in requiring statutory consultations with Natural England. Natural England is also responsible for Minerals and Waste Consultations where reclamation to agriculture is proposed under Schedule 5 of the Town and Country Planning Act 1990 (as amended). The ALC grading system is also used by commercial consultants to advise clients on land uses and planning issues.

Criteria and guidelines

The Classification is based on the long term physical limitations of land for agricultural use. Factors affecting the grade are climate, site and soil characteristics, and the important interactions between them. Detailed guidance for classifying land can be found in: *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988):

- **Climate:** temperature and rainfall, aspect, exposure and frost risk.
- **Site:** gradient, micro-relief and flood risk.
- **Soil:** texture, structure, depth and stoniness, chemical properties which cannot be corrected.

The combination of climate and soil factors determines soil wetness and droughtiness.

Wetness and droughtiness influence the choice of crops grown and the level and consistency of yields, as well as use of land for grazing livestock. The Classification is concerned with the inherent potential of land under a range of farming systems. The current agricultural use, or intensity of use, does not affect the ALC grade.

Versatility and yield

The physical limitations of land have four main effects on the way land is farmed. These are:

- the range of crops which can be grown;
- the level of yield;
- the consistency of yield; and
- the cost of obtaining the crop.

The ALC gives a high grading to land which allows more flexibility in the range of crops that can be grown (its 'versatility') and which requires lower inputs, but also takes into account ability to produce consistently high yields of a narrower range of crops.

Availability of ALC information

After the introduction of the ALC system in 1966 the whole of England and Wales was mapped from reconnaissance field surveys, to provide general strategic guidance on land quality for planners. This Provisional Series of maps was published on an Ordnance Survey base at a scale of One Inch to One Mile in the period 1967 to 1974. These maps are not sufficiently accurate for use in assessment of individual fields or development sites, and should not be used other than as general guidance. They show only five grades: their preparation preceded the subdivision of Grade 3 and the refinement of criteria, which occurred after 1976. They have not been updated and are out of print. A 1:250 000 scale map series based on the same information is available. These are more appropriate for the strategic use originally intended and can be downloaded from the Natural England [website](#). This data is also available on 'Magic', an interactive, geographical information website <http://magic.defra.gov.uk/>.

Since 1976, selected areas have been re-surveyed in greater detail and to revised

Agricultural Land Classification: protecting the best and most versatile agricultural land

guidelines and criteria. Information based on detailed ALC field surveys in accordance with current guidelines (MAFF, 1988) is the most definitive source. Data from the former Ministry of Agriculture, Fisheries and Food (MAFF) archive of more detailed ALC survey information (from 1988) is also available on <http://magic.defra.gov.uk/>. Revisions to the ALC guidelines and criteria have been limited and kept to the original principles, but some assessments made prior to the most recent revision in 1988 need to be checked against current criteria. More recently, strategic scale maps showing the likely occurrence of best and most versatile land have been prepared. Mapped information of all types is available from Natural England (see *Further information* below).

New field survey

Digital mapping and geographical information systems have been introduced to facilitate the provision of up-to-date information. ALC surveys are undertaken, according to the published Guidelines, by field surveyors using handheld augers to examine soils to a depth of 1.2 metres, at a frequency of one boring per hectare for a detailed assessment. This is usually supplemented by digging occasional small pits (usually by hand) to inspect the soil profile. Information obtained by these methods is combined with climatic and other data to produce an ALC map and report. ALC maps are normally produced on an Ordnance Survey base at varying scales from 1:10,000 for detailed work to 1:50 000 for reconnaissance survey.

There is no comprehensive programme to survey all areas in detail. Private consultants may survey land where it is under consideration for development, especially around the edge of towns, to allow comparisons between areas and to inform environmental assessments. ALC field surveys are usually time consuming and should be initiated well in advance of planning decisions. Planning authorities should ensure that sufficient detailed site specific ALC survey data is available to inform decision making.

Consultations

Natural England is consulted by planning authorities on the preparation of all development

plans as part of its remit for the natural environment. For planning applications, specific consultations with Natural England are required under the Development Management Procedure Order in relation to best and most versatile agricultural land. These are for non agricultural development proposals that are not consistent with an adopted local plan and involve the loss of twenty hectares or more of the best and most versatile land. The land protection policy is relevant to all planning applications, including those on smaller areas, but it is for the planning authority to decide how significant the agricultural land issues are, and the need for field information. The planning authority may contact Natural England if it needs technical information or advice.

Consultations with Natural England are required on all applications for mineral working or waste disposal if the proposed afteruse is for agriculture or where the loss of best and most versatile agricultural land will be 20 ha or more. Non-agricultural afteruse, for example for nature conservation or amenity, can be acceptable even on better quality land if soil resources are conserved and the long term potential of best and most versatile land is safeguarded by careful land restoration and aftercare.

Other factors

The ALC is a basis for assessing how development proposals affect agricultural land within the planning system, but it is not the sole consideration. Planning authorities are guided by the National Planning Policy Framework to protect and enhance soils more widely. This could include, for example, conserving soil resources during mineral working or construction, not granting permission for peat extraction from new or extended mineral sites, or preventing soil from being adversely affected by pollution. For information on the application of ALC in Wales, please see below.

Agricultural Land Classification: protecting the best and most versatile agricultural land

Further information

Details of the system of grading can be found in: *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

Please note that planning authorities should send all planning related consultations and enquiries to Natural England by e-mail to consultations@naturalengland.org.uk. If it is not possible to consult us electronically then consultations should be sent to the following postal address:

Natural England
Consultation Service
Hornbeam House
Electra Way
Crewe Business Park
CREWE
Cheshire
CW1 6GJ

ALC information for Wales is held by Welsh Government. Detailed information and advice is available on request from Ian Rugg (ian.rugg@wales.gsi.gov.uk) or David Martyn (david.martyn@wales.gsi.gov.uk). If it is not possible to consult us electronically then consultations should be sent to the following postal address:

Welsh Government
Rhodfa Padarn
Llanbadarn Fawr
Aberystwyth
Ceredigion
SY23 3UR

Natural England publications are available to download from the Natural England website: www.naturalengland.org.uk.

For further information contact the Natural England Enquiry Service on 0300 060 0863 or e-mail enquiries@naturalengland.org.uk.

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Appendix KCC2
Agricultural Land Classification

AGRICULTURAL LAND CLASSIFICATION

- 1 This section of the report outlines the findings of a detailed Agricultural Land Classification (ALC). It is based on a desktop study of relevant published information on climate, topography, geology, and soil, in conjunction with a soil survey. The approximately 7.4 hectare (ha) Study Area is shown in **Plan KCC3651/01**. The Study Area comprises two parts located east and west of a farm track.

Methodology

- 2 The work has been carried out by a Chartered Scientist (CSci), who is a Fellow (F. I. Soil Sci) of the British Society of Soil Science (BSSS). This ALC survey has been carried out by a soil scientist who meets the BSSS Professional Competency Standard (PSC) scheme requirements for ALC (see BSSS PCS Document 2 '*Agricultural Land Classification of England and Wales*'¹). The BSSS PSC scheme is endorsed, amongst others, by the Department for Environment, Food and Rural Affairs (Defra), Natural England, the Science Council, and the Institute of Environmental Assessment and Management (IEMA).
- 3 This assessment is based upon the findings of a study of published information on climate, geology and soil in combination with a soil investigation carried out in accordance with the Ministry of Agriculture, Fisheries and Food (MAFF) ² '*Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*', October 1988 (henceforth referred to as the 'the ALC Guidelines').
- 4 The ALC system 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 ALC system divides agricultural land into five grades (Grade 1 'Excellent' to Grade 5 'Very Poor'), with Grade 3 subdivided into Subgrade 3a 'Good' and Subgrade 3b 'Moderate'. Agricultural land classified as Grade 1, 2 and Subgrade 3a falls in the '*best and most versatile*' category in Paragraphs 180 and 181 of the National Planning Policy Framework (NPPF), that was last revised on the 20th of December 2023. Further details

¹ British Society of Soil Science. Professional Competency Scheme Document 2 '*Agricultural Land Classification of England and Wales*'. Available online @ <https://www.soils.org.uk/sites/default/files/events/flyers/ipss-competency-doc2.pdf> Last accessed February 2024

² The Ministry of Agriculture, Fisheries and Food (MAFF) was incorporated within the Department for Environment, Food and Rural Affairs (Defra) in November 2001

of the ALC system and national planning policy implications are set out in Natural England's '*Guide to assessing development proposals on agricultural land*' online³.

- 5 A detailed ALC survey of the Study Area was carried out on the 30th of January 2024. The ALC survey involved the examination of the soil's physical properties at 7 auger bores within the Study Area at a density of approximately one auger bore per hectare (ha). One soil pit, i.e., Pit 1 located near auger bore 1, was excavated with a spade to examine certain soil physical properties, such as stone content and subsoil structure, in more detail. See **Plan KCC3651/01** for the location of auger bores and soil pits.
- 6 The sample locations were located using a hand-held Garmin E-Trec Geographic Information System (GIS) to enable the sample locations to be relocated for verification, if necessary.
- 7 The soil profile at each sample location was examined to a maximum depth of approximately 1.2 m by hand using a 5 cm diameter Dutch (Edleman) soil auger. The soil profile at each sample location was described using the '*Soil Survey Field Handbook: Describing and Sampling Soil Profiles*' (Ed. J.M. Hodgson, Cranfield University, 1997). Each soil profile was ascribed a grade following the ALC Guidelines. A log of the soil profiles examined and described on site are given **Attachment 1**, and a description of the soil pit is given in **Attachment 2**.
- 8 A topsoil sample was collected at auger-bore locations 1 (Pit 1), and 5, as shown in **Plan KCC3651/01**. The samples were sent to an accredited laboratory for particle size analysis, i.e., sand, silt, and clay proportions. This is to determine the definitive texture class of the topsoil, and to help distinguish between medium clay loams (i.e., <27% clay) and heavy clay loams (27% to 35% clay), for example. The results of the laboratory particle size (texture) analysis are given in Section 3.0, and a laboratory report is given in **Attachment 3**.
- 9 As described in the ALC Guidelines, the main physical factors influencing agricultural land quality are:
 - climate;
 - site;
 - soil; and
 - interactive limitations.

³ Natural England (2022) '*Guide to assessing development proposals on agricultural land*'. Available online at <https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land> Last accessed February 2024

- 10 These factors are considered in turn below.

Climate

- 11 Climatic variables for this Study Area were derived from the published agricultural climate dataset Climatological Data for Agricultural Land Classification (Meteorological Office 1989)⁴ using standard interpolation procedures for 5km grid points around the Study Area are given in Table 1 below.

Table 1: ALC Climate Data for Pearce's Far, Wokingham

Climate Parameter	Grid Ref: SU829674
Average Altitude (m)	65
Average Annual Rainfall (mm)	663
Accumulated Temperature above 0°C (January – June)	1449
Field Capacity Days (FCD)	139
Moisture Deficit (mm) Wheat	112
Moisture Deficit (mm) Potatoes	106
Grade according to climate	1

- 12 Parameters used for assessing overall climate are accumulated temperature, a measure of relative warmth, and average annual rainfall, a measure of overall wetness. Regarding Figure 1 'Grade according to climate' on page 6 of the ALC Guidelines, there is no overall climatic limitation to the quality of agricultural land at the Site. This means that agricultural land at the Site could be graded as ALC Grade 1 in overall climatic terms, without any other limiting factor, i.e., site, soil and/or interactive limitations.
- 13 The soil profiles across the Study Area are predicted to be at field capacity (i.e., the amount of soil moisture or water content held in the soil after excess water has drained away) for approximately 139 Field Capacity Days (FCD) per year, mainly over the late autumn, winter and early spring. The climate interacts with soil physical properties, i.e., soil texture and wetness class. It can limit agricultural land quality due to soil wetness as per Table 6 of the ALC Guideline 'Grade according to soil wetness'. It should be noted that the number of FCD at this Site just falls in the FCD category 126-150 for determining the grade according to wetness.

Site

- 14 As shown in **Plan KCC3651/01**, the Study Area is approximately 0.5km to the southeast of Wokingham. The approximate centre of the Site is located at British National Grid (BNG) reference SU829674. Easthampsted Road forms the southern boundary of the

⁴ Meteorological Office (1989) 'Climatological Data for Agricultural Land Classification: Gridpoint datasets of climatic variables, at 5km intervals, for England and Wales (ALC010)' Available online at <https://publications.naturalengland.org.uk/publication/6493605842649088> Last accessed February 2024

Study Area, with residential development off Holme Green Lane along the eastern boundary. The land to the north and west is for agricultural use. At the time of the survey in January 2024, the land in western end of the Study Area was under permanent pasture without livestock, whilst the land in the eastern half was left fallow and overgrown. The Study Area is divided into a number of small fields by mature hedgerows and trees. There is a small pond in the north between auger bores 3 and 4. There is a wooden horse stable and a small riding arena in the south near auger bore 3.

- 15 With regard to the ALC Guidelines, agricultural land quality can be limited by one or more of three main site factors as follows:
- gradient;
 - micro-relief (i.e., complex change in slope angle over short distances); and
 - risk of flooding.

Gradient and Micro-Relief

- 16 The Study Area is located on a gentle, northwest-facing slope at an elevation of approximately 65 metres (m) Above Ordnance Datum (AOD) in the east and approximately 62m AOD in the west. The quality of agricultural land within the Study Area is not limited by gradient, which does not exceed 7° (refer to Table 1 of ALC Guidelines). Likewise, the quality of agricultural land in the Study Area is not limited by micro-relief.

Risk of Flooding

- 17 According to the Government Flood Map for Planning website⁵, the land in the Study Area is at a low risk of flooding. The MAFF ALC Guidelines (1988) take account of the frequency, duration, and timing of flooding in the summer and winter (re Table 2 '*Grade according to flood risk in summer*' and/or Table 3 '*Grade according to flood risk in winter*'). There is no evidence the grade of agricultural land in the Study Area is limited by flood risk during the summer or winter following the ALC Guidelines.

Soil

- 18 **Geology/Soil Parent Material.** British Geological Survey (BGS) information available online⁶ has been utilised to identify the Bedrock underlying the Study Area and any Superficial (Drift) Deposits over the Bedrock. This information helps to determine the parent material⁷ from and within which a soil has formed.

⁵ Government/Environment Agency. 'Get flood risk information for planning in England'. Available online at <https://flood-map-for-planning.service.gov.uk/> Last accessed February 2024

⁶ British Geological Survey 'Geology of Britain Viewer'. Available online @ <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html> Last accessed February 2024

⁷ British Geological Survey. A 'parent material' is a soil-science name for a weathered rock or deposit from and within which a soil has formed. In the UK, parent materials provide the basic foundations and building blocks of the soil, influencing their

- 19 From the BGS information, the Study Area is underlain by the London Clay Formation that is covered by superficial deposits of sand and gravel (i.e., River Terrace Deposits 6) in the northeast near auger bore 5.
- 20 **Published Information on Soil.** Soil information on the National Soil Map⁸ indicates the western half of the Study is covered by soils in the Wickham 3 Association, with soils in the Wickham 4 Association in the east.
- 21 As described by the Soil Survey of England and Wales (SSEW)⁹, the Wickham 3 association is most extensive on Tertiary clays and loams in Berkshire, Surrey, Hampshire, and Dorset but also occurs on the lowest beds of the Oxford Clay in north Wiltshire and on Cretaceous Wealden beds in the Isle of Purbeck. The land is gently undulating but there are moderate slopes locally. The predominant Wickham series, which belongs to the typical stagnogley soils, is developed in fine loamy or fine silty drift over clay. Most of these soils have slowly permeable clayey subsoils and excess water is disposed of by lateral flow after prolonged periods of heavy rain in winter. Where undrained, Wickham and Denchworth soils are waterlogged for long periods in winter (Wetness Class IV and V) and remain seasonally waterlogged (Wetness Class III) even where field drainage has been installed. Cultivations and cropping on Wickham and Denchworth soils are limited by winter wetness. Wickham soils generally give a finer tilth than the clayey Denchworth series, but because of their relative impermeability and surface waterlogging, cultivations need to be timed very carefully.
- 22 Of slight contrast, the SSEW describes how the Wickham 4 association consists of seasonally waterlogged soils with clayey slowly permeable subsurface horizons. It occurs mainly in southern England, and is extensive on gently undulating land in clay vales where the underlying Tertiary clay is thinly covered by loamy drift. The dominant soils are Wickham series, typical stagnogley soils, fine loamy or fine silty over clayey and with grey and ochreous mottles throughout. The associated Windsor and Denchworth series, are pelo-stagnogley soils, clayey to the surface and are found where the Head is very thin or absent. Both soils have grey and ochreous mottles, but Windsor soils become brownish at depth. Wickham soils are most common on gently sloping valley sides and footslopes. Windsor and Denchworth soils occur on moderate slopes. The association occurs in Hertfordshire in small areas between Bishops Stortford and Ware on Reading Beds and London Clay, and also near Rickmansworth. Wickham and Windsor series are the main

texture, structure, drainage and chemistry. Available online @ [Soil Parent Material Model - British Geological Survey \(bgs.ac.uk\)](https://soilparentmaterialmodel.bgs.ac.uk/)
Last accessed February 2023

⁸ Cranfield University (2024) Soil site report, Soil Report for location 482947E, 167437N, 1km x 1km, Cranfield University.

⁹ Soil Survey of England and Wales, National Soil Resource Institute, Cranfield University (2023). *The Soils Guide*. Available online at https://www.landis.org.uk/soilsguide/mapunit_list.cfm Last accessed December 2023

soils. Most component soils are waterlogged for long periods (Wetness Class IV) where undrained. The slowly permeable clayey subsoils and moisture retentive surface horizons lead to poor water infiltration and rapid run-off.

Soil Survey

- 23 The soil profiles recorded at each auger-bore location are given in **Attachment 1**. A detailed description of Soil Pit 1 is given in **Attachment 2**.
- 24 The soil survey confirmed the presence of medium sandy loams over slowly permeable and seasonally waterlogged clay subsoil (i.e., Wetness Class III) in the east, with mainly sandy clay loams over slowly permeable clay subsoil which is waterlogged for long periods over the winter (i.e., Wetness Class IV) in the west.
- 25 **Topsoil Particle Size Analysis.** To substantiate topsoil texture determined during the ALC survey by hand-texturing, two samples of topsoil were collected over the Study Area, i.e., from auger bore locations 1 (Pit 1) and 5, see **Plan KCC3651/01**. The topsoil samples were sent to an accredited laboratory for analysis of particle size distribution (PSD), based on the British Standard Institution particle size grades. The certificate of analysis is provided as **Appendix 3**. The findings of the PSD analysis are shown in Table 2 below:

Table 2: Topsoil Particle Size Analysis

Topsoil Sample Location (See Plan KCC3651/01)	% sand 0.063-2.0 mm	% silt 0.002- 0.063 mm	% clay <0.002 mm	ALC Soil Texture Class
1 (Pit 1)	69	23	8	Medium Sandy Loam
5	60	27	13	Medium Sandy Loam

Interactive Limitations

- 26 From the information above, together with the findings of the detailed soil survey (see Soil Profile Log given as **Attachment 1**), it has been determined that the quality of agricultural land in the Study Area is limited mainly by soil wetness, with auger bore 1 being limited by soil droughtiness, as described below.
- 27 **Soil Wetness.** From the ALC Guidelines, a soil wetness limitation exists where *'the soil water regime adversely affects plant growth or imposes restrictions on cultivations or grazing by livestock'*. Agricultural land quality at the Site is limited by soil wetness as per

Table 3 below (based on Table 6 'Grade According to Soil Wetness – Mineral Soils' in the ALC Guidelines).

Table 3: ALC Grade According to Soil Wetness

Wetness Class	Texture of the Top 25 cm	126-150 Field Capacity Days
I	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam* Heavy Silty Clay Loam/Heavy Clay Loam** Sandy Clay/Silty Clay/Clay	1 1 2 3a (2)
II	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam* Heavy Silty Clay Loam/Heavy Clay Loam** Sandy Clay/Silty Clay/Clay	1 2 3a (2) 3b (3a)
III	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam* Heavy Silty Clay Loam/Heavy Clay Loam** Sandy Clay/Silty Clay/Clay	2 3a (2) 3b (3a) 3b (3a)
IV	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam* Heavy Silty Clay Loam/Heavy Clay Loam** Sandy Clay/Silty Clay/Clay	3a 3b 3b 3b
Key: * 18% to <27% clay; and ** 27% to 35% clay (x) Grade uplift for naturally calcareous soils with more than 1% CaCO ₃ and 18% - 50% clay		

- 28 In a climate area with 139 FCD, profiles that are slowly permeable and seasonally waterlogged (i.e., Wetness Classes III) are limited by soil wetness to Grade 2 where the topsoil texture is medium sandy loam, or Subgrade 3a where the profiles are in Wetness Class IV.
- 29 In the eastern half of the Study Area, the topsoil is sandy clay loam over slowly permeable sandy clay subsoil which is waterlogged for long periods over the winter (i.e., Wetness Class III). Here, the profile is limited by soil wetness to Subgrade 3b.
- 30 **Soil Droughtiness.** From the ALC Guidelines, a soil droughtiness limitation exists 'in areas with relatively low rainfall or high evapotranspiration, or where the soil holds only small reserves of moisture available to plant roots.' The ALC grade according to soil droughtiness is shown in Table 4 below (based on Table 8 'Grade According to Droughtiness' in the ALC Guidelines). To be eligible for Grades 1 to 3b the moisture balances (MBs) must be equal to, or exceed, the stated minimum values for both wheat and potatoes. If the MB for either crop is less (i.e., more negative) than that shown for Subgrade 3b, the soil is Grade 4 on droughtiness).

Table 4: ALC Grade According to Soil Droughtiness

Grade/Subgrade	Moisture Balance (MB) Limits (mm)	
	Wheat	Potatoes
1	+30	+10
2	+5	-10
3a	-20	-30
3b	-50	-55
4	<-50	<-55

- 31 The Moisture Balance (MB) values and ALC grade according to soil droughtiness per auger-bore is shown in **Appendix 1**. It has been determined that soil droughtiness is sufficient to limit the quality of auger bore 1 to Grade 2.

ALC Grading at the Site

- 32 By detailed ALC survey, it has been determined that the quality of agricultural land at the Site is limited by a number of limiting factors as follows:
- (i) soil wetness and droughtiness to Grade 2 in the northwest (i.e., auger bore 1);
 - (ii) soils wetness to Subgrade 3a where the topsoil is sandy loam over slowly permeable clay subsoil which is seasonally waterlogged for long periods over the winter (Wetness Class IV);
 - (iii) soil wetness to Subgrade 3b in the eastern half of the Study Area where the topsoil is sandy clay loam over slowly permeable sandy clay subsoil in Wetness Class IV; and
 - (iv) a horse stable and riding arena, a pond, and mature trees and woodland have been classified as non-agricultural/other land.

- 33 The area and proportion of agricultural land in each ALC grade have been measured from an ALC map given in **Plan KCC3651/02**. The findings are reported in Table 4 below.

Table 5: Agricultural Land Classification – Pearce's Farm, Wokingham, Surrey

ALC Grade	Area (Ha)	Area (% of Total Site)
Grade 1 (Excellent)	0	0
Grade 2 (Very Good)	0.7	9.5
Subgrade 3a (Good)	1.4	18.9
Subgrade 3b (Moderate)	3.5	47.3
Grade 4 (Poor)	0	0
Grade 5 (Very Poor)	0	0
Non-agricultural / Other land	1.8	24.3
Total	7.4	100

Attachment 1
Soil Profile Log

Point	Grid ref.				Alt (m)	Slope °	Aspect	Land use	Depth (cm)			Matrix	Ochreous Mottles		Grey Mottles		Gley	Texture	Stones - type 1				Stones - type 2			Ped			SUBS STR	CaCO3	Mn C	SPL	Drought			Wet		Final ALC																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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Attachment 2
Soil Pit Description

Soil Survey				Surveyor	RWA
Easting (X)	482750	Northing (Y)	167550	Alt (m)	64
Land Use	PGR	Reference	1 (Pit 1)	Slope °	≤7
Bedrock	London Clay Formation	Superficial	None recorded	Aspect	Level
				Grid Reference	SU 82750 67550
				Date	30/01/2024

Layer		Topsoil	2	3	4	5	6	7
Lower Depth (cm)		22	40	120				
Texture		MSL - Medium s	SCL - Sandy clay loam	C - Clay				
Matrix Colour		10YR4/2	10YR5/3	2.5Y6/4				
Gley (Y/N)		No	Yes	Yes				
Ochreous Mottles	Form		CD - Common Distinct	MD - Many Distinct				
	Munsell Colour		7.5YR5/8	7.5YR5/8				
Grey Mottles	Form							
	Munsell Colour							
Manganese (Y/N)		No	No	No				
% Stones (type 1)		1	0	0				
Stones > 2cm		1						
Stones > 6cm		0						
Stone Type		HR - All hard rock	HR - All hard rocks or stones	HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger)				
% Stones (type 2)								
Stones > 2cm								
Stones > 6cm								
Stone Type								
CaCO ₃		NON - Non-calcareous	NON - Non-calcareous (<0.5% CaCO ₃)	NON - Non-calcareous (<0.5% CaCO ₃)				
Shape of Peds.		SAB - Subangular	SAB - Subangular Blocky	PRIS - Prismatic				
Size of Peds.		M - Medium	M - Medium	C - Coarse				
Subsoil Structure		Not Applicable	Moderate	Poor				
Soil or Ped. Strength		Friable	Firm	Firm				
Degree of Ped. Development		M - Moderate	M - Moderate	W - Weak				
Slowly Permeable Layer (Y/N)		No	No	Yes				

MDw	MDp	FCD
112	106	139

Wetness	Class (WC)	WC III
	Grade (WE)	2

Notes	Calculated Moisture Balance (MB) Values: Wheat = 14mm; Potatoes = -3mm (Grade according to droughtiness = Grade 2)
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Attachment 3
Certificate of Analysis



TEST REPORT
ISSUED BY SOIL PROPERTY TESTING LTD
DATE ISSUED: 14/02/2024



Contract	Wokingham		
Serial No.	44147_1		
Client: Kernon Countryside Consultants Limited Greenacres Barn, Stoke Common Lane, Purton Stoke, Swindon SN5 4LL		Soil Property Testing Ltd 15, 16, 18 Halcyon Court, St Margaret's Way, Stukeley Meadows, Huntingdon, Cambridgeshire, PE29 6DG Tel: 01480 455579 Email: enquiries@soilpropertytesting.com Website: www.soilpropertytesting.com	
Samples Submitted By: Kernon Countryside Consultants Limited Samples Labelled: Wokingham		Approved Signatories: ☒ J.C. Garner B.Eng (Hons) FGS Technical Director & Quality Manager ☐ W. Johnstone Materials Lab Manager 	
Date Received: 02/02/2024		Samples Tested Between: 02/02/2024 and 14/02/2024	
Remarks: For the attention of Sarah Kernon Your Reference No: KCC3651			
Notes: 1 All remaining samples or remnants from this contract will be disposed of after 21 days from today, unless we are notified to the contrary. 2 Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. 3 Tests marked "NOT UKAS ACCREDITED" in this test report are not included in the UKAS Accreditation Schedule for this testing laboratory. 4 This test report may not be reproduced other than in full except with the prior written approval of the issuing laboratory. 5 The results within this report only relate to the items tested or sampled.			

Page 2 of 4



TEST REPORT

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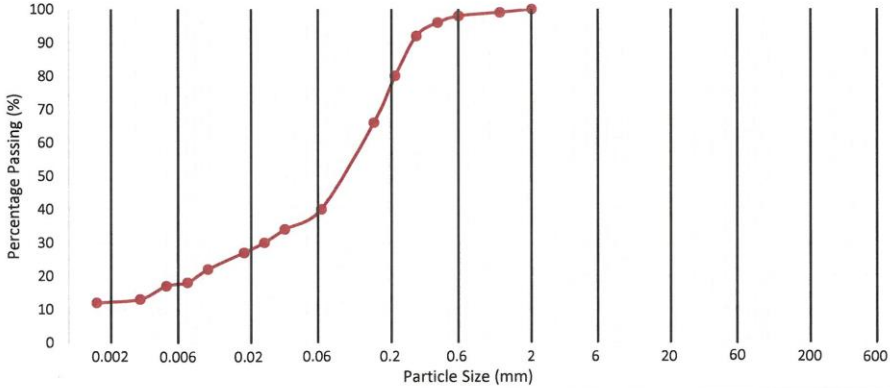


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TP	0.00 - 0.25	TP	1	Brown gravelly clayey very silty SAND with frequent recently active roots. Gravel is angular to sub rounded chert.	Material >2mm (approx 10%) removed from test.																																																																											
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Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5 Method of test: BS1377: Part 2: 1990: 9.2,9.5 Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter Comments:																																																																																



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Appendix KCC3
Natural England's "Guide to
Assessing Development Proposals on
Agricultural Land"



(<https://www.gov.uk/government/organisations/natural-england>)

Guidance

Guide to assessing development proposals on agricultural land

Updated 5 February 2021

Applies to England

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4. [About ALC grades](#)
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This publication is available at <https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land>

1. Policies to protect agricultural land and soil

Developers and local planning authorities (LPAs) should refer to the following government policies and legislation when considering development proposals that affect agricultural land and soils. They aim to protect:

- the best and most versatile (BMV) agricultural land from significant, inappropriate or unsustainable development proposals
- all soils by managing them in a sustainable way

Natural England uses these policies to advise on development proposals as a [statutory consultee](https://www.gov.uk/guidance/consultation-and-pre-decision-matters#Statutory-consultees) (<https://www.gov.uk/guidance/consultation-and-pre-decision-matters#Statutory-consultees>) in the planning process.

1.1 A Green Future: Our 25 Year Plan to improve the Environment 2018

[A Green Future: Our 25 Year Plan to Improve the Environment](https://www.gov.uk/government/publications/25-year-environment-plan) (<https://www.gov.uk/government/publications/25-year-environment-plan>) sets out the government's 25-year plan to improve the health of the environment by using natural resources more sustainably and efficiently. It plans to:

- protect the best agricultural land
- put a value on soils as part of our natural capital
- manage soils in a sustainable way by 2030
- restore and protect peatland

1.2 National Planning Policy Framework (NPPF)

LPAs should use the NPPF to make decisions about the natural and local environment to:

- protect and enhance landscapes, biodiversity, geology and soils
- recognise soils as a natural capital asset that provide important ecosystem services
- consider the economic and other benefits of BMV agricultural land, and try to use areas of poorer quality land instead of higher quality land
- prevent soil, air, water, or noise pollution, or land instability from new and existing development

Read [Chapter 15: Conserving and enhancing the natural environment](https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment) (<https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment>) for full details.

1.3 Town and Country Planning (Development Management Procedure (England) Order) (DMPO) 2015

Planning authorities must consult Natural England on all non-agricultural applications that result in the loss of more than 20 hectares (ha) of BMV land if the land is not included in a [development plan](https://www.gov.uk/guidance/national-planning-policy-framework/3-plan-making) (<https://www.gov.uk/guidance/national-planning-policy-framework/3-plan-making>). For example, this includes the likely cumulative loss of BMV land from the proposed development if it's part of a phased development.

This is required by [schedule 4\(y\) of the Order](http://www.legislation.gov.uk/uksi/2015/595/schedule/4/made) (<http://www.legislation.gov.uk/uksi/2015/595/schedule/4/made>).

1.4 Planning Practice Guidance for the Natural Environment

[Paragraphs 001 and 002: Planning Practice Guidance for the Natural Environment](https://www.gov.uk/guidance/natural-environment#brownfield-land-soils-and-agricultural-land) (<https://www.gov.uk/guidance/natural-environment#brownfield-land-soils-and-agricultural-land>) explain why planning decisions should take account of the value of soils and [agricultural land classification \(ALC\)](#) to enable informed choices on the future use of agricultural land within the planning system.

2. LPAs: consult Natural England

You must consult Natural England for development proposals that are both:

- likely to cause the loss (or likely cumulative loss) of 20ha or more of BMV land
- not in accordance with an approved development plan

Natural England will advise you on the level of impact the proposal may have on BMV agricultural land. Natural England will take into account the type of development and its likely long-term effects.

Email consultations@naturalengland.org.uk or write to:

Natural England consultation service
Hornbeam House
Electra Way
Crewe Business Park
Crewe
Cheshire
CW1 6GJ

3. LPAs: how to use agricultural land classification (ALC)

You can use ALC to help inform decisions on the appropriate sustainable development of land.

ALC uses a grading system to enable you to assess and compare the quality of agricultural land in England and Wales.

A combination of climate, topography and soil characteristics and their unique interaction determines the limitation and grade of the land. These affect the:

- range of crops that can be grown
- yield of crop
- consistency of yield
- cost of producing the crop

4. About ALC grades

ALC is graded from 1 to 5.

The highest grade goes to land that:

- gives a high yield or output
- has the widest range and versatility of use
- produces the most consistent yield
- requires less input

BMV agricultural land is graded 1 to 3a.

4.1 Grade 1 – excellent quality agricultural land

Land with no or very minor limitations. A very wide range of agricultural and horticultural crops can be grown and commonly includes:

- top fruit, for example tree fruit such as apples and pears
- soft fruit, such as raspberries and blackberries
- salad crops
- winter harvested vegetables

Yields are high and less variable than on land of lower quality.

4.2 Grade 2 – very good quality agricultural land

Land with minor limitations that affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown. On some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops, such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than grade 1.

4.3 Grade 3 – good to moderate quality agricultural land

Land with moderate limitations that affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in grades 1 and 2.

4.4 Subgrade 3a – good quality agricultural land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of crops including:

- cereals
- grass
- oilseed rape
- potatoes
- sugar beet
- less demanding horticultural crops

4.5 Subgrade 3b – moderate quality agricultural land

Land capable of producing moderate yields of a narrow range of crops, principally:

- cereals and grass
- lower yields of a wider range of crops
- high yields of grass which can be grazed or harvested over most of the year

4.6 Grade 4 – poor quality agricultural land

Land with severe limitations which significantly restrict the range of crops or level of yields. It is mainly suited to grass with occasional arable crops (for example cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties using the land. The grade also includes arable land that is very dry because of drought.

4.7 Grade 5 – very poor quality agricultural land

Land with very severe limitations that restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

5. LPAs: carry out ALC assessments to support your planning decisions

For an overview of ALC use:

- [1:250,000 scale regional ALC maps](http://publications.naturalengland.org.uk/category/5954148537204736) (<http://publications.naturalengland.org.uk/category/5954148537204736>) (grade 3 land is not divided into subgrades 3a and 3b)
- [1:250,000 scale regional maps predicting the likelihood of BMV agricultural land](http://publications.naturalengland.org.uk/category/5208993007403008) (<http://publications.naturalengland.org.uk/category/5208993007403008>)

These maps are not at a scale suitable or accurate for assessment of individual fields or sites.

You can assess if a development proposal is likely to affect BMV agricultural land by using the [post 1988 ALC Magic map](http://magic.defra.gov.uk/MagicMap.aspx?chosenLayers=dudleystampIndex,backdropDIndex,backdropIndex,europaIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=449447:459357:467834:470294&useDefaultbackgroundMapping=false) (<http://magic.defra.gov.uk/MagicMap.aspx?chosenLayers=dudleystampIndex,backdropDIndex,backdropIndex,europaIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=449447:459357:467834:470294&useDefaultbackgroundMapping=false>) and [detailed site survey reports](http://publications.naturalengland.org.uk/category/6249382855835648) (<http://publications.naturalengland.org.uk/category/6249382855835648>).

If no site survey reports are available, a [new detailed survey](#) may be necessary.

6. Use ALC to support your planning decisions

Use ALC survey data to assess the loss of land or quality of land from a proposed development. You should take account of smaller losses (under 20ha) if they're significant when making your decision. Your decision should avoid unnecessary loss of BMV land.

6.1 Protect soil

You should make sure development proposals include plans to:

- [manage soils in a sustainable way during construction](https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites) (<https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites>)

- avoid peat extraction
- protect soils from contamination
- [reclaim land after mineral working or landfilling](https://www.gov.uk/government/publications/reclaim-minerals-extraction-and-landfill-sites-to-agriculture)
(<https://www.gov.uk/government/publications/reclaim-minerals-extraction-and-landfill-sites-to-agriculture>)

6.2 Carry out new surveys

If there's not enough information from previous data, you may need to have a new field survey to plan for development or to inform a planning decision. You should use soil scientists or experienced soil specialists to carry out new surveys. They should be:

- members of the British Society of Soil Science, the British Institute of Agricultural Consultants or similar professional body
- knowledgeable about the [ALC 1988 guidelines](http://publications.naturalengland.org.uk/publication/6257050620264448)
(<http://publications.naturalengland.org.uk/publication/6257050620264448>)
- experienced in soil description and ALC assessments

6.3 Survey requirements

For a detailed ALC assessment, a soil specialist should normally make boreholes:

- every hectare on a regular grid on agricultural land in the proposed development area
- up to 1.2m deep using a hand-held auger

They should:

- dig small inspection pits by hand to a minimum depth of 1m to add supporting evidence to the borehole data
- dig pits where there's a change in main soil type and ALC grade to provide a good depiction of the site
- combine the survey results with local climate and site data to plot on an Ordnance Survey (OS) base map
- use a base map at an appropriate scale for detailed work, such as 1:10,000 scale

7. Developers: check if your proposal affects agricultural land

Use the [post 1988 ALC Magic map](http://magic.defra.gov.uk/MagicMap.aspx?chosenLayers=dudleystampIndex,backdropDIndex,backdropIndex,europeIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=449447:459357:467834:470294&useDefaultbackgroundMapping=false) (<http://magic.defra.gov.uk/MagicMap.aspx?chosenLayers=dudleystampIndex,backdropDIndex,backdropIndex,europeIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=449447:459357:467834:470294&useDefaultbackgroundMapping=false>) and [detailed site survey reports](http://publications.naturalengland.org.uk/category/6249382855835648) (<http://publications.naturalengland.org.uk/category/6249382855835648>) to help you assess whether a development proposal is likely to affect BMV agricultural land. If no suitable data exists, you may need to carry out a [detailed survey](#) to support your planning application.

7.1 Free and chargeable advice

Natural England offers advice for proposals. Some initial advice is free. More [detailed advice is chargeable](https://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals#when-you-can-pay-for-agency-advice) (<https://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals#when-you-can-pay-for-agency-advice>), for example if your proposal is 20ha or more and requires more detailed advice.

Email: consultations@naturalengland.org.uk

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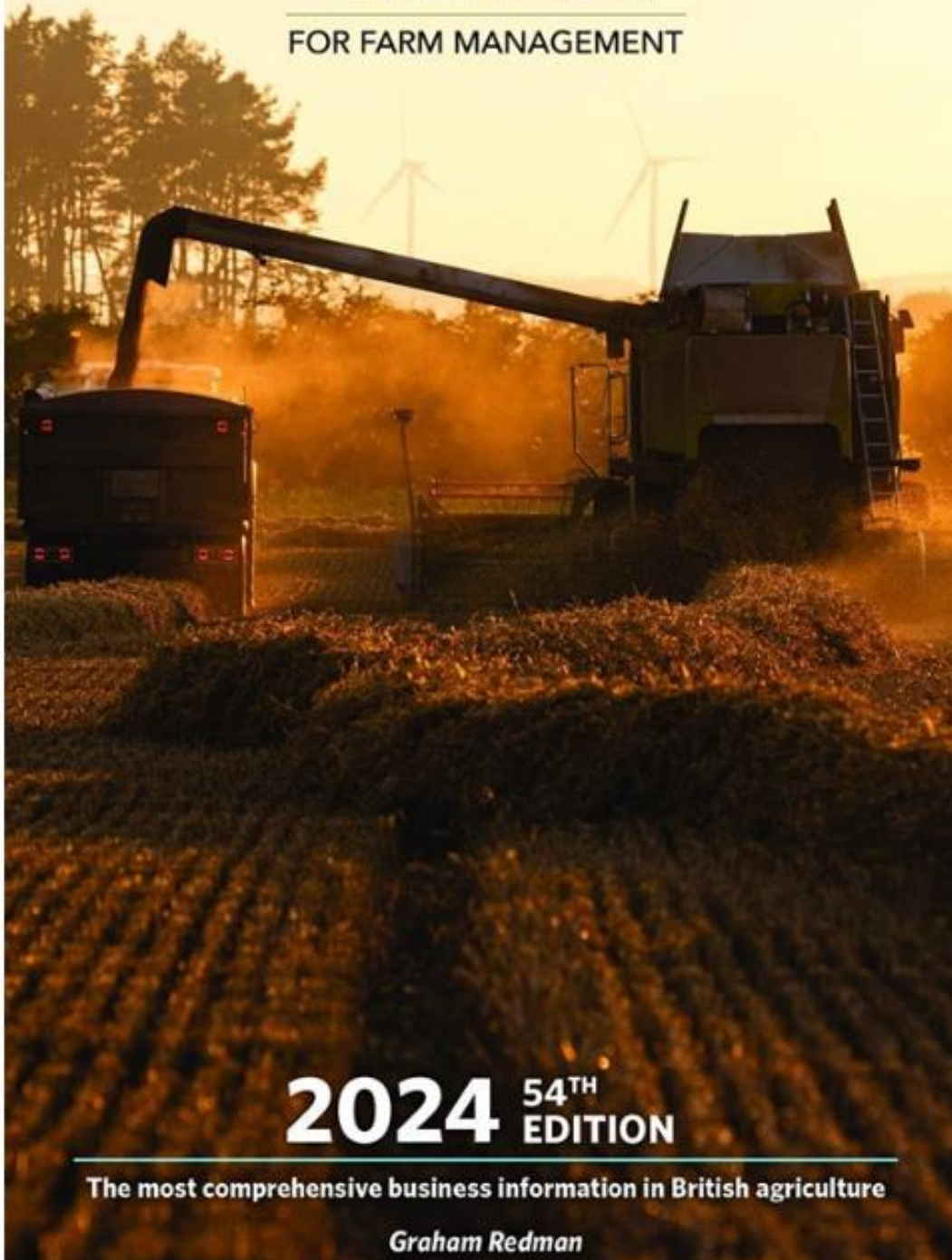
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Appendix KCC4
John Nix Pocketbook for Farm
Management (54th Ed) Extracts



John Nix Pocketbook

FOR FARM MANAGEMENT



2024 54TH
EDITION

The most comprehensive business information in British agriculture

Graham Redman

WHEAT

Feed Winter Wheat

Production level	Low	Average	High	
Yield: t/ha (t/ac)	7.25 (2.9)	8.60 (3.5)	10.00 (4.1)	
	£	£	£	£/t
Grain at £195/t	1,414	1,677 (679)	1,950 (790)	
Straw in Swath	136 (55)	136 (55)	136 (55)	
Total Output	1,550 (628)	1,813 (734)	2,086 (845)	211
Variable Costs £/ha (£/ac):				
Seed.....		81 (33)		9
Fertiliser.....		324 (131)		38
Sprays.....		292 (118)		34
Total Variable Costs		697 (282)		81
Gross Margin £/ha (ac)	852 (345)	1116 (452)	1,389 (562)	130

Fertiliser Basis 8.6t/ha				Seed:	Sprays £/ha:		
Nutrient	Kg/t	Kg/Ha	£/Ha	£/t C2	£510	Herbicides	£127
N	22	190	£198	Kg/Ha	175	Fungicides	£116
P	7.0	60	£59	% HSS	30%	Insecticides	£3
K	10.5	90	£68	£/t HSS	£352	PGRs	£17
						Other	£29

1. *Yields.* The average yield is for all winter feed wheat, i.e. all varieties and 1st and subsequent wheats. See over for First and Second Wheats. The yield used for feed and milling wheats including spring varieties is 8.4t/ha.

The table below offers a weighted estimate of yield variations according to wheat type based on a national yield of 8.41t/ha. Percentages compare yield categories with 'all wheat'. These yields are used in the gross margins.

Calculation of spread of 'average yields depending on wheat type –

		Winter	1st WW	2nd WW	spring	Total
t/ha		101%	102%	93%	85%	
Total		100%	8.49	8.63	7.82	8.41
Feed		101%	8.58	8.71	7.90	8.49
Bread		93%	7.90	8.02	7.27	6.18
Biscuit		99%	8.41	8.54	7.74	8.32

2. *Straw* is sold in the swath. Fertiliser accounts for mineral depletion at £55/t.
3. *Seed* is costed with a single purpose dressing. Up to a third of growers require additional seed treatments, specifically to suppress BYDV. This can add £160/t of seed (£28/ha). This has not been added in the gross margins so should be considered.
4. This schedule does not account for severe *grass weed infestations* such as Black Grass or Sterile Brome. Costs associated with managing such problems can amount to up to £180/hectare additional agrochemical costs. Yield losses increase as infestation rises:

OILSEED RAPE

Winter Oilseed Rape

Production level	Low	Average	High	
Yield: t/ha (t/ac)	3.00 (1.2)	3.50 (1.4)	4.00 (1.6)	
	£	£	£	£/t
Output at £435/t	1305 (529)	1,523 (617)	1,740 (705)	435
Variable Costs £/ha (£/ac):				
Seed.....		70 (28)		20
Fertiliser.....		244 (99)		70
Sprays.....		265 (107)		76
Total Variable Costs		579 (234)		165
Gross Margin £/ha (ac)	726 (294)	944 (382)	1,161 (470)	270

Fertiliser Basis 3.5t/ha				Seed:		Sprays:	
Nutrient	Kg/t	Kg/Ha	£/Ha	£/Ha C	42	Herbicides	£131
N	46	160	£167	£/Ha Hy	85	Fungicides	£72
P	14	49	£48	£/Ha HSS	28	Insecticides	£17
K	11	39	£29	C:Hy:HSS	20:20:60	PGRs	£0
Seed write-off	7%			Kg/Ha	5.5	Other	£46

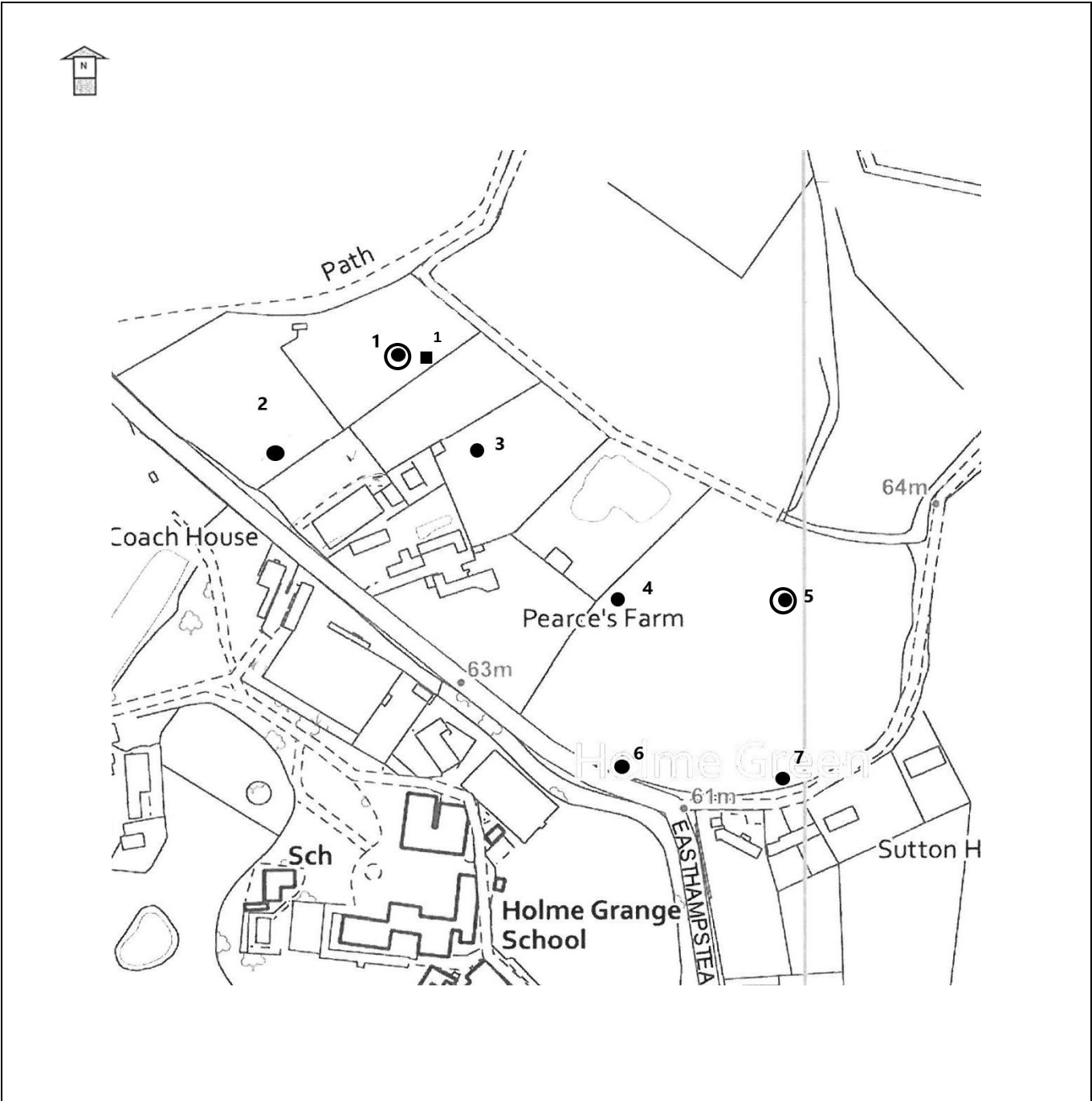
1. *Prices.* The price used is £410/t plus oil bonuses at 44% oil content making £435/. The bonus is paid on the percentage of oil over 40%, at 1.5 times the sale value of the crop and an equal but opposite penalty below 40%. For example, in this case, the bonus is on 4% oil $\times$ £410 $\times$ 1.5 = £25.

Spring Oilseed Rape

Production level	Low	Average	High	
Yield: t/ha (t/ac)	2.00 (0.8)	2.28 (0.9)	2.50 (1.0)	
	£	£	£	£/t
Output at £435/t	870 (352)	990 (401)	1,088 (441)	435
Variable Costs £/ha (£/ac):				
Seed.....		67 (27)		29
Fertiliser.....		123 (50)		54
Sprays.....		138 (56)		61
Total Variable Costs		328 (133)		144
Gross Margin £/ha (ac)	542 (219)	661 (268)	760 (308)	291

2. *Inputs:* Seed as per WOSR, but 45% conventional, 5% HSS, 50% hybrid. *Fertiliser:* N/P/K at 80/32/25 kg/ha. *Sprays,* Herbicides. £53, Fungicides, £43, Insecticides £13, and Others £29/ha
3. *Winter Versus Spring:* As little as 8,000 hectares of spring OSR are grown in the UK which is 2.5% of the entire crop. As can be seen, the financial reward is slim compared

Plan KCC3651/01
Auger Point Plan



KEY ● Auger sample location ○ Topsoil sample	PLAN	KCC3651/01		
	TITLE	Auger Points Plan		
	SITE	South Wokingham		
	CLIENT	Boyer Planning		
	NUMBER	KCC3651/01 02/24hr		
	DATE	February 2024	SCALE	NTS
	KERNON COUNTRYSIDE CONSULTANTS LTD GREENACRES BARN, PURTON STOKE, SWINDON, WILTSHIRE SN5 4LL Tel 01793 771 333 Email: info@kernon.co.uk This plan is reproduced from the Ordnance Survey under copyright license 100015226			

Plan KCC3651/02
Agricultural Land
Classification Plan



KEY		Ha	%	PLAN	KCC3651/02
	Grade 1			TITLE	Agricultural Land Classification Plan
	Grade 2	0.7	9.5	SITE	South Wokingham
	Grade 3a	1.4	18.9	CLIENT	Boyer Planning
	Grade 3b	3.5	47.3	NUMBER	KCC3651/02 02/24hr
	Grade 4			DATE	February 2024
	Grade 5			SCALE	NTS
	Non-agricultural	1.8	24.3	KERNON COUNTRYSIDE CONSULTANTS LTD GREENACRES BARN, PURTON STOKE, SWINDON, WILTSHIRE, SN5 4LL Tel 01793 771 333 Email: info@kernon.co.uk This plan is reproduced from the Ordnance Survey under copyright license 100015226	
	Urban				
	Not surveyed				



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