Submission by Mallard Pass Action Group (MPAG)
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Appendix 2

ALC and BMV assessment – reports and background

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Soil Expert Report

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Report on Mallard Pass Solar Farm ALC.

Critique of ALC Report

October 2023

LANDSCOPE
LAND & PROPERTY

Situation Report: Mallard Pass Solar Farm, Essendine and surrounding villages in Rutland and Lincolnshire – Impact on Agriculture.

Executive Summary

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PURPOSE OF THE REPORT

Landscope Land and Property were asked by Mallard Pass Action Group (MPAG) to review and analyse the findings of 2 soil surveys presented by Kernon Countryside Consultants (KCC) on behalf of the Applicant Mallard Pass Solar Farm, concerned about inconsistencies and robustness of the results. MPAG also requested soil surveys were undertaken on land within the site to verify the findings of higher density sampling requested by Natural England. As MPAG had landowner permission to access field 2, 1 and 3, soil testing was undertaken predominantly in field 2 as this was one of the four areas within the site that KCC had increased their sampling density in their stage 2 survey work.

1. SUMMARY ALC FINDINGS

1.1 Kernon Countryside Consultants (KCC) provided two ALC reports on land at the proposed development of Mallard Pass Solar Farm. The first report was undertaken at reconnaissance or low density survey (summary review from Stantec Consultants detailed in MPAG's Written Representation REP2-090), but the second was more detailed over parts of the area and was undertaken in response to concerns raised by stakeholders.

1.2 The second report is based on soil survey data from the site and stated to be largely in accordance with the technical guidelines as set out in the Agricultural Land Classification of England and Wales Revised Guidelines 1988 booklet.

1.3 Our findings across the site broadly indicate that the KCC ALC report is correct in that it presents the ALC Grades in accordance with the guidelines. The process of assessing Agricultural Land Classification is in part based on subjective assessment by soil scientists, particularly issues such as soil texture, depth and factors such as stoniness. These can all be more accurately measured by laboratory analysis and by the digging of soil pits at regular intervals to substantiate auger findings.

1.4 The KCC report is somewhat lacking in soil pits, given the variability of the soils across the site and in particular there are no pits within Field 2. There are only two soil pits shown on the plan for the whole site of 852 hectares, however it does appear that the soil surveyor had access to some of the trenches dug for the archaeological survey, though these may not necessarily represent particular soil types or changes. Around 10 trenches are identified, but there is no data shown.

1.3 We have had access to the farm's regular agronomist and a non-intrusive soil survey from 2016 which shows an electro-conductivity survey of different fields. Using this information, we have sought to interpret the Agricultural Land Classification with the benefit of on-farm knowledge which includes cropping history and yield records, in addition to the soil surveys undertaken. However, the Grade assessments are entirely based on our soil survey of the site.

1.4 We set out to investigate the areas that the KCC report considered should be downgraded from the earlier KCC preliminary report to see if we could verify those changes. We only had access to one field that was surveyed for the second time. Whilst there is some common ground about the area of Grade 3b identified in the KCC report, we consider that KCC cannot fully justify their downgrading of the areas of Grade 2 and 3a within Field 2. Our findings confirm that there is a larger area of Grade 2 land in Field 2 and a significant area of Grade 3a, but we recognise also that a proportion of the site is 3b and there is some Grade 4 land, but we consider the Grade 4 to be less than KCC determined.

1.5 Even though Field 2 is 30 hectares, a total of only 24 samples in total were taken by the two KCC surveys, leaving a shortfall of 6 samples (a 20% shortfall). Despite there being four different grades of land and at least five different topsoils, no soil pits were dug in Field 2, even during the resurvey. It

was only subject to limited archaeological trenching. We consider that this underestimates the amount of Grade 2 land on the site and overstates the amount of Grade 3b.

1.6 Bearing in mind the obvious variability of land grades within different fields with up to four different grades in the same field, we consider that a full ALC survey across the whole site is justified to determine more precisely the quantity of BMV land. If our results were extrapolated, it is likely that there is more than 50% BMV on the site, overall. A checklist provided by BSSS summarises the areas of concern.

2. INTRODUCTION

2.1 Mallard Pass Solar Farm is **a**n 852Ha 350MW NSIP solar farm application across the counties of Rutland and Lincolnshire. Landscope was asked to test the veracity and reliability of the applicant's second ALC report as undertaken by Kernon Countryside Consultants (KCC) (summary **Plan 1**)and to compare the differences between the first survey and the more detailed second survey. We had access to the two surveys undertaken by KCC.

2.2 The 2nd KCC report states that the quality of agricultural land over the Site is not limited by gradient, because it does not exceed 7°. However, there are localised parts where the land is steeper than 7^0. Most of these areas are already graded 3b for other reasons and so steepness of slope has little impact on any changes made between the two surveys.

2.3 Land at two sites was investigated, one where additional ALC sampling had occurred in response to concerns raised by Natural England (and others), the other a site not re-surveyed. Upon further investigation some areas of the overall site have been downgraded without any additional ALC survey work and there appears to be no explanation for these changes, within either report. The coloured maps accompanying each report show differences in the grades of land where no additional auger surveys were undertaken.

2.4 Fields 1, 2, 5, 11, 18, 19, 20, 21, 27, 28, 29, 36 & 45, (**Plan 2**) all have areas where there are changes to the grading plans, but those areas were not re-surveyed (see **Analysis Chart 1**). In each case, land is shown to be downgraded (mostly from 3a to 3b) without resurvey. In total and following the resurvey of parts of the site, the balance of BMV has now changed from 48% BMV to 42.2% BMV – a total reduction of 70 hectares. However, less than half of this change is due to the resurvey, the remainder is unexplained changes to the maps.

2.5 In order to test whether the second ALC assessment was rigorous and a fair assessment of the soils, we considered that it would be the soils that were either just below Best and Most Versatile, i.e. those that were considered to be Grade 3b in the Kernon report together with those areas that the second ALC downgraded based on the additional sampling that occurred. We did not have access to all the areas re-surveyed, but were able to investigate one area (Field 2) that was resurveyed and two adjoining areas Field 1 and Field 3 that weren't resurveyed. Field 3 consists of two parcels of land splitting the area approximately 60:40, separated by a hedge - part will be used for mitigation, but will still be lost to farming for the duration of the proposal. Field 1 was a mixture of permanent pasture/grassland on steeper land and arable cropping on more level land on the other side of a small valley.

2.6 We identified several locations across the two fields forming part of the application site as shown in **Plan 2**. Without full access to other land across the proposed site it is not possible to confirm that

these three fields are fully representative of the site. Overall, nevertheless, we found differences compared to the KCC reports that in our opinion affect the ALC grading of the land.

In addition, we had access to the soil survey data from the farms agronomy survey which shows the variability of the soils across the holding and these fields in particular (**Appendix X**). There is also a Google Earth Aerial photograph of the area showing soil variability (**Plan X**).

3. METHODOLOGY

3.1 Following the desktop study, we undertook core borings using an Edelman (Dutch) Auger to 1.2m depth (or where limited by stone) to examine the soil profile in several locations in each of the two fields and dug soil pits to examine the soil profile and to investigate changes in soil characteristics.

3.2 A full range of tests were undertaken at the site including:

- Soil horizon depth assessment
- Matrix colour assessment using a Munsell Chart
- Soil texture assessment
- Soil structure
- Mottling
- Gleying
- Evidence of semi-permeable layer
- Stone content and size
- Evidence of naturally occurring chalk or limestone in the top 25cm of soil.

3.3 Each of the auger and pit profiles was photographed and recorded at site and samples were collected and retained for further analysis.

3.4 Further assessments were undertaken utilising the data from site to calculate such factors as:-

Climatic Limitations

- Flood Risk
- Droughtiness
- Wetness Class
- Average Annual Rainfall
- Accumulated Temperature (from January to June)

3.5 Utilising this standard data we were able to calculate the land Grade for each of the areas sampled. KCC indicated that in their opinion issues such as droughtiness, stoniness and shallow depth were the main factors which affected the ALC of the land.

4. AGRICULTURAL LAND CLASSIFICATION PROCESS

4.1 The site was graded by applying the survey details to the Ministry of Agriculture, Fisheries and Food Guidelines for Agricultural Land Classification (October 1988).

4.2 The current classification system was adopted in 1988 and is a refinement of previous systems. A series of Provisional ALC maps were produced at a scale of 1 inch to 1 mile between 1967 and 1974 based on the earlier classification system, and were intended to be for guidance only for strategic planning purposes. A new series of soil maps at a scale of 1:250,000 based on the same information are available. The 1 inch and 1:250,000 maps for the area show the land block to be mostly Grade 3.

4.3 The Agricultural Land Classification system provides a framework for classifying land according to the extent to which it's physical or chemical characteristics impose long-term limitations on agricultural use. The limitations can affect the range of crops that can be grown, the level of yield, the consistency of yield and the cost of obtaining it. The principal factors considered are **Climate, Site and Soil**. These factors, together with **Interactions** between them, form the basis for classifying land into one of five grades:-

- Grade 1 is land of excellent quality, whilst Grade 5 is very poor.
- Grade 3 is divided into Sub-Grades 3a and 3b since this Grade covers about half of England and Wales.

4.4 The Grade or Sub-Grade is determined by the most limiting factor present. On this site there is no limitation to Grade according to **Climate**.

4.5 The assessment of **Site** factors considers the way the topography affects agricultural machinery use and crop production. This site comprises mostly flat or gently sloping land at around 50m Above Sea Level (ASL) but ranging from around 15m to 65m.

4.6 Field No 2 has a gentle slope from west to east, the highest point being 55m and the lowest 45m. Field No 3 has greater variation; the lowest point is 40m and the highest 65m and in places the land is sufficiently steep as to limit the grading of the soil to 3b.

4.7 The main consideration in applying the ALC system on this site, also relates to **Soil** factors and **Interactive** limitations. The main **Soil** properties, which may affect cropping potential, are:-

- texture
- structure
- depth
- stoniness and
- chemical fertility

4.8 The land has been actively farmed for generations and is mostly in arable cultivation. In places stoniness and soil depth were limiting. Free calcium carbonate was tested using Hydrochloric Acid at all horizons in each soil profile. Most showed a positive reading for Calcium Carbonate.

4.9 The remaining consideration for ALC grading on this site relate to **Interactive** limitations, principally drought and wetness.

4.10 Moisture balance calculations have been completed on the representative profiles and all show that most of the soils are generally limited by soil depth and stoniness, and this did give limitations to varying degrees. It is important to recognise that the ALC guidelines indicate the most appropriate Grade and/or sub-grade is based upon the most limiting factor. In Field 2the main limitation is droughtiness.

5. RESULTS

Differences between Landscope ALC and the Applicant's ALC

5.1 Concern has been expressed that in the preliminary Agricultural Land Classification for this area identified in the PEIR report significant areas of BMV land across the site such that 53% of the solar area and 48% of the site was considered BMV. Subsequent selective resurveying at a higher density resulted in lower BMVs of 42.2% and 40.7% respectively. This selective sampling targeted areas preliminarily identified as BMV and in most cases led to some downgrading.

5.2 The second KCC ALC report is suggesting the majority of the land is now Grade 3b with less Grade 2 and 3a land and a small increase in the amount of Grade 4.

5.3 Our soil survey was limited to Fields 2 and 3 to check KCC results and compare sample locations. We also considered Field 1 but did not undertake a soil survey.

Field 2

5.3 A total of seven samples (**Plan 2**) were taken in this field in the locations identified as Points 2, 6, 7, 9, 11, 14 and 15. Soil pits were dug to investigate the soil profiles.

Main findings

5.4 Generally, soils were similar at points 2 and 6, but with deeper profiles at point 7 and 11. Broadly we concur with the findings of the KCC report that the area contains 3b, but we consider there is more 3a land than stated in the second report. There is clearly local variation with stoniness and relative shallowness of soils, variable across the site.

5.5 Point 9 was found to be much deeper and found to be Grade 2 land. A soil pit was dug at this location and significant stone was not found until 90cm depth. We consider that this widens the area of Grade 2 at this point rather than reduce it, as has happened in the KCC report.

5.6 Points 14 and 15 were found to be similar to the KCC findings, except that point 15 was a deeper profile, suggesting that the land is in fact Grade 3b rather than Grade 4. A further sample point was taken in this area for clarification. In general, the area of Grade 4 is about half that found by KCC. The attached **Plan 3** shows the ALC grade map.

Field 3

5.7 Three sample points (**Plan 3**) were taken in Field 3 and two soil pits dug to investigate the profiles.

Main findings

5.8 The three sample points (1, 2 & 3) aligned with those taken in the first KCC report, close to Points 37, 38 and 54. A pit was dug at points 2 and 3. This area was not re-surveyed by KCC. Two of the three sites led to finding land of 3a quality, at sample points 1 and 3. Point 2 was shallower and more stoney. As such our ALC map shows an area of Grade 3a land in Field 3. The limited nature of the survey means that we could not extrapolate these findings further.

Soil Types

5.9 KCC have identified at least five soil types across the two sites which broadly match those identified from the more detailed soil map for the area, as identified by SOYL, which clearly identifies a range of soil types. Our auger borings concur with these findings and those of the original Soils of England and Wales map. Most soils across the site are medium clay loams, with some variation, including depth and stoniness.

5.10 When comparing the findings of Landscope's ALC with those of KCC for the various soil types assessed in the field, we found that soils are generally Grade 3a with the northernmost area in Field 3 being Grade 3b, this largely due to soil texture, slope and stoniness.

5.11 We considered carefully the KCC report and recognise the on-farm knowledge of the agronomist but consider that most of the concerns and issues raised in the KCC report have been either anticipated in the methodology for ALC calculation, or acknowledged by KCC in the preparation of their report.

5.12 A significant part of the Fields 2 and 3 are affected by stoniness and in places these are relatively shallow which can have an effect on the moisture retentiveness of soils and their subsequent drought tolerance for certain crops. Where the soils are BMV, the majority is Grade 3a, with a small quantities of Grade 2 - where soils are deeper, less stony and/or of slightly higher clay content.

6. LOSS OF PRODUCTIVE FARMLAND

6.1 An agricultural land classification has revealed that all the farmland affected by this scheme is generally better and more productive than the older ALC maps of the area would suggest. In reality, land of Grades 2, 3a and 3b quality has been found, which are described as very good, good and moderate quality. Much of the land is arable and the loss to the local farming economy will be significant. Potatoes, cereals and wider combinable crops are grown locally on similar soils.

6.2 Supposed ongoing agricultural production through sheep grazing, is unlikely to generate much farming income and government support subsidies are prohibited once the panels are in place. Other solar farms in the vicinity only go to compound the loss of agricultural productivity and land.

6.3 Recent scientific studies have shown that there are more efficient ways of sequestrating CO_2 with non-tillage farming and rock dust on active farmland rather than using solar, companies such as Microsoft is pioneering this work in the UK.

Food Security

6.4 At a time when there are both food shortages across the globe and issues of food security, related to climate change and the weaponizing of food during the Ukraine conflict, the loss of productive farmland should be avoided, wherever possible. The NFU confirm that the UK is only 58% self-sufficient in food and the loss of this area of strong agricultural production is therefore significant. The NFU believes that productivity should increase on UK farms.

7 CONCLUSIONS REGARDING THE AGRICULTURAL LAND CLASSIFICATION

7.1 Based on the findings from our survey of a sample of the whole site, we consider that the Agricultural Land Classification findings of the KCC ALC report have not identified all the best and most versatile land on the site. Areas preliminarily identified as Grade 3b and not resurveyed may contain quantities of 3a or higher grade land.

7.2 With the time available, we were not able to undertake a full ALC assessment over the entire area as this would have taken several days and we did not have access to the land. Nevertheless based on the sample findings of the auger borings on land considered in the KCC report not to be BMV, we still found BMV land across the site, mainly 3a and some Grade 2. In the case of Field 2 we consider that the area of Grade 4 is too large and more likely this land is mostly Grade 3b.

7.3 In our opinion the land remains mostly BMV quality, with around 50% of the site Grade 3a and a small quantity of Grade 2.

Biographical

Sam Franklin BSc (Hons) MSc MISoilSci PIEMA FBIAC

A Panel Member of the Agricultural and Land Drainage Tribunal

- Sam is a Member of the Institute of Professional Soil Scientists and a Life Member of the British Society of Soil Science. He undertakes soil survey and land management work for private clients, developers, local authorities and government agencies and has worked on soil restoration, flood risk, drainage and land improvement projects, as well as Agricultural Land Classification for roads, development sites, renewable energy projects and EIA. He has been a Professional Associate of the Institute of Environmental Assessment, since 2001.

- He has an MSc from Cranfield University, attending Cranfield advanced training in Soil Matters, Land Evaluation, Soil & Water: Principles and Management in Production Systems and soil science courses of IPSS and Lancaster University. He has given talks, demonstrations and on-farm advice on ALC, soil and water management, land drainage, rainwater harvesting and soil husbandry. Sam has worked overseas in dryland climates and is familiar with land drainage, irrigation scheduling and reservoir design.

- From a family farm, Sam has a BSc (Hons) in Agriculture from Newcastle University and has considerable practical, farm-based agricultural, horticultural and soils management experience gained on mixed, livestock, horticultural and arable units and international work. Sam is a Fellow of the British Institute of Agricultural Consultants (FBIAC) and holds the Royal Horticultural Society Certificate in Horticulture.

- As a qualified chartered surveyor (MRICS, FAAV) and agricultural consultant he has over 35 years of experience across a wide range of property matters including both commercial and housing planning projects, compulsory purchase, new roads, pipelines and rail projects, development land, farming, property management, renewable energy, minerals, land restoration, archaeological surveys, and EIA.

- Sam has been managing director of a surveying and rural planning business since 2001 Previous employment includes five years at the RSPB, work for other environmental and conservation organisations, regarding landscape restoration & management, habitat creation, minerals restoration and woodland management; all requiring detailed soils, water and environmental knowledge.

- He has undertaken soil and water management, soil husbandry and Catchment Sensitive Farming work for Natural England and since 2003 has given regular rural planning consultancy advice to Local Planning Authorities, mainly across southern, eastern and midland England; acting as agricultural, equestrian and rural resource expert, regularly attending planning committees, public inquiries, hearings and examinations in public.

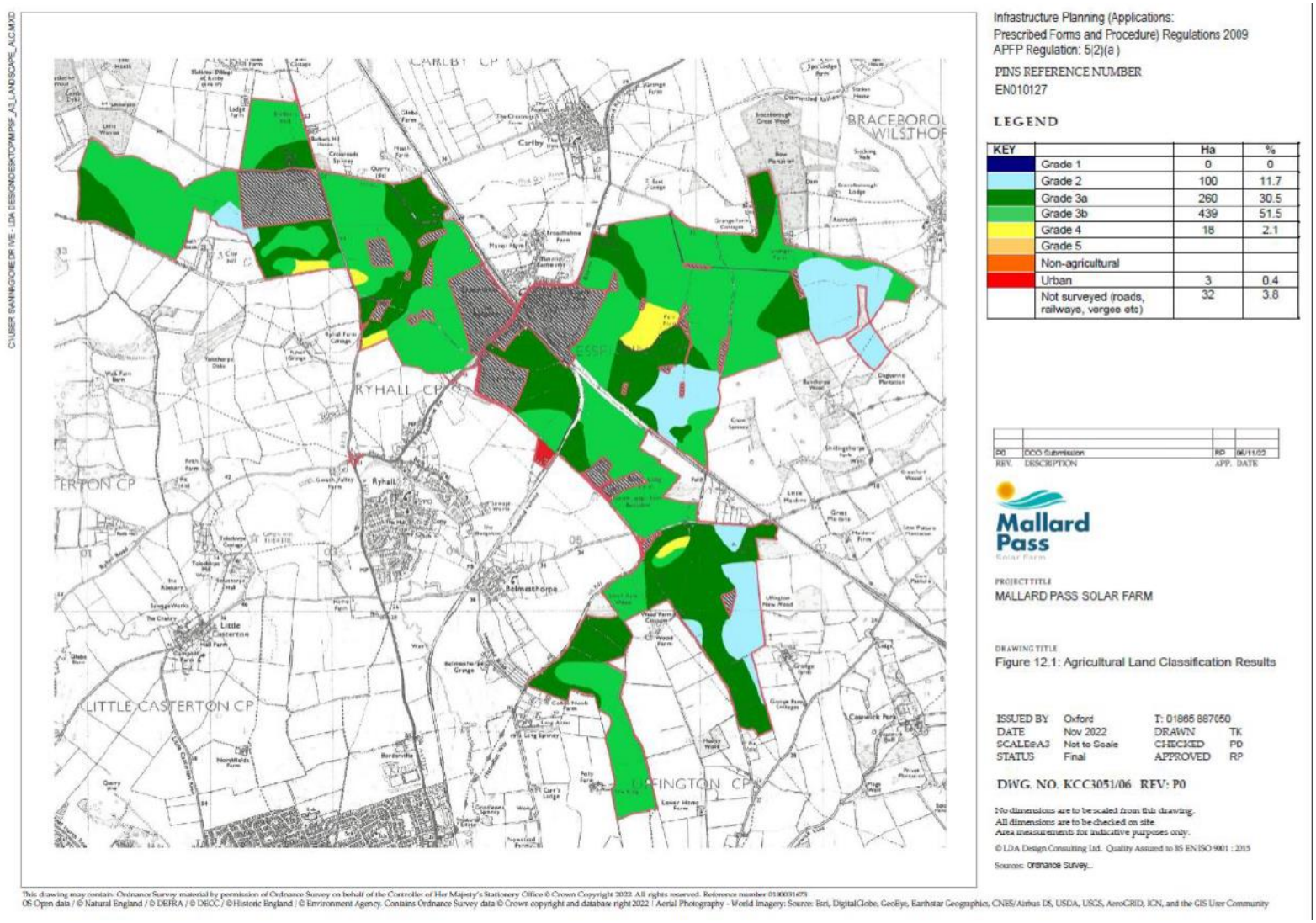
BSSS ALC Checklist

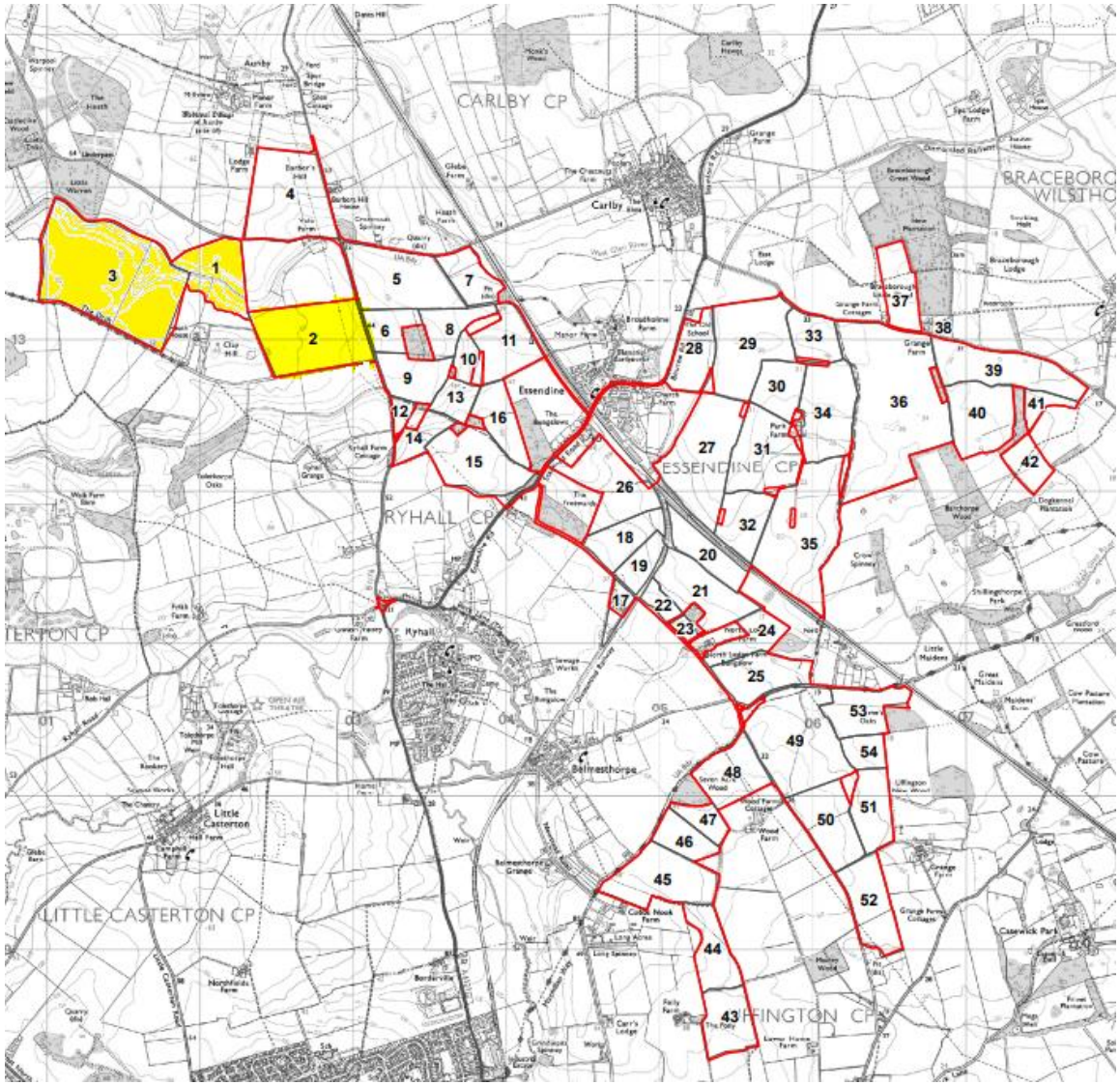
Background		**P/C/F**	**Comment**
	Is the company / author a specialist in ALC?	PASS	
	Have published soil maps been mentioned?	PASS	
Climate data			
	Is interpolated climate data included for the site (esp. Field Capacity Days (FCD), Moisture Deficits (MD) and Maximum grade on climate)?	PASS	
	Is the data consistent with that expected for the area?	PASS	Yes
Site and standalone limitations			
	Have gradients, micro-relief and flooding been considered / acknowledged?	PASS	Gradient is stated as having no impact, but there are small areas of steep land that impact on Grade. However most of these areas are already shown as 3b.
Soils and interactive limitations			
	Have topsoils and subsoils been field surveyed? References to soil pits, auger samples & lab samples should be included.	CONCERN	There were no soil pits dug in Field 2
	Are the soil types clearly described, including reference to gleying, slowly permeable layers (SPL), soil wetness class (SWC) and drought?	PASS	
	Have the reasons for ALC grading been clearly described?	PASS	
	Have soil structure and porosity been described?	PASS	

	Have soils been described using Soil Survey Field Handbook (Hodgson 19977)?	PASS	
	Have soils been described using Munsell soil colour notations?	PASS	
Conclusions and references			
	Is there a table clearly showing areas of ALC grades?	PASS	
	Is there a list of references (normally including Soil Survey of England and Wales mapping, the MAFF 1988 ALC guidelines, Munsell soil colour charts and the Soil Survey Field Handbook – Hodgson 1997)?	PASS	MAFF 1988 ALC guidelines, and TIN049 are generally followed
	Have the limitations been justified when concluding the ALC grade(s) on the site?	CONCERN	Some areas of the site have changed grade without additional sampling, between the two sampling exercises.
Schedule of auger borings and soil pits			
	Has a map of auger boring & soil pit locations been included?	CONCERN	No soil pits were dug in Field 2 at either stage. Soil pits seem to be referenced on Archaeological digs across the site and may not be representative of soils types.
	Have laboratory analyses been included to confirm topsoil particle size distribution?	PASS	

	Has a schedule of auger boring information been provided?	PASS	In Field 2, 24 auger bores were made across 30 hectares. Ideally there would be 30 auger samples taken and around 2-3 pits.
	Do the auger borings show horizon depths, colours & textures?	PASS	
	Do the auger boring records clearly show soil wetness class?	PASS	
	Do the auger boring records clearly show topsoil stone content?	PASS	
	Do the auger boring records clearly show depth to gleying and depth to slowly permeable layer (SPL)?	PASS	
	Do the auger boring records clearly show moisture balance (MB) values for drought (Wheat & Potatoes)?	PASS	
	Has detailed soil pit information been provided in the report and do the pit descriptions show horizon depths, colours and textures?	CONCERN	No soil pits dug in Field 2
	Do the soil pits / pit clearly show soil wetness class (WC)?	CONCERN	No soil pits dug in Field 2
	Do the soil pits / pit clearly show moisture balance (MB) values for drought?	CONCERN	No soil pits dug in Field 2
	Do the soil pit / pits clearly show soil structure and porosity in the subsoil?	CONCERN	No soil pits dug in Field 2

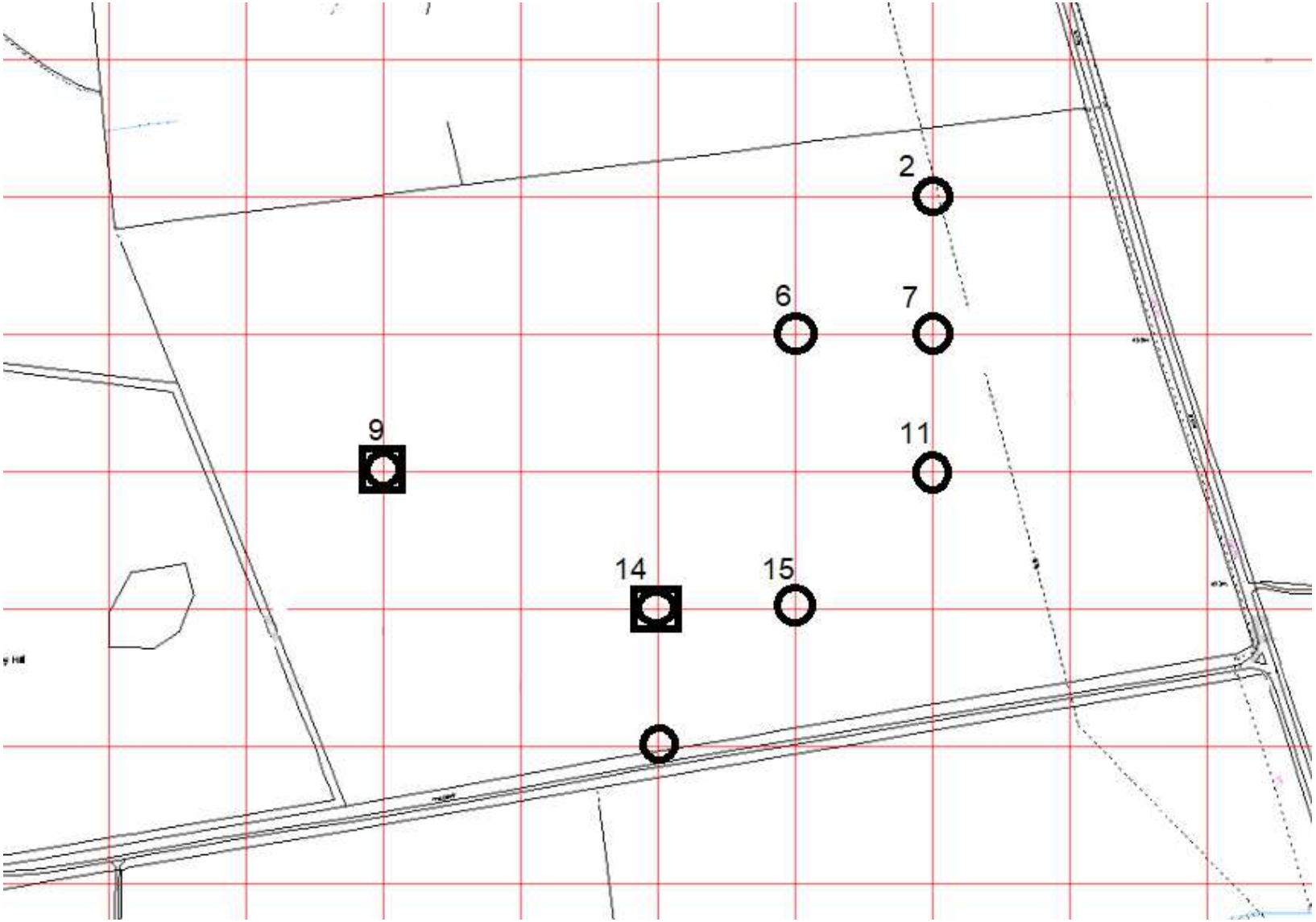
Plan Showing ALC findings (from KCC ALC report)

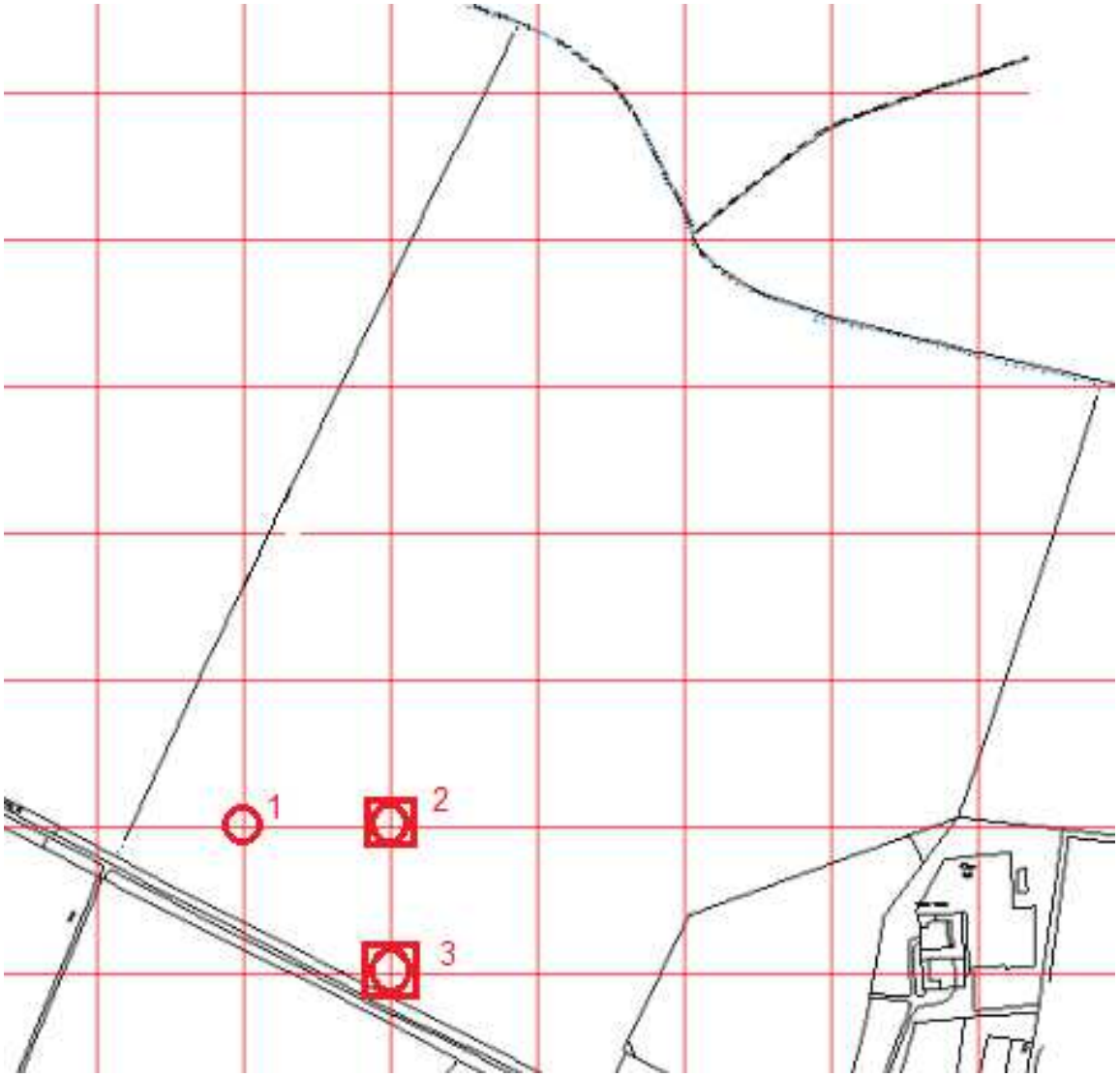




Plan1 (Showing Fields 1, 2 and 3)

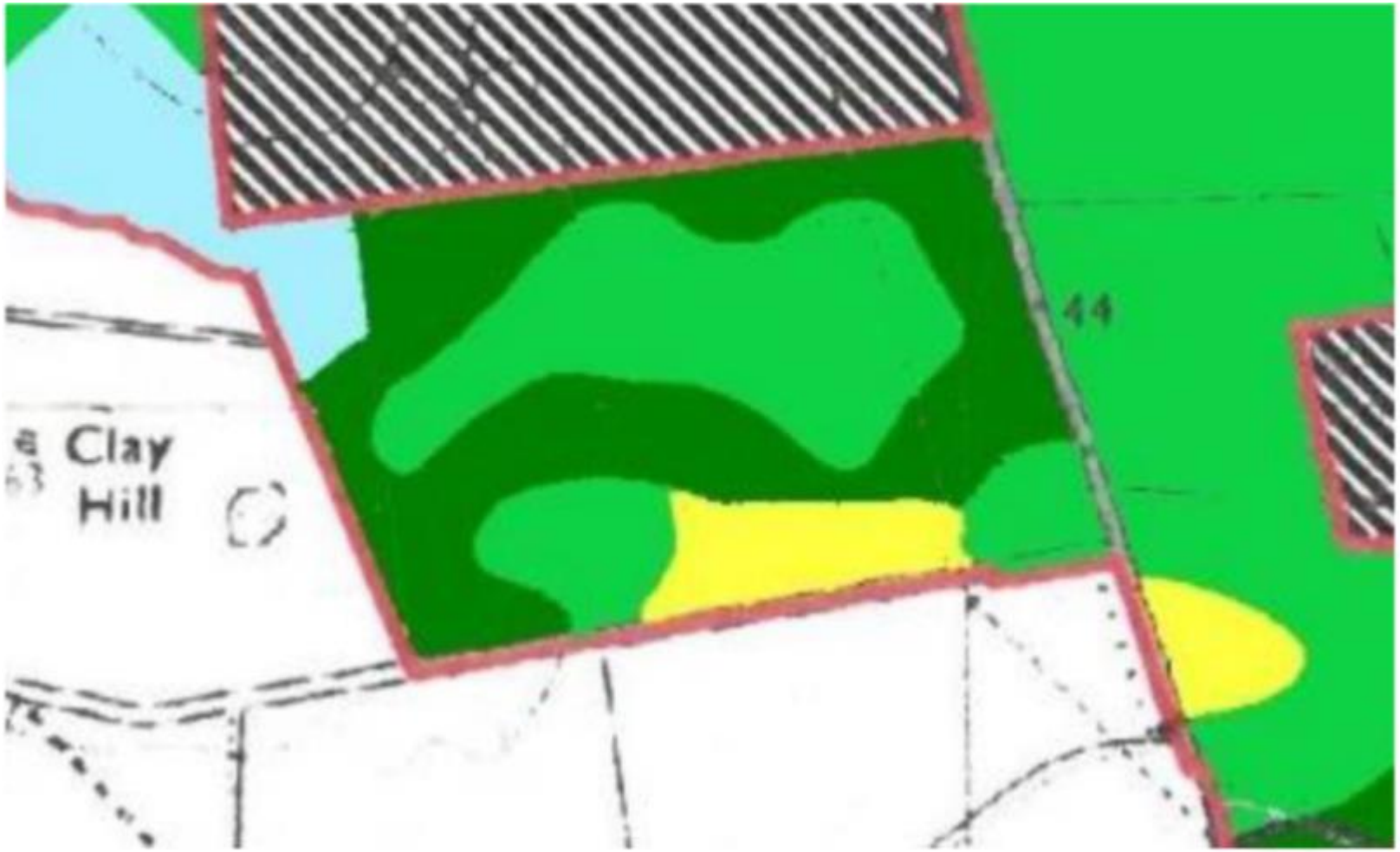
Plan2 (Field 2) Showing Auger Points and Soil Pits





Auger Points in Field 3 with Soil Pits

Plan 2.1



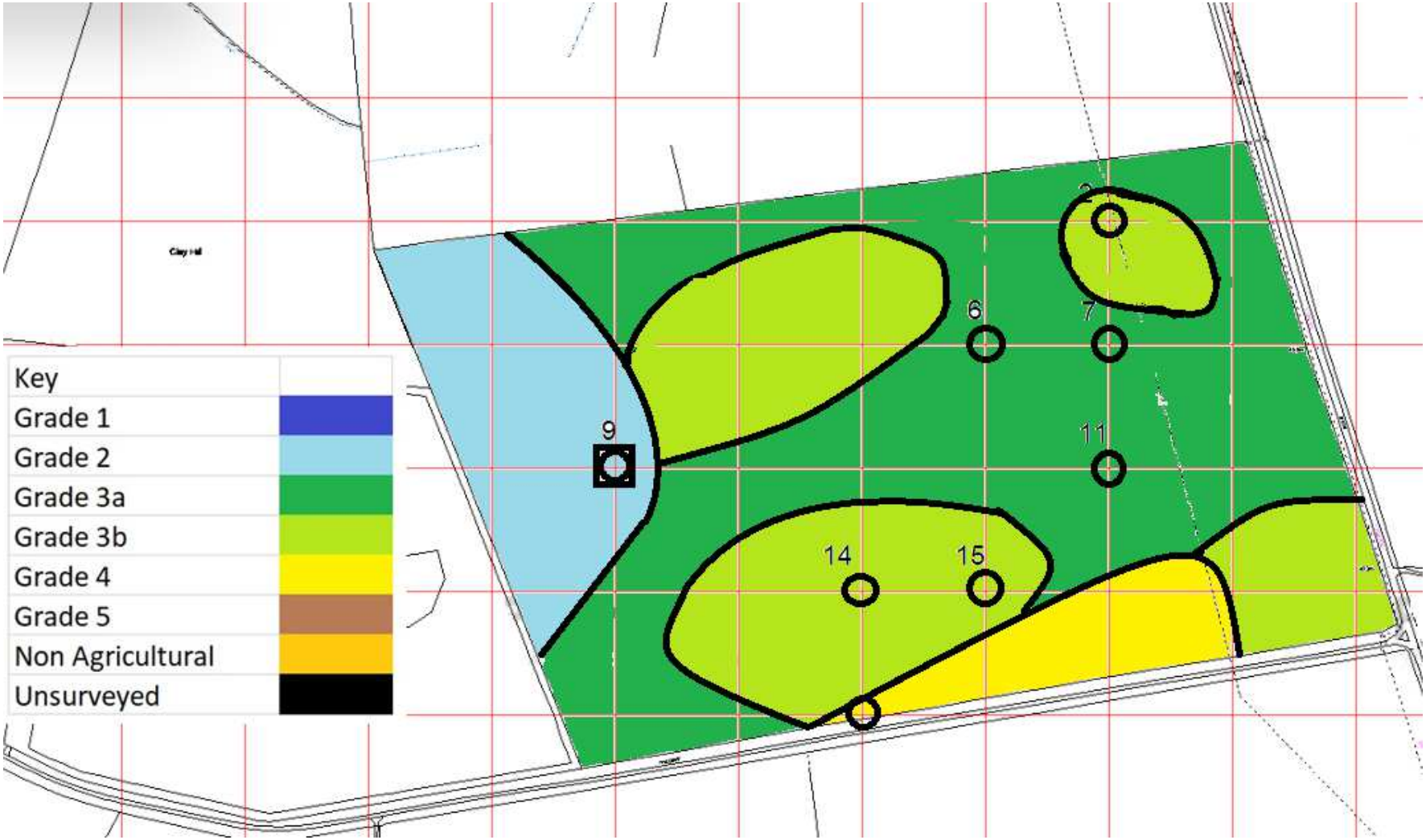
Field 2 Showing Grades from KCC ALC survey

Plan 2.2

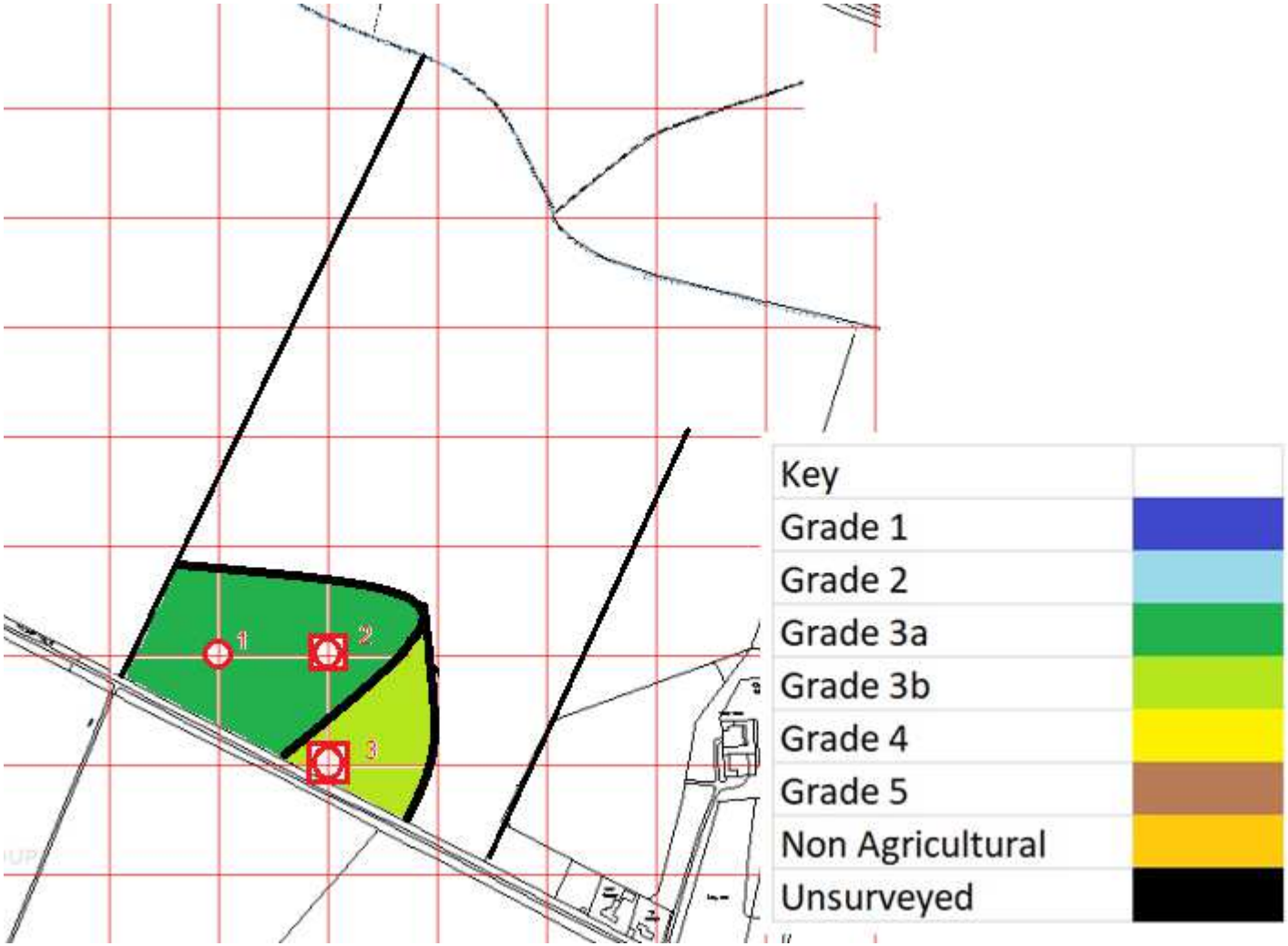
Fields 1 and 3 Showing Grades from KCC ALC survey

Soil Variation from Google Earth Aerial Photographs

Plan X



ALC Grades of Land from Survey Findings (Field 2)



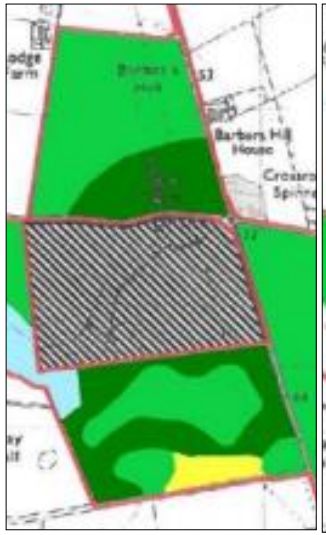
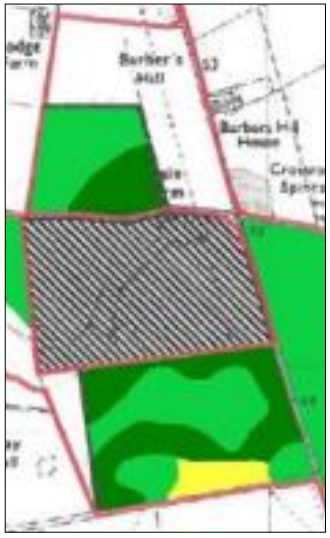
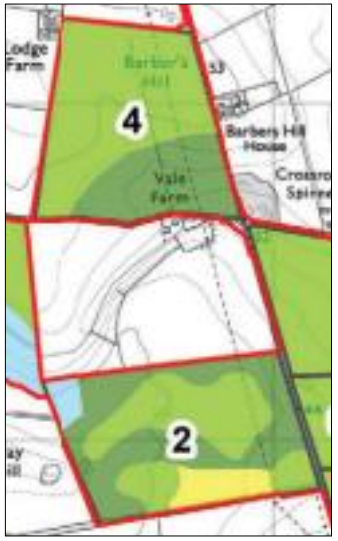
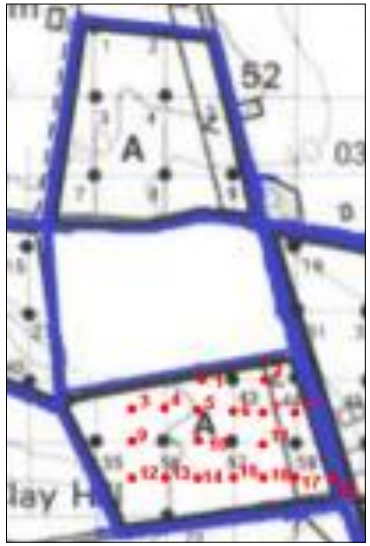
ALC Grades of Land from Survey Findings (Field 3)

A

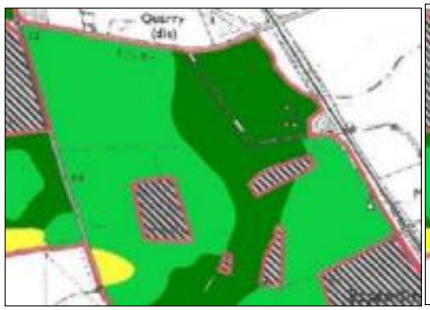
Fields	Stage 1 (full site);	stage 2 (full site)	Stage 2 (solar area)	Stage 2 (full site)
3 1				

The change: the RHS of filed 3 is mitigation as is the bottom of field 1

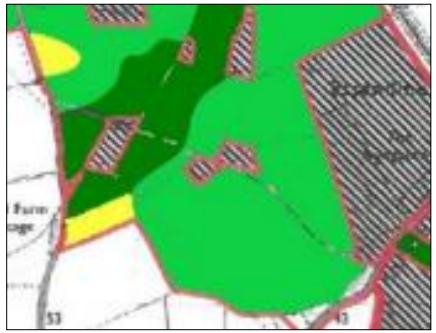
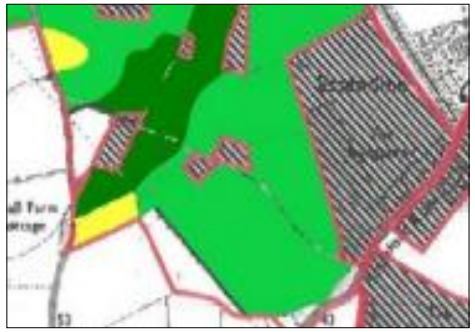
B

Fields	Stage 1 (full site);	stage 2 (full site)	Stage 2 (solar area)	Stage 2 (full site), field nos	Stage 1 & 2 auger sampling
4 2					

C

Fields	Stage 1 (full site);	stage 2 (full site)	Stage 2 (solar area)	Stage 2 (full site)
5 6 8 10 11				

D

Fields				
9 13 16 14 15 12				

E

Fields **Stage 1 (full site);** **stage 2 (full site)** **Stage 2 (solar area)** **Stage 2 (full site)**

26
18,
19

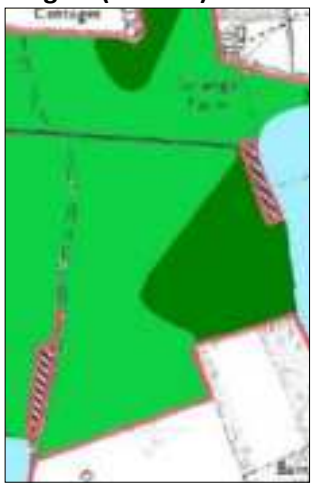
No phase 2 auger sampling so why is there less 3a than before, & grading missing on stage 2 solar area pic (fields 18&19)

F

Fields **Stage 1 (full site);** **stage 2 (full site)** **Stage 2 (solar area)** **Stage 2 (full site)** **Stage 1&2 auger sampling**

27
29
30
31
32
34
35

G

Fields	Stage 1 (full site);	stage 2 (full site)	Stage 2 (solar area)	Stage 2 (full site)
36				

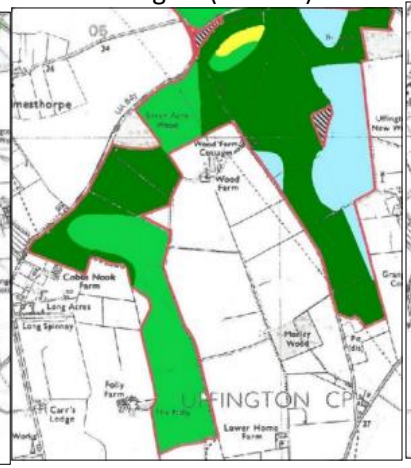
H

Fields	Stage 1 (full site);	stage 2 (full site)	Stage 2 (solar area)	Stage 2 (full site)	Stage 1&2 auger sampling
20 21 22 23 24 25					

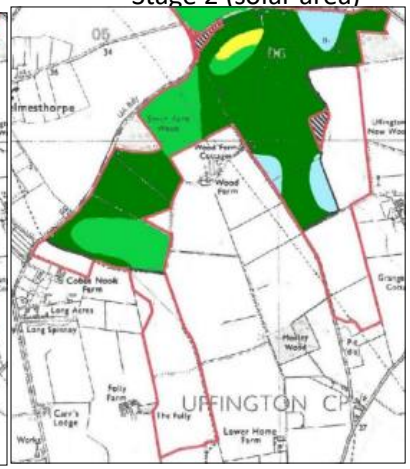
I

Stage 1 (full site);

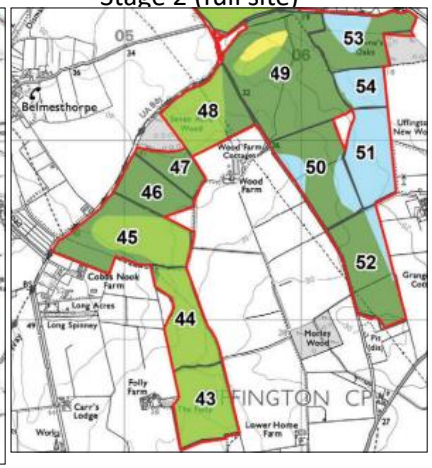
stage 2 (full site)



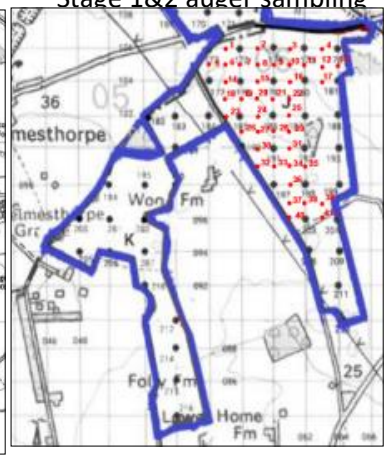
Stage 2 (solar area)



Stage 2 (full site)



Stage 1&2 auger sampling



49
53
50
54
51
52
48
47
46
45
44
43

Table 5: Order Limits (detailed and semi-detailed ALC)

ALC Grade	Area (Ha)	Area (%)
Grade 1 (Excellent)	0	0
Grade 2 (Very Good)	100	11.7
Subgrade 3a (Good)	260	30.5
Subgrade 3b (Moderate)	439	51.5
Grade 4 (Poor)	18	2.1
Grade 5 (Very Poor)	0	0
Urban	3	0.4
Not surveyed (roads, railway, verges etc)	32	3.8
Total	**852**	**100**

Table 6: Solar PV Array and Field Margins

ALC Grade	Area (Ha)	Area (%)
Grade 1 (Excellent)	0	0
Grade 2 (Very Good)	35	6.6
Subgrade 3a (Good)	181	34.1
Subgrade 3b (Moderate)	297	55.9
Grade 4 (Poor)	18	3.4
Grade 5 (Very Poor)	0	0
Non-agricultural / Other land	0	0
Urban	0	0
Total	**531**	**100.0**

There is a table for the whole site and a table for the solar area including the margins. There is no table for the remaining mitigation which is still taken out of arable use

Table 1	
Grid Reference	**TF 027 130**
Altitude	51
Average annual rainfall	589.8
Accumulated temp >0ºC (Jan-June)	1396.29
Moisture deficit, wheat	111.35
Moisture deficit, potatoes	103.96
Field capacity period	118.06
Overall Climatic Grade	1

AGRICULTURAL LAND CLASSIFICATION EVALUATION: SOIL SAMPLING

Date of Sampling: 21/09/2023

Worksheet for ALC of: **Land at** **Mallard Pass Field 2**

Auger Sample	Horizon No	Grid Ref	Horizon To Depth (cm)	Matrix colour	Mottles		FE conc	Moisture	Gley? Y/N	Texture	Structure		SPL? Y/N	Stones Size 1		Stones Size 2		HCl/$CaCO_3$
											Shape	Size		%	Type	%	Type	
2	H1		30	7.5YR4/4	N			Y		H Clay Loam	G			20	HR	15	HR	Y
	H2		10	7.5YR4/6				Y		H Clay Loam	M		N	20	HR		HR	Y
	H3		15					Y		S Clay Loam	M		N	60	HR		HR	Y
7	H1		30	7.5YR4/4	N			Y		MCL	G			10	HR	5	HR	Y
	H2		30	7.5YR4/6				Y		Clay	M		N	8	HR		HR	Y
	H3		30					Y			M		N	45	HR		HR	Y
6	H1		30	7.5YR4/4	N			Y		M Clay Loam	G			10	HR	5	HR	Y
	H2		30	7.5YR4/6				Y		M Clay Loam	M		N	20	HR		HR	Y
	H3		15	7.5YR4/5				Y		Clay	M		N	60	HR		HR	Y
	H4		15					Y		Clay			N	55	HR		HR	Y
11	H1		30	7.5YR4/4	N			Y		H Clay Loam	G			10	HR	5	HR	Y
	H2		20	7.5YR4/6				Y		H Clay Loam	M		N	20	HR		HR	Y
	H3		15	7.5YR4/6				Y		Clay	M		N	60	HR		HR	Y
14	H1		30	7.5YR4/4	N			Y		M Clay Loam	G			8	HR		HR	Y
	H2		30	7.5YR4/6				Y		H Clay Loam	G		N	7	HR		HR	Y
	H3		20	7.5YR4/5				Y		Clay	M		N	50	HR		HR	Y
	H4		30					Y		Clay	M		N	80	HR		HR	Y
15	H1		25	7.5YR4/4	N			Y		M Clay Loam	G			15	HR	5	HR	Y
	H2		20	7.5YR4/5				Y		Clay	M		N	35	HR		HR	Y
	H3		15	7.5YR4/6				Y		Clay	M		N	75	HR		HR	Y

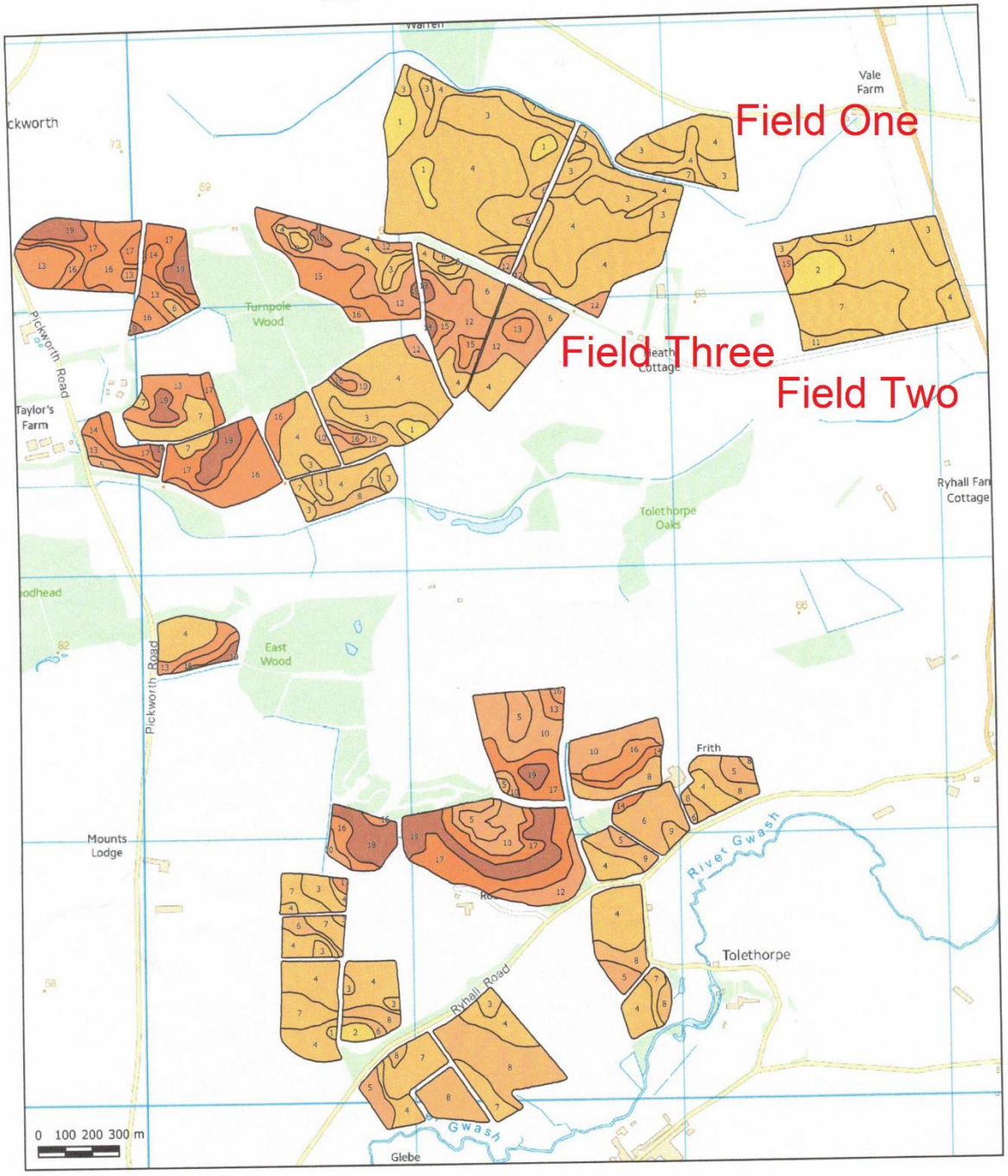
AGRICULTURAL LAND CLASSIFICATION EVALUATION: SOIL SAMPLING

Date of Sampling: 21/09/2023

Worksheet for ALC of: **Land at** Mallard Pass FieldS 2 + 3

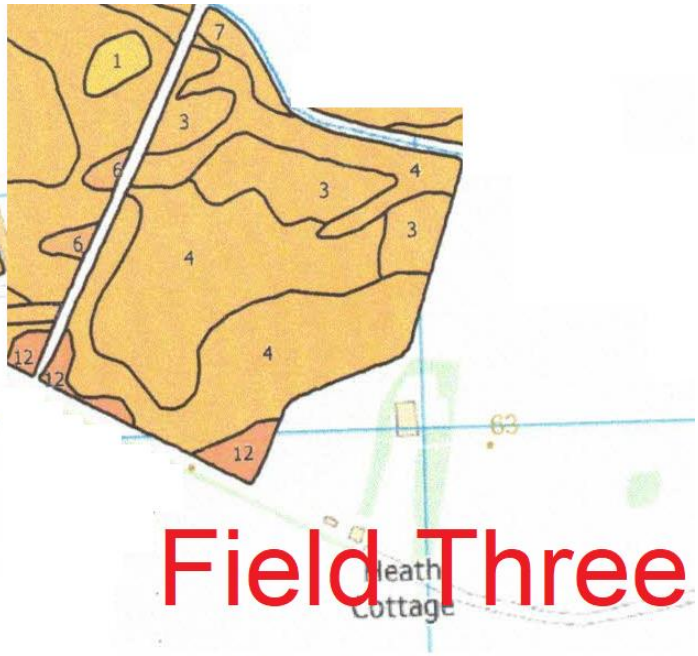
Auger Sample	Horizon No	Grid Ref	Horizon To Depth (cm)	Matrix colour	Mottles		MN/FE conc	Moisture	Gley? Y/N	Texture	Structure		SPL? Y/N	Stones Size 1		Stones Size 2		HCl/CO3
											Shape	Size		%	Type	%	Type	
9 (Field 2) Soil Pit	H1		25	10YR4/3	N			Y	N	Sndy Slt Lm	F		N	1				N
	H2		40	10YR5/4	N			Y	N	Sndy Lm	F		N	-				N
	H3		25	10YR5/3	N			Y	N	Sndy Cly Lm	M		N	-				N
	H4		20	10YR4/2	N			Y	N	Sndy Lm	F		N	40		20		N
1 (Field 3)	H1		30	7.5YR5/4				Y	N	Sndy Cly Lm	M		N	15		5		Y
	H2		20	7.5YR4/4				Y	N	Sndy Lm	M		N	20		10		Y
	H3		15					Y	N	Sndy Lm	M		N	20		10		Y
2 (Field 3)	H1		25	7.5YR5/4				Y	N	Clay Lm	M		N	15		5		Y
	H2		25	7.5YR4/4				Y	N	Sndy Lm	M		N	20		5		Y
	H3		15	7.5YR4/5				Y	N	Sndy Lm	M		N	25		5		Y
	H4		20	7.5YR4/5				Y	N	Clay Lm	M		N	20		5		Y
	H5		25					Y	N	Clay	M		N	25		15		Y
3 (Field 3)	H1		30	7.5YR5/4				Y	N	Clay Lm	M		N	10		5		Y
	H2		20	7.5YR4/4				Y	N	Clay Lm	M		N	20		10		Y
	H3		5	5YR6/1				Y	N	Sndy Lm	M		N	60		20		Y

Walk Farm Barn - Soil Type

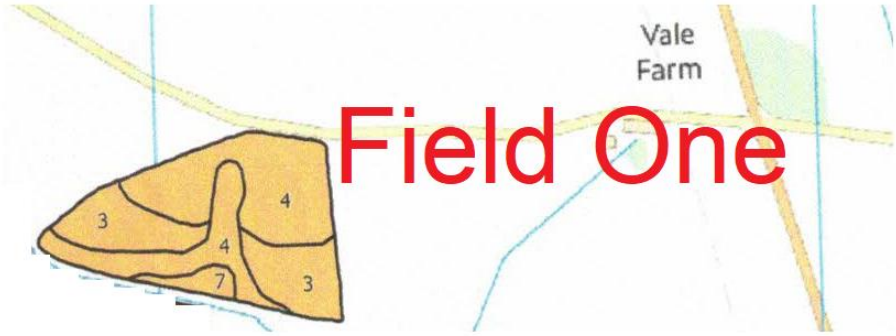


Willoughby Farm Partnership Soil Type Surveyed Date: 30/08/16	See Soil Descriptions list for full Soil Type details. Increasing Clay Content	N Scale: 1:19,000 SOYL SEED

Field Two



Field Three



Field One

Soil Descriptions - Walk Farm Barn

	Topsoil	Stone Content (Topsoil)	Subsoil	
19	Heavy Clay Loam	Very Slight	Clay below 30-35cm	60%
18	Heavy Clay Loam	Slight	Clay below 45cm, over Very Stony below 55cm	65%
17	Medium Heavy Silty Clay Loam	Slight	Silty Clay below 35-50cm	70%
16	Medium Heavy Clay Loam	Slight	Clay below 40-60cm	70%
15	Medium Heavy Clay Loam	Very Slight	Heavy Sandy Clay Loam below 25-40cm, over Very Stony below 60-70cm	75%
14	Medium Heavy Silty Clay Loam	Very Slight	Medium Heavy Silty Clay Loam (deep)	75%
13	Medium Heavy Clay Loam	Moderate	Very Stony below 40-50cm	80%
12	Medium Heavy Sandy Clay Loam	High	Very Stony below 30-40cm (or limestone brash)	75%
11	Medium Sandy Clay Loam	Slight	Loamy Clay below 30-40cm	70%
10	Medium Silty Clay Loam	Slight	Heavy Silty Clay Loam below 50cm, over Very Stony below 60cm	80%
9	Medium Clay Loam	Moderate	Medium Heavy Clay Loam below 40-55cm, over Very Stony below 70-80cm	80%
8	Medium Clay Loam	Slight	Medium Clay Loam (deep)	85%
7	Medium Sandy Clay Loam	Moderate	Very Stony below 70cm (or limestone brash)	85%
6	Medium Clay Loam	Slight	Very Stony below 45cm (or limestone brash)	80%
5	Medium Silty Clay Loam	Moderate	Very Stony below 30cm (or limestone brash)	80%
4	Medium Sandy Clay Loam	High	Very Stony below 35-40cm (or limestone brash)	75%
3	Medium Sandy Clay Loam	Very High	Very Stony below 25-30cm (or limestone brash)	70%
2	Sandy Silt Loam	Very Slight	Very Stony below 60-70cm	85%
1	Sandy Silt Loam	Moderate	Very Stony below 30cm (or limestone brash)	80%

Field 2 **Soil Samples and Profiles**

Auger Point 2

Auger Point 7

Auger Point 6

Auger Point 11

Auger Point 14

Auger Point 14 (showing depth of auger)

Auger Point 15

General Surface Stoniness

Soil Pit at Auger Point 9 and Auger Point 9 (below)

Stones from depth at Pit 9

Typical stone from site.

Field 3 **Soil Samples and Profiles**

Auger Point 1

Auger Point 2

Soil Pit at Auger Point 2

Auger Point 3

Contents 2-7

MPAG Back-up information

2. Pre-application ALC grading – low density sampling (stage 1)

P14 PEIR, Appendix 13.1 Agricultural Land Classification, May 2022 – low density sampling (stage 1)

'TOTAL ORDER LIMITS'

Table 13.1: Agricultural Land Classification Results (Study Area)

ALC	Area (Ha)	Area (%)
Grade 1	0	0
Grade 2	110	12
Grade 3a	320	36
Grade 3b	415	47
Grade 4	10	1
Grade 5	0	0
Non-agricultural	30	3
Urban	4	<1
Not Surveyed	0	0
Total	**889***	**100**

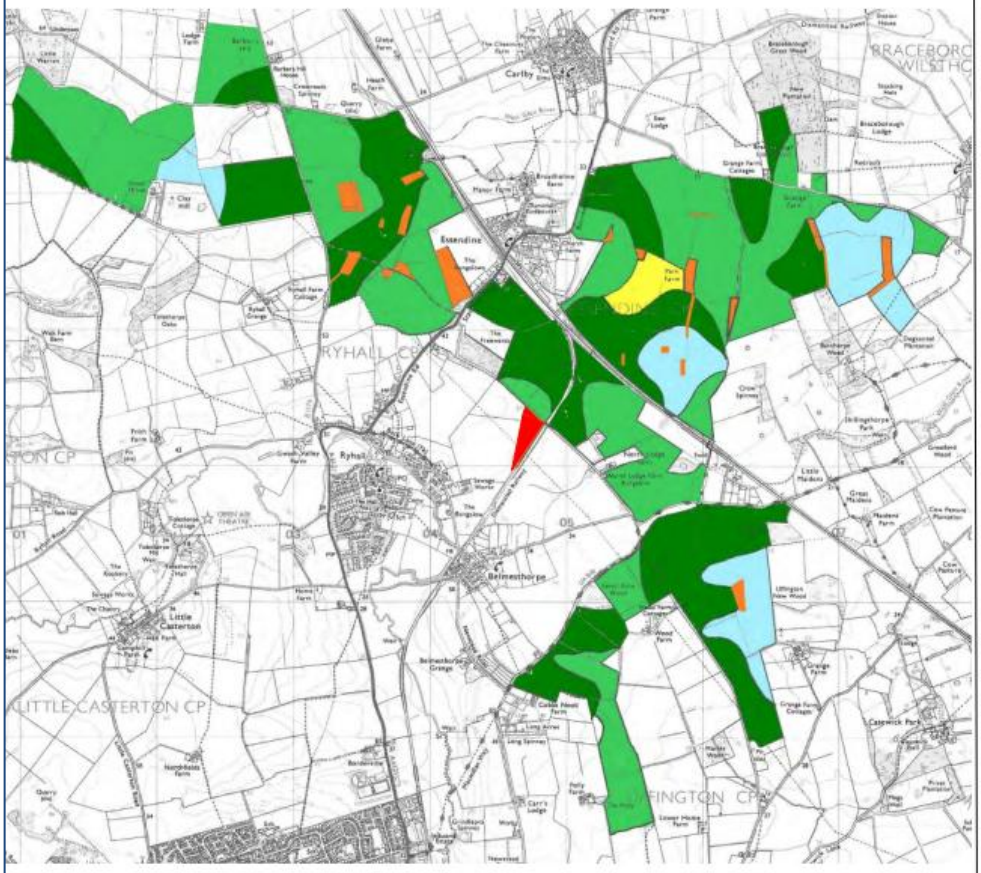
'SOLAR PV only'

ALC	Area (Ha)	Area (% of total Site)
Grade 1	0	0
Grade 2	36	6
Grade 3a	273	47
Grade 3b	261	45
Grade 4	10	2
Grade 5	0	0
Non-agricultural	0	0
Urban	4	<1
Not Surveyed	0	0
Total	**584**	**100**

3. Pre-application ALC grading – low density sampling (stage 1)

‘TOTAL ORDER LIMITS’

P46 PEIR, Appendix 13.1 Agricultural Land Classification, May 2022



KEY		Ha	%
	Grade 1		
	Grade 2	110	12
	Grade 3a	320	36
	Grade 3b	415	47
	Grade 4	10	1
	Grade 5		
	Non-agricultural	30	3
	Urban	4	<1
	Not surveyed		

PLAN	Figure 13.1 (Plan KCC3051/02A)		
TITLE	Provisional Agricultural Land Classification Plan - Solar PV and Enhancement Areas		
SITE	Mallard Pass		
CLIENT	LDA Design		
NUMBER	KCC3051/02A 04/22hr		
DATE	April 2022	SCALE	NTS

KERNON COUNTRYSIDE CONSULTANTS LTD
GREENACRES BARN, PURTON STOKE, SWINDON, WILTSHIRE SN5 4LL
Tel 01793 771 333 Email: info@kernon.co.uk
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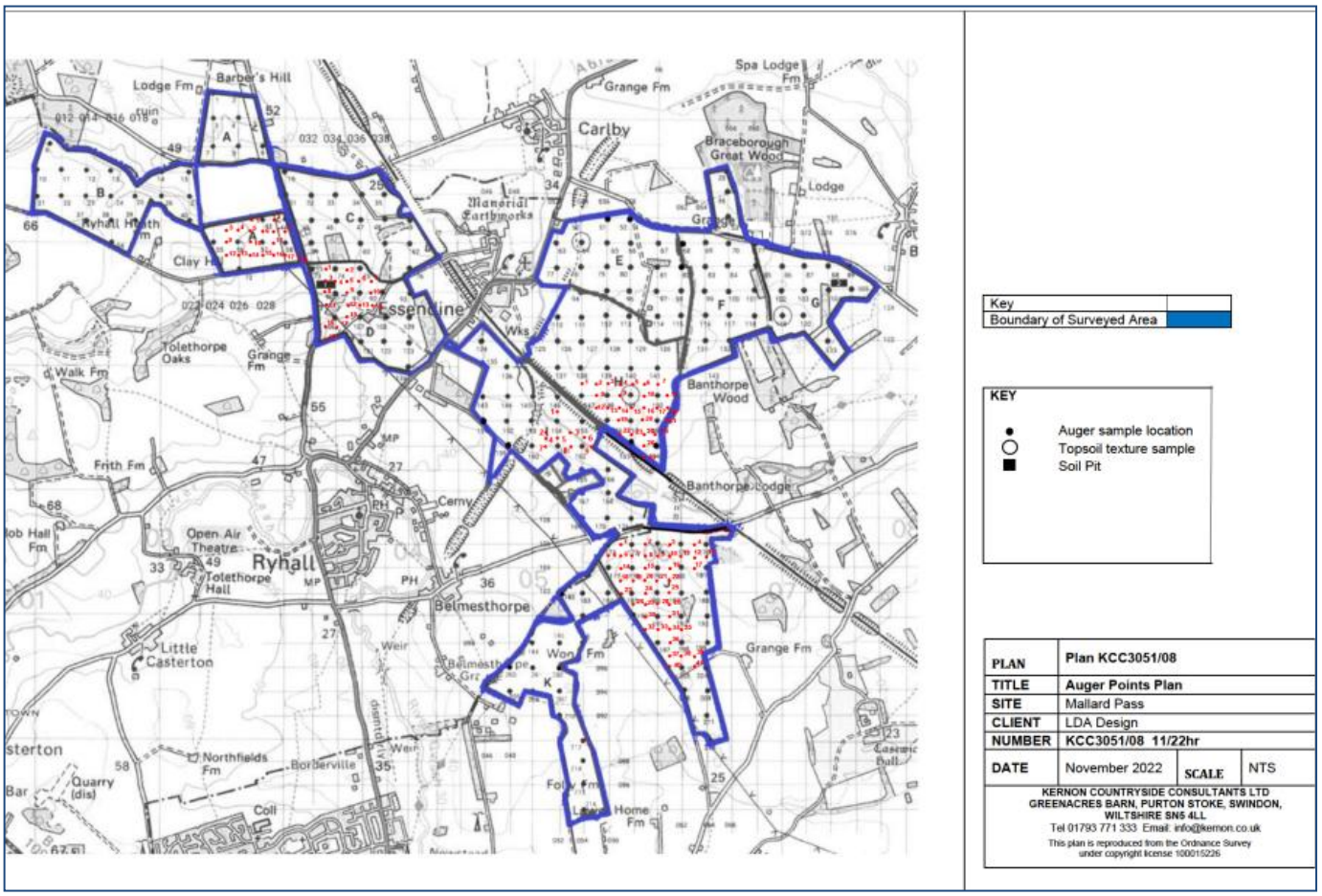
4. Auger Points Plan

Appendix 12.4 Land Use and Soils: P79 (APP-091)



Notes:

- Black dots denote stage 1 lower density sampling. Red dots denote stage 2 higher density sampling – selected in just **5 areas** that were identified in stage 1 sampling to be BMV.

- There are **only 2 soil pits** with data for the **whole site**, 1 in field 39 south of Carlby Road which is retained arable grade 2, and 1 in field 9 adjacent to the B1176 which is one of the very few parcels graded 4. Soil pits are crucial for informing ALC results following auger boring. Without them it is not possible to provide a robust ALC assessment.

- Only **11 samples of soil were lab tested** but they were randomly picked across the different site areas, as opposed to testing multiple times in any one field parcel. Given the variability of soils within field parcels, this could not adequately inform any ALC grading.

- The Applicant mentions **10 trenches**, only identifies 3 in pictures, namely **trench 2, 4 and 7** and draws no direct links from the trenches to their results. Those 3 trenches are all in field 36, that location was graded 3b. It would seem given the early trench no.s that the KCC survey work only just coincided with the start of the trial trenching work, otherwise surely there would have been examples of trenches all across the site with a cross section of trench numbers as over 200 trenches were dug by Cotswold Archaeology.

5. Application ALC grading – low & selective normal density sampling (stage 2)

Appendix 12.4 Land Use and Soils: **(APP-091)** P15-16

'TOTAL ORDER LIMITS'

Table 5: Order Limits (detailed and semi-detailed ALC)

ALC Grade	Area (Ha)	Area (%)
Grade 1 (Excellent)	0	0
Grade 2 (Very Good)	100	11.7
Subgrade 3a (Good)	260	30.5
Subgrade 3b (Moderate)	439	51.5
Grade 4 (Poor)	18	2.1
Grade 5 (Very Poor)	0	0
Urban	3	0.4
Not surveyed (roads, railway, verges etc)	32	3.8
Total	**852**	**100**

'SOLAR PV only'

Table 6: Solar PV Array and Field Margins

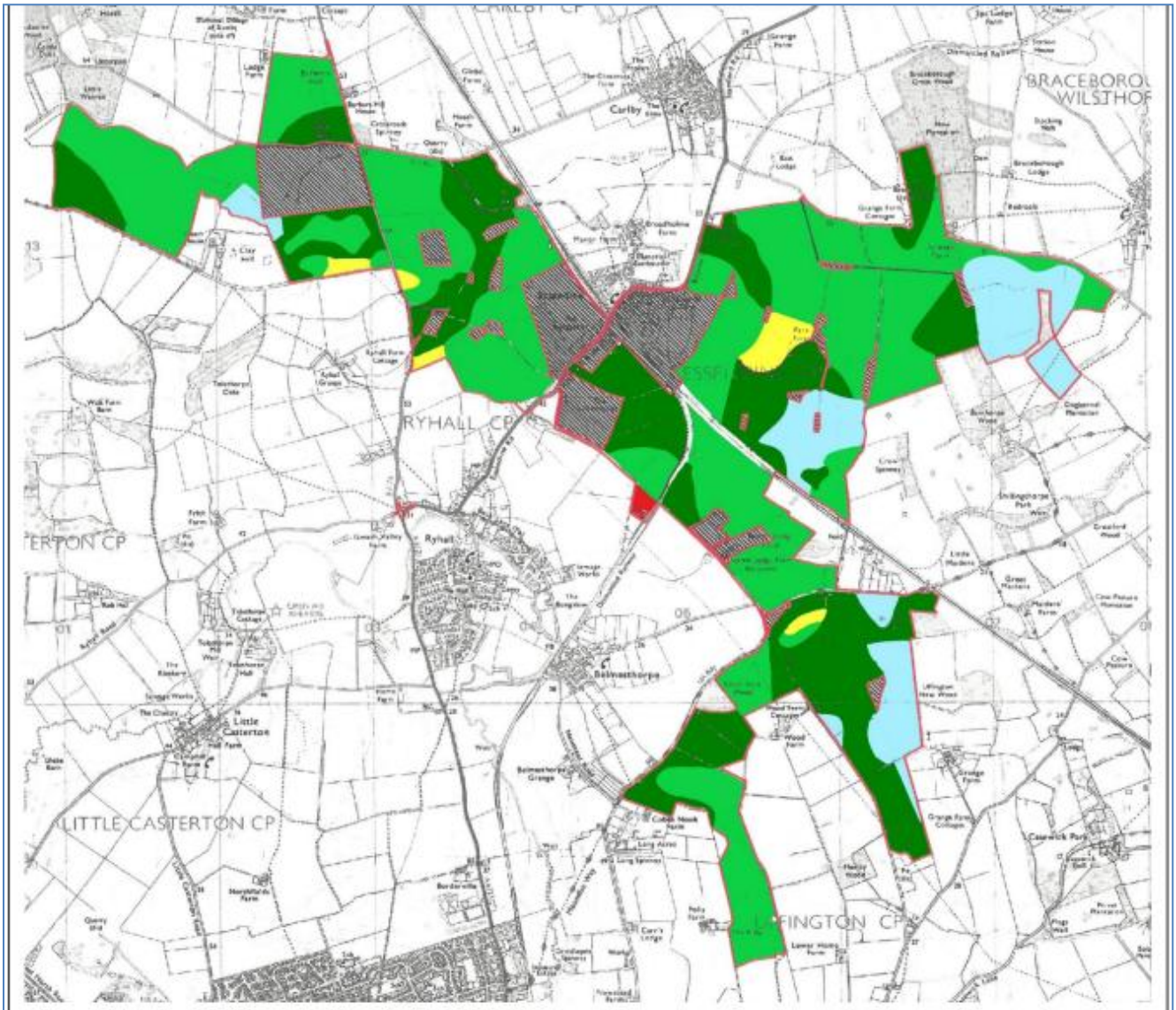
ALC Grade	Area (Ha)	Area (%)
Grade 1 (Excellent)	0	0
Grade 2 (Very Good)	35	6.6
Subgrade 3a (Good)	181	34.1
Subgrade 3b (Moderate)	297	55.9
Grade 4 (Poor)	18	3.4
Grade 5 (Very Poor)	0	0
Non-agricultural / Other land	0	0
Urban	0	0
Total	**531**	**100.0**

NOTE: The above table 6 only includes 531ha of solar PV and margins, but excludes the remaining mitigation areas (82Ha) which will not be used for retained arable purposes and therefore food production will be lost.

6a. Application ALC grades – low & selective normal density sampling (stage 2)

‘Total Order Limits’

Appendix 12.4 Land Use and Soils: Figure 12.1 P81 **(APP-091)**



KEY		Ha	%	PLAN	Figure 12.1		
	Grade 1	0	0	TITLE	ALC Across Order Limits		
	Grade 2	100	11.7	SITE	Mallard Pass		
	Grade 3a	260	30.5	CLIENT	LDA Design		
	Grade 3b	439	51.5	NUMBER	KCC3051/06 11/22tk		
	Grade 4	18	2.1	DATE	November 2022	SCALE	Not to Scale
	Grade 5			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 Ordinance Survey under copyright license 100015226		
	Non-agricultural						
	Urban	3	0.4				
	Not surveyed (roads, railways, verges etc)	32	3.8				

6b. Application ALC grades – low & selective normal density sampling (stage 2)

‘Solar PV only’

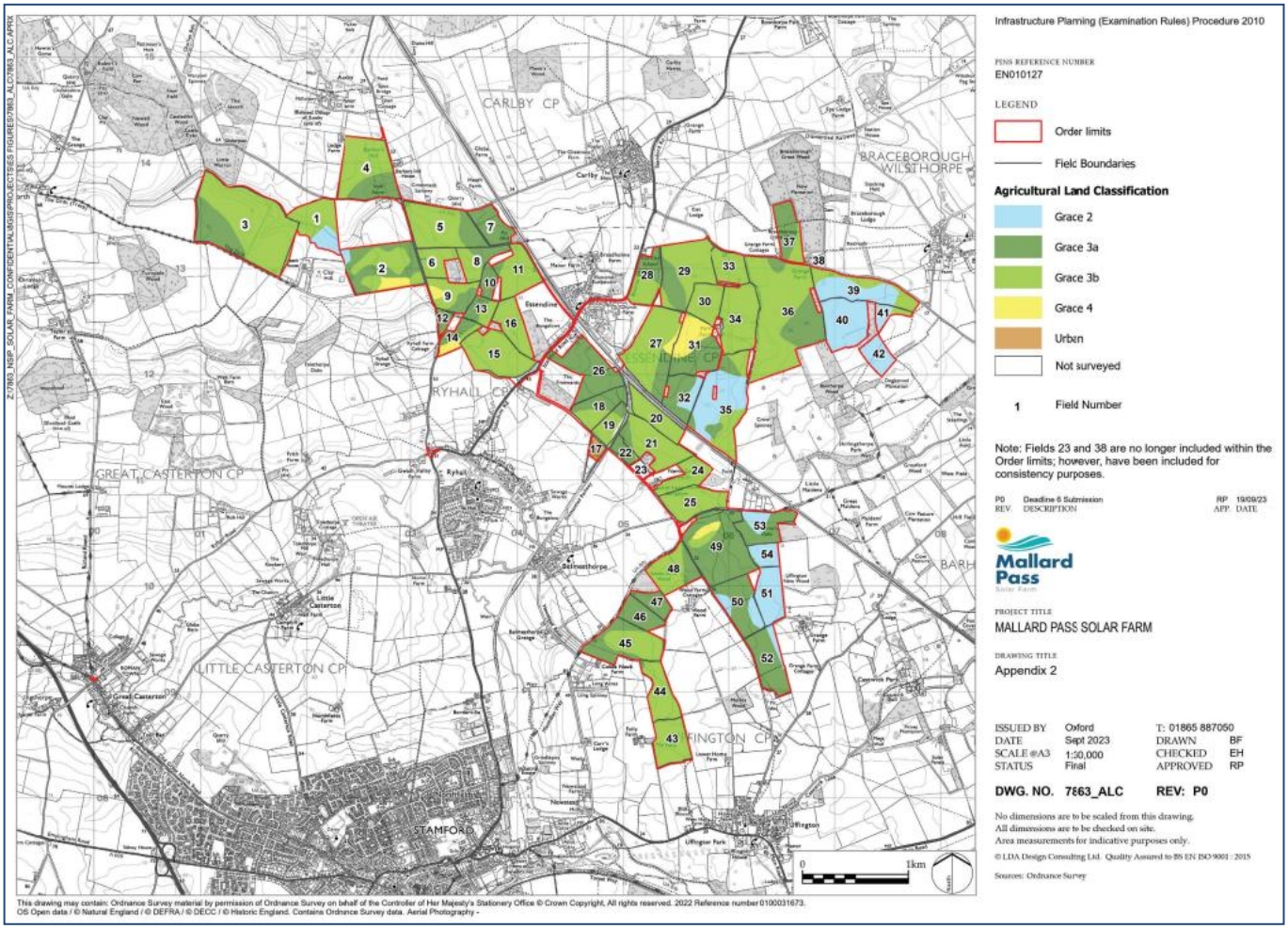
Appendix 12.4 Land Use and Soils: Figure 12.1 P83 **(APP-091)**

KEY		Ha	%	PLAN	Figure 12.2		
	Grade 1	0	0	TITLE	ALC Solar PV Site and Field Margins		
	Grade 2	35	6.6	SITE	Mallard Pass		
	Grade 3a	181	34.1	CLIENT	LDA Design		
	Grade 3b	297	55.9	NUMBER	KCC3051/07 11/22tk		
	Grade 4	18	3.4	DATE	November 2022	SCALE	Not to scale
	Grade 5	0	0	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			
	Non-agricultural	0	0				
	Urban	0	0				
	Not surveyed	0	0				

7. Application ALC grades with field parcel no.s

P13 Appendices to the Applicant's Responses to Interested Parties (**REP6-004a)- Appendix 2**

(a request for this map from MPAG)



Contents

8. Stantec's pre-application review of stage 1 ALC testing

READING AGRICULTURAL CONSULTANTS

July 2022

Stantec UK Limited

Mallard Pass Solar Farm
Project Reference: 33848/A5

Peer Review of the Agricultural Land and Soils PEIR Chapter and Appendix prepared by LDA Design

Beechwood Court,
Long Toll, Woodcote,
RG8 0RR

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Contents

1 Introduction

1.1 Reading Agricultural Consultants Ltd (RAC) is instructed by Stantec UK Limited on behalf of Rutland County Council and South Kesteven District Council to undertake a technical review of the Agricultural Land and Soils chapter of the Preliminary Environmental Information Report (PEIR) and the technical appendix produced in support of the application for the Mallard Pass Solar Project.

1.2 The technical appendix (Appendix 13.1) comprises an Agricultural Land Classification (ALC) report prepared by Kernon Countryside Consultants Ltd (KCC). The report details the site and soil conditions and classifies the agricultural land based on the findings of a semi-detailed survey. In total, 217 observations were made across the site area of 906ha, giving an observation density of approximately one per four hectares. The survey classified approximately half of the land (415ha or 47%) as Subgrade 3b, a large portion (320ha or 36%) as Subgrade 3a, around one-fifth (110ha or 12%) as Grade 2, and around 10ha or 1% as Grade 4.

1.3 The report comprises:

- Section 1, Introduction;
- Section 2, Methodology;
- Section 3, Known and Predictive Land Quality;
- Section 4, Factors Affecting Land Quality;
- Section 5, ALC Grading of the Site
- Annex 1, Natural England Technical Information Note TIN049[1];
- Annex 2, Available ALC from www.magic.gov.uk;
- Annex 3, Soil Profile Log;
- Annex 4, Description of Soil Pits;

[1] **Natural England (2012).** *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land*, Second Edition. http://publications.naturalengland.org.uk/file/4424325

- Annex 5, Certificate of Analysis;
- Plan KCC3051/01A Auger Point Plan; and
- Plan KCC3051/02A Agricultural Land Classification Plan.

1.4 In addition, a review has been undertaken of Appendix 13.2, Agricultural Land Use Assessment Methodology; and Chapter 13, Agricultural Land and Soils of Volume 1 of the PEIR.

2 Background to Agricultural Land Classification

2.1 Guidance for assessing the quality of agricultural land in England and Wales is set out in the Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land[2], and summarised in Natural England's TIN049.

2.2 Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on agricultural use. The principal physical factors influencing grading are climate, site conditions and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.

2.3 Grade 1 land is excellent quality agricultural land with very minor or no limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown, and yields are high and less variable than on land of lower quality.

2.4 Grade 2 is very good quality agricultural land, with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but there may be reduced flexibility due to difficulties with the production of the more demanding crops. The level of yield is generally high but may be lower or more variable than Grade 1.

2.5 Grade 3 land has moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield, and is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land).

2.6 Subgrade 3a land is capable of consistently producing moderate to high yields of a narrow range of arable crops or moderate yields of a wide range of crops. Subgrade 3b is land capable of

[2] **MAFF (1988).** *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. http://publications.naturalengland.org.uk/publication/6257050620264448

producing moderate yields of a narrow range of crops or lower yields of a wider range of crops or high yields of grass.

2.7 Grade 4 land is poor quality agricultural land with severe limitations which significantly restrict the range of crops and/or level of yields.

2.8 Grade 5 is very poor quality land, with severe limitations which restrict use to permanent pasture or rough grazing.

2.9 Land which is classified as Grades 1, 2 and 3a in the ALC system is defined in Annex 2 of the National Planning Policy Framework[3] (NPPF) as best and most versatile (BMV) agricultural land.

2.10 As explained in Natural England's TIN049, the whole of England and Wales was mapped from reconnaissance field surveys in the late 1960s and early 1970s, to provide general strategic guidance on agricultural 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 (1:63,360). The Provisional ALC map shows the site undifferentiated Grade 3. However, TIN049 explains that:

> *"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 …"*

2.11 TIN049 goes on to explain that a definitive ALC grading should be obtained by undertaking a detailed survey according to the published guidelines, at an observation density of one boring per hectare. The site had not previously been surveyed.

[3] **Ministry of Housing, Communities & Local Government (2021).** *National Planning Policy Framework.* https://www.gov.uk/government/publications/national-planning-policy-framework--2

3 Technical Review of the ALC Survey Report

3.1 The data, report and conclusions have been reviewed, as summarised in Table 1 below. The review has concentrated on the methodology and approach used in the survey, the quality and consistency of data with published data, and the interpretation of the data in the light of the ALC guidelines. The review has had regard to the British Society of Soil Science Guidance Document 1 on assessing ALC surveys[4].

Table 1: Technical Review of ALC Survey Report

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
General and Background Data		
Have the correct ALC guidelines been referenced and used?	G	The report makes reference to the MAFF 1988 ALC guidelines, and follows the methodology within the guidelines.
Has the survey been undertaken at the correct observation density?	C	The survey was carried out at a semi-detailed scale of one observation per 4ha. This does not accord with Natural England's TIN049 recommendation of one observation per hectare for detailed surveys. Although TIN049 does not comment on semi-detailed surveys, it is common practice on very large sites such as this to reduce the observation density as ALC surveys are time consuming and expensive. However, it is often advisable within the survey to increase the observation density in those parts of the site where BMV land is found in order to define the extent of BMV land accurately. It is noted in paragraph 5.2 that "*the soils within the Site are … quite variable spatially over short distances… This leads to a quite complex pattern of ALC Grade*". The survey was generally undertaken on a regular 200m x 200m grid pattern and so may have missed

[4] Assessing Agricultural Land - Jan 2022 (soils.org.uk)

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
		localised variability that has been acknowledged to exist.
Is the site description correct?	G	Generally Yes but with some minor comments and inconsistencies: • The site extends to 906ha (as in paragraph 1.1) but the classification in Table 5 (including non-agricultural/other land and urban land) is of 889ha. • The description of topography is very brief, yet across the site is variable. The maximum and minimum elevations above Ordnance Datum are not consistent with paragraph 3.2.1 of Volume 1 of the PEIR. • Paragraph 4.9 states that "*there are no records (data) to show that agricultural land in any part of the Site is limited by flooding*". There is clear photographic evidence that parts of the site within the West Glen River valley are affected annually by flooding (see Appendix 1).
Has existing ALC data been taken into account?	G	The report references and provides extracts from the Provisional ALC, the Predictive BMV and the available detailed ALC maps. In all cases, the site boundaries are not shown on the extract maps, despite the supporting text, and so it is not easy to immediately follow the findings in the text.
Has the correct geology been identified?	G	Mostly, although the Lower Lincolnshire Limestone Member of the Lincolnshire Limestone Formation is also present in the north-west of the site; and superficial glacial head deposits are also mapped. The appendix describes the geological formations, whereas paragraph 3.9.1 of Volume 1 describes the main geological groups (of formations). An

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
		explanation of the relationship between groups and formations, or a consistent approach to description, would be helpful.
Has the correct mapped soil association been identified, and the correct map referenced?	G	Yes, correct soil associations have been identified. However, no soil association or soil type map is provided which would be helpful to understand the distribution of the five soil associations within the site. The Sherborne association is repeatedly referred to as the "*Sherbroune association*".
Has the correct climate data been used?	G	The three climate data sets given have been verified.
Technical Data		
Does the soil described correspond with the mapped data?	U	The report contains no description of the main soil types found or an indication of their distribution.
Are the full soil profile logs available and described?	C	209 profile logs are appended to the report; six are omitted. No reason given. 46 soil profiles are not logged to a full depth of 120cm due to increasing stoniness/limestone in the subsoil. The soil profile logs in Annex 3 are set out for 11 'sites' which, as explained in paragraph 2.4, were established for the purposes of organising and managing the ALC survey. These sites bear no relation to the development proposals (e.g. areas proposed for solar panels, areas for mitigation etc) and the presentation of data in this format is not particularly helpful to the reader or for cross-referencing with other parts of the PEIR.
Do the soil profile logs look credible?	G	There is variability between the profiles, as would be expected in a natural soil. The soil profile logs

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
		are generally consistent with the mapped soil descriptions.
Were any soil pits dug?	C	Two pits were dug. More pits would be expected in a site of this size (over 900ha) and with five soil associations mapped. There should be a soil pit per main soil type identified but, as the report is silent on the number of soil types actually identified during the survey, the number of pits that should have been dug is unknown. Annex 4, Description of Soil Pits includes two recording sheets for the soil pit data. One of the two is incomplete (no ALC grade given; topsoil shown as borderline medium clay loam/heavy clay loam (not verified by laboratory analysis); the log notes limestone at 30cm but it is not noted whether the limestone is solid, fragmented or very stony).
Has the correct Wetness Class (WC) been identified?	G	Mostly – all but six profiles. In the absence of further explanation: • Profile 92 should be WC II not WC III; • Profile 131 should be WC I not WC II; • Profile 137 is not strictly gleyed until 65cm depth – WC could be II; • Profile 124 should be WC I not WC II; • Profile 135 should be WC I not WC II; • Profile 162 should be WC II not WC III (the SPL is <15cm thick)
Has the topsoil texture been verified with laboratory analysis?	C	Three samples were analysed and demonstrate a range of textures (heavy clay loam, sandy silt loam, clay) but this is a low number to cover approximately 900ha of land.

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
		Furthermore, the samples are not distributed evenly across the site but are all from the east. Neither of the pit locations was sampled which is surprising given that the texture is described as borderline medium clay loam/heavy clay loam which could influence grading. Profile 119 is shown in Table 2 as a medium sandy silt loam (based on the laboratory analysis) but recorded and assessed as a medium clay loam in Annex 3. If this sample was used as a typical example of a soil texture found on site, it is possible that many other profile logs shown as medium clay loam should be described as sandy silt loam, which again could influence grading, potentially over large areas of the site. There are no profile logs in Annex 3 shown with a sandy silt loam topsoil.
Has the correct grade been allocated?	U	As above, profiles that could have sandy silt loam topsoils (on the basis of laboratory analysis) but classified on the basis of medium clay loam topsoils may not be correctly graded (and could be upgraded). Similarly, those profiles borderline to medium and heavy clay loam as found in one of the soil pits, may not be correctly graded. Profiles logged as being limited by droughtiness to Grade 4 may not be graded correctly. If the limestone is soft or fragmented/fissured, the limitation would be less severe to Subgrade 3b. Similarly, deeper profiles with fewer stones listed as Subgrade 3b could improve to Subgrade 3a. See Appendix 2 for a comparison of the calculations for the applicable profiles.

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
		Only one profile (201) is noted as having a topsoil stone limitation. Several profiles have undeclared topsoil stone limitations equal to the reported most limiting factor (wetness or droughtiness) but based on the percentages of stone larger than 2cm and 6cm, a more severe limitation is applicable to: • Profile 69 to Subgrade 3b (currently 3a); • Profile 83 to Subgrade 3b (currently 3a); • Profile 179 to Subgrade 3b (currently 3a); • Profile 198 to Subgrade 3a (currently 2); • Profile 203 to Subgrade 3b (currently 3a).
Have photographs been included in the report?	U	For completeness, photographs should be included, particularly to illustrate the structures identified from the soil pits and the nature of the underlying limestone.
Is there any reason to doubt the robustness of the survey and/or report conclusions?	C	Overall, whilst there are a number of mostly minor errors, inconsistencies and uncertainties, and areas where clear improvements could be made, the survey is considered to be adequate to describe the agricultural land quality of a very large site. Further work could be carried out the address the deficiencies identified above, in particular where observations are borderline to soil textures and grading.

4 Review of PEIR Chapter and Impact Assessment

Introduction and Background

4.1 The Agricultural Land and Soils Chapter considers the effects of the Proposed Development on agricultural land and businesses through the construction, operation and decommissioning phases.

4.2 The review in Table 2 follows the structure of Chapter 13 for ease of cross-referencing, with the main section headings shown in bold.

Table 2: Review of Chapter 13 Agricultural Land and Soils

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
Introduction	G	No comments.
What might be affected by the Proposed Development?	C	The section identifies three key receptors; agricultural land quality, soil structure and local farm businesses. Soil structure is a very specific receptor, and it would be more commonplace to assess the effects of a development on a soil resource. Perhaps the most obvious effect of removing approximately 900ha of agricultural land from agricultural production for a period of 40 years is the effect on food production but this effect has not been addressed in the assessment.
• Agricultural Land Quality	C	Paragraph 13.2.4 indicates that the ALC survey undertaken has made it possible to map the distribution of land quality and soil types. No map showing the distribution of soil types has been presented in Appendix 13.1. Table 13.2 presents the ALC grades for a larger area than the current proposal for the solar PV area which is 463ha (in paragraph 3.1.4). The ALC of the current proposal is not stated (and presumably therefore not assessed).
• Soil Integrity, Structure and Environmental Benefits	C	Not the same receptor as identified in 13.2.1. 13.2.8 states that the soils identified in the survey were grouped into the five associations – but this is not evident from the survey report. The five mapped soil associations are described in the survey report but the actual observed soil profiles

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
		are not described outside the survey logs, let alone grouped into associations. Paragraph 13.2.11 states that "*the better quality land has soils least susceptible to damage from construction traffic*". This statement is not strictly true: there are profiles of Subgrade 3a quality with heavy clay loam or clay topsoil, and profiles of Subgrade 3b quality with medium clay loam topsoil. As well as reporting what might be affected, this section explains how soils would be affected, how effects would be mitigated and what further consultation will take place.
• Agricultural Businesses	C	The section lacks specific data on the four farm businesses occupying the site, other than they are mostly arable. The section also summarises the assessment (only a proportion of the wider farm holdings, no key infrastructure affected).
How have we assessed the effects relating to this topic?	G	Reference made to Appendix 13.2 which relies to a large extent on IEMA guidance for land and soil.
• Agricultural Land Quality	C	The IEMA guidance is quite prescriptive and its use in this particular instance leads to a number of questions as to its widespread application. All BMV land is assessed in the guidance as being of high or very high sensitivity, such that any impact above a negligible impact (more than 5ha of permanent sealing, for example) will lead the assessor to identify a significant effect on agricultural land. That does not seem a helpful approach to take for the decision maker in this case where potentially 900ha of land is affected and the ES identifies that BMV land is not a rare resource nationally

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
		(paragraph 13.3.6) or regionally (paragraph 13.4.11), and where policy is that BMV land should be avoided "*where possible*" but "*should not be a predominating factor in determining the suitability of the site location*." The use of this guidance therefore suggests that the sensitivity of the land has been overstated, leading to results that do not differentiate in any helpful manner between different levels of effect on the resource.
• Soil Integrity, Structure and Environmental Benefits	U	The soil sensitivity criteria in Appendix 13.2 and paragraph 13.3.11 concentrate on 'high clay soils' which is not a known soil category description. Paragraph 13.3.11 identifies the high sensitivity soils in the wetter regions but this is of no relevance to this assessment which is concerned with soils in a dry region. There is no indication of which soils on the site are of high sensitivity. The section does not describe how the magnitude of impact on the soil resource has been assessed. Table 13.4 identifies the sensitivity of soils as mostly medium, without explanation, and the magnitude of impact as minor, without explanation.
• Agricultural Businesses	C	The agricultural business criteria include a category for non-agricultural land which is not a relevant receptor, and otherwise appear a little simplistic in dividing all farm businesses between full-time (medium sensitivity) and part-time (low sensitivity) holdings, with no businesses being high or very high sensitivity. Clarity is required as to whether the assessment of "*the productivity and economic implications*" in

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
		paragraph 13.3.13 will include an assessment of the effect on food supplies from removing approximately 900ha of land from agricultural production for the duration of the project.
Study Area	G	No comments
Assumptions and Limitations	G	No comments
What are the potential environmental effects?		
• Construction	C	The section identifies that the effect on agricultural land is expected to be adverse moderate or large. The effect during construction on soil resources does not appear to have been assessed (the summary Table 13.4 says slight adverse effect but there is no text to support this). The assessment in paragraph 13.4.3 that the magnitude of effect on farm businesses will be moderate adverse seems overstated, given the definition in Appendix 13.2. The only impact identified – "*closure or severance of field accesses at key times of the farming year*" – does not equate to "*The impact of the development would require significant changes in the day-to-day management of a full-time agricultural business, or closure of a part-time agricultural business."* Table 13.4 identifies the magnitude as minor adverse, giving rise to a slight adverse effect, which is not consistent with the text but seems more appropriate.
• Operation	U	The assessment of agricultural land used during the operation of the solar farm refers to Table 3.2 which is not correct for the current proposal of 463ha of land for solar PV arrays.

Review Item	Good/Concern/ Unsatisfactory	Explanation and Comments
		There is no assessment of the consequential effects on food supplies of taking nearly 900ha out of arable production for a period of 40 years other than an unsubstantiated comment in paragraph 13.4.11 that *"the removal of the Solar PV Site from agricultural production is considered to be insignificant in a regional context".*
• Decommissioning	G	All effects on decommissioning are identified as adverse but there could be beneficial effects from bringing land that has laid fallow for 40 years back into food production.
How would we mitigate the environmental effects?	G	No comments, other than careful management and soil handling in the CEMP does not mitigate the effect on agricultural land loss/sealing.
What environmental effects would remain?	C	Given that agricultural land loss/sealing is not mitigated by careful soil handling, it is not clear how a moderate or large adverse effect on agricultural land can be reduced to a slight adverse residual effect in Table 13.4.
In-combination effects		No substantive text on which to comment.
Conclusions and Next Steps		
• Land Quality and Soil Resources	C	ALC assessment not consistent with previous text that identified a moderate or large adverse effect on BMV agricultural land (that is not mitigated by a CEMP).
• Agricultural Businesses	C	Paragraph 13.8.5 is finally a recognition that the potential to use approximately 900ha of land for arable or livestock uses will be reduced as a result of the proposal. The conclusion is *"that is neither a policy not an environmental impact"* appears too much of a throwaway comment for a very clear consequential effect of the proposal.

5 Conclusions

5.1 The site of the proposed Mallard Pass Solar Farm was subject to a semi-detailed ALC survey in winter 2021. Other than the scale, the survey followed the established guidelines and methodology for classifying agricultural land. The survey work was undertaken by competent surveyors, each with decades of experience.

5.2 Although spread out across multiple sections within the technical appendix, the background data is all present and correct. The report includes the profile logs, results of laboratory analysis and pit descriptions which are all required in best practice.

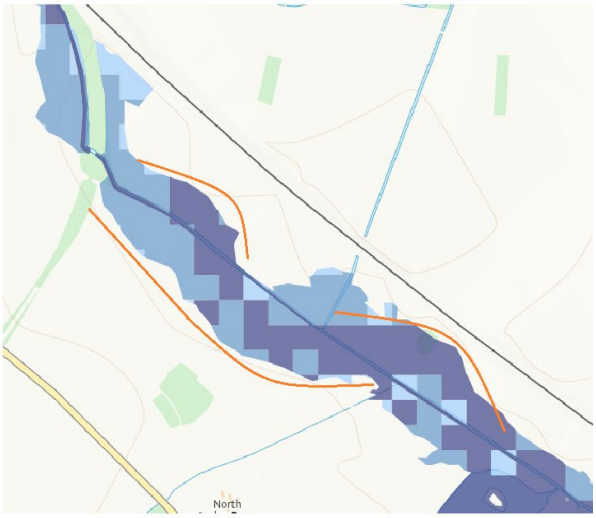
5.3 There are a few mistakes in the WC allocations in the profile logs but, given the volume of data, some minor errors are to be expected.

5.4 However, many profiles were not assessed to a full depth of 120cm. As demonstrated, depending on what was below the assessed depth, profiles currently assessed as Grade 4 may all be upgraded to Subgrade 3b, and a small number of profiles in Subgrade 3b will upgrade to Subgrade 3a. This will affect grade boundaries. Other limitations have been identified during the process of the peer review that are not stated in the report.

5.5 Although pits were dug and samples were submitted for laboratory analysis, there are too few to constitute a fully robust assessment considering the size of the site. Where BMV land was identified, the observation density should ideally have been increased.

5.6 Overall, the quality and clarity of the assessment in the Agricultural Land and Soils PEIR Chapter could be much improved. The chapter does not assess the up-to-date proposal for the solar PV arrays as set out in Chapter 5 but a previous iteration of the scheme which does not inspire confidence. The assessment methodology and criteria need consideration if the conclusion is reached that the loss of less than 5ha of BMV agricultural land from soil sealing is a moderate or large adverse effect (which incidentally cannot be mitigated by careful soil handling, as claimed in the chapter) but the consequential effect of removing approximately 900ha of agricultural land from food production for a period of 40 years is not even assessed.

Appendix 1: Flood Risk



Environment Agency (2022) *Mapping of long term flood risk*. https://check-long-term-flood-risk.service.gov.uk/map?easting=505135&northing=313942&map=RiversOrSea

Applicable areas of the site are outlined in orange.

Satellite imagery clearly showing the effects of flooding where the flood risk is mapped (outlined in orange).

Bing Maps (2022), https://www.bing.com/maps

Satellite imagery clearly showing the effects of flooding where the flood risk is mapped (outlined in orange).

Google Maps (2022), maps.google.co.uk

Appendix 2: Droughtiness Calculation Comparisons

Profiles with site numbers coloured black are as the original profile; profiles with site numbers coloured green are recalculations assuming soft/fragmented/rubble limestone at the base. Grades according to droughtiness are colour coded for ease.

Site No.		Depth cm		Texture	stone% hard	stone% Soft Lstone	Struct-ure	APwheat mm	AP potato mm
78	T	0	28	C	30			34	34
		28	40	C	50			10	10
		40	60	C	50			13	17
		60	120	Rock				0	0
							Total	**57**	**61**
							MB	-60	-50
					Droughtiness grade (DR)			4	3b
78	T	0	28	C	30		-	34	34
		28	40	C	50			10	10
		40	60	C	50			13	17
		60	120	Lstone				18	4
							Total	**75**	**65**
							MB	-42	-46
					Droughtiness grade(DR)			3b	3b
80	T	0	25	C	50		-	23	23
		25	30	C	50			4	4
		30	50	C	70			11	11
		50	120	Rock				0	0
							Total	**38**	**38**
							MB	-79	-73
					Droughtiness grade(DR)			4	4
80	T	0	25	C	50		-	23	23
		25	30	C	50			4	4
		30	50	C	70			11	11
		50	120	Lstone				21	8
							Total	**59**	**46**
							MB	-58	-65
					Droughtiness grade(DR)			4	4
132	T	0	30	C	30		-	37	37
		30	40	C	30			12	12
		40	60	C	50			13	17
		60	120	Rock				0	0
							Total	**61**	**65**

							MB	-56	-46
						Droughtiness grade(DR)		4	3b
132	T	0	30	C	30	-		37	37
		30	40	C	30			12	12
		40	60	C	50			13	17
		60	120	Lstone				18	4
							Total	**79**	**69**
							MB	-38	-42
						Droughtiness grade(DR)		3b	3b
142	T	0	30	C	35	-		34	34
		30	40	C	30			12	12
		40	60	C	50			13	17
		60	120	Rock				0	0
							Total	**58**	**63**
							MB	-59	-48
						Droughtiness grade(DR)		4	3b
142	T	0	30	C	35	-		34	34
		30	40	C	30			12	12
		40	60	C	50			13	17
		60	120	Lstone				18	4
							Total	**76**	**67**
							MB	-41	-44
						Droughtiness grade(DR)		3b	3b
112	T	0	28	mCL	15	-		43	43
		28	35	mCL	30			8	8
		35	60	mCL	80			8	10
		60	120	Rock				0	0
							Total	**60**	**61**
							MB	-57	-50
						Droughtiness grade(DR)		4	3b
112	T	0	28	mCL	15	-		43	43
		28	35	mCL	30			8	8
		35	60	mCL	80			8	10
		60	120	Lstone				18	4
							Total	**78**	**65**
							MB	-39	-46
						Droughtiness grade(DR)		3b	3b
113	T	0	30	mCL	15	-		46	46
		30	33	mCL	30			3	3
		33	60	mCL	80			9	11
		60	120	Rock				0	0
							Total	**59**	**61**
							MB	-58	-50
						Droughtiness grade(DR)		4	3b

113	T	0	30	mCL	15	-	46	46
		30	33	mCL	30		3	3
		33	60	mCL	80		9	11
		60	120	Lstone			18	4
						Total	**77**	**65**
						MB	-40	-46
					Droughtiness grade(DR)		3b	3b
125	T	0	30	hCL	20	-	44	44
		30	35	SCL	50		4	4
		35	60	SCL	50		17	20
		60	120	Rock			0	0
						Total	**65**	**68**
						MB	-52	-43
					Droughtiness grade(DR)		4	3b
125	T	0	30	hCL	20	-	44	44
		30	35	SCL	50		4	4
		35	60	SCL	50		17	20
		60	120	Lstone			18	4
						Total	**83**	**72**
						MB	-34	-39
					Droughtiness grade(DR)		3b	3b
127	T	0	25	C	25	-	33	33
		25	35	C	50		9	9
		35	60	C	50		17	21
		60	120	Rock			0	0
						Total	**58**	**62**
						MB	-59	-49
					Droughtiness grade(DR)		4	3b
127	T	0	25	C	25	-	33	33
		25	35	C	50		9	9
		35	60	C	50		17	21
		60	120	Lstone			18	4
						Total	**76**	**66**
						MB	-41	-45
					Droughtiness grade(DR)		3b	3b
128	T	0	25	hCL	25	-	34	34
		25	35	C	30		12	12
		35	60	C	80		8	10
		60	120	Rock			0	0
						Total	**54**	**56**
						MB	-63	-55
					Droughtiness grade(DR)		4	4
128	T	0	25	hCL	25	-	34	34

		25	35	C	30			12	12
		35	60	C	80			8	10
		60	120	Lstone				18	4
							Total	**72**	**60**
							MB	-45	-51
						Droughtiness grade(DR)		3b	3b
165	T	0	25	C	15	-		37	37
		25	30	C	10			7	7
		30	35	C	50			4	4
		35	60	C	80			8	10
		60	120	Rock				0	0
							Total	**56**	**58**
							MB	-61	-53
						Droughtiness grade(DR)		4	3b
165	T	0	25	C	15	-		37	37
		25	30	C	10			7	7
		30	35	C	50			4	4
		35	60	C	80			8	10
		60	120	Lstone				18	4
							Total	**74**	**62**
							MB	-43	-49
						Droughtiness grade(DR)		3b	3b
167	T	0	25	C	15	-		37	37
		25	35	C	15			14	14
		35	45	C	50			9	9
		45	65	C	80			5	8
		65	120	Rock				0	0
							Total	**64**	**67**
							MB	-53	-44
						Droughtiness grade(DR)		4	3b
167	T	0	25	C	15	-		37	37
		25	35	C	15			14	14
		35	45	C	50			9	9
		45	65	C	80			5	8
		65	120	Lstone				17	2
							Total	**80**	**69**
							MB	-37	-42
						Droughtiness grade(DR)		3b	3b
171	T	0	30	C	20	-		41	41
		30	60	C	50			21	26
		60	120	Rock				0	0
							Total	**63**	**67**
							MB	-54	-44
						Droughtiness grade(DR)		4	3b

171	T	0	30	C	20	-	41	41
		30	60	C	50		21	26
		60	120	Lstone			18	4
						Total	**81**	**71**
						MB	-36	-40
					Droughtiness grade(DR)		3b	3b
173	T	0	25	hCL	35	-	30	30
		25	50	C	50		21	21
		50	120	Rock			0	0
						Total	**51**	**51**
						MB	-66	-60
					Droughtiness grade(DR)		4	4
173	T	0	25	hCL	35	-	30	30
		25	50	C	50		21	21
		50	120	Lstone			21	8
						Total	**72**	**59**
						MB	-45	-52
					Droughtiness grade(DR)		3b	3b
192	T	0	25	hCL	50	-	24	24
		25	50	C	50		21	21
		50	120	Rock			0	0
						Total	**45**	**45**
						MB	-72	-66
					Droughtiness grade(DR)		4	4
192	T	0	25	hCL	50	-	24	24
		25	50	C	50		21	21
		50	120	Lstone			21	8
						Total	**66**	**53**
						MB	-51	-58
					Droughtiness grade(DR)		4	4
210	T	0	30	C	25	-	39	39
		30	40	C	25		12	12
		40	60	C	80		6	8
		60	120	Rock			0	0
						Total	**57**	**59**
						MB	-60	-52
					Droughtiness grade(DR)		4	3b
210	T	0	30	C	25	-	39	39
		30	40	C	25		12	12
		40	60	C	80		6	8
		60	120	Lstone			18	4
						Total	**75**	**63**
						MB	-42	-48
					Droughtiness grade(DR)		3b	3b

130	T	0	28	C	2	-	47	47
		28	40	C	20		16	16
		40	60	C	40		17	22
		60	80	C	50		11	10
		80	120	Rock			0	0
						Total	**91**	**96**
						MB	-26	-15
					Droughtiness grade(DR)		3b	3a
130	T	0	28	C	2	-	47	47
		28	40	C	20		16	16
		40	60	C	40		17	22
		60	80	C	50		11	10
		80	120	Lstone			12	0
						Total	**103**	**96**
						MB	-14	-15
					Droughtiness grade(DR)		3a	3a
162	T	0	28	C	8	-	44	44
		28	60	C	0		43	51
		60	70	SCL	50		5	8
		70	90	SCL	50		11	0
		90	120	Rock			0	0
						Total	**103**	**103**
						MB	-14	-8
					Droughtiness grade(DR)		3a	2
162	T	0	28	C	8	-	44	44
		28	60	C	0		43	51
		60	70	SCL	50		5	8
		70	90	SCL	50		11	0
		90	120	Lstone			9	0
						Total	**112**	**103**
						MB	-5	-8
					Droughtiness grade(DR)		3a	2
177	T	0	25	hCL	15	-	39	39
		25	35	hCL	10		15	15
		35	55	hCL	15		25	28
		55	60	hCL	70		2	3
		60	80	hCL	70		7	6
		80	120	Rock			0	0
						Total	**86**	**89**
						MB	-31	-22
					Droughtiness grade(DR)		3b	3a
177	T	0	25	hCL	15	-	39	39
		25	35	hCL	10		15	15
		35	55	hCL	15		25	28

55	60	hCL	70		2	3
60	80	hCL	70		7	6
80	120	Lstone			12	0
				Total	**98**	**89**
				MB	-19	-22
			Droughtiness grade(DR)		3a	3a

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https://moderngov.southkesteven.gov.uk/documents/s35334/2%20S212443%20Mallard%20Pass%20Solar%20Farm%20-%20Stage%202%20Consultation.pdf

Excerpt from the minutes of the above meeting reflecting Stantec Consultants review of Stage 1 soil sampling:

6.9 **Peer Review of the Agricultural Land and Soils PEIR Chapter and Appendix prepared by LDA Design (July 2022)**

6.9.1 The report provides a detailed technical review of the agricultural land classification survey and reviews the PEIR chapter and impact assessment. The report draws the following conclusions:

- *"The site of the proposed Mallard Pass Solar Farm was subject to a semi-detailed ALC survey in winter 2021. Other than the scale, the survey followed the established guidelines and methodology for classifying agricultural land. The survey work was undertaken by competent surveyors, each with decades of experience.*
- *Although spread out across multiple sections within the technical appendix, the background data is all present and correct. The report includes the profile logs, results of laboratory analysis and pit descriptions which are all required in best practice.*
- *There are a few mistakes in the WC allocations in the profile logs but, given the volume of data, some minor errors are to be expected.*
- *However, many profiles were not assessed to a full depth of 120cm. As demonstrated, depending on what was below the assessed depth, profiles currently assessed as Grade 4 may all be upgraded to Subgrade 3b, and a small number of profiles in Subgrade 3b will upgrade to Subgrade 3a. This will affect grade boundaries. Other limitations have been identified during the process of the peer review that are not stated in the report.*
- *Although pits were dug and samples were submitted for laboratory analysis, there are too few to constitute a fully robust assessment considering the size of the site. Where BMV land was identified, the observation density should ideally have been increased.*
- *Overall, the quality and clarity of the assessment in the Agricultural Land and Soils PEIR Chapter could be much improved. The chapter does not assess the up-to-date proposal for the solar PV arrays as set out in Chapter 5 but a previous iteration of the scheme which does not inspire confidence. The assessment methodology and criteria need consideration if the conclusion is reached that the loss of less than 5ha of BMV agricultural land from soil sealing is a moderate or large adverse effect (which incidentally cannot be mitigated by careful soil handling, as claimed in the chapter) but the consequential effect of removing approximately 900ha of agricultural land from food production for a period of 40 years is not even assessed."*

Excerpt below from minutes of the meeting: the recommendation results in a **holding objection** being placed on the Applicant by SKDC. The peer review by Stantec consultants of the soil testing and subsequent results was one of the reasons for the holding objection.

7. Recommendation

7.1 That the Committee endorse the following draft response to Mallard Pass Solar Farm Ltd and delegate authority to the Assistant Director of Planning, in consultation with the Portfolio Holder, to issue the final response.

7.2 SKDC has declared a climate emergency recognising a commitment to contribute to the global efforts to tackle climate change. Renewable Energy proposals are supported by national and local policy, and solar photovoltaic generation, including Solar Farms are recognised as an established means of renewable electricity generation. However, local and national policy also recognise there are a number of potential adverse effects that need to be balanced against the benefits of such schemes.

7.3 The proposed Mallard Pass Solar Farm would represent a solar development on an unparalleled scale, particularly for this rural context. Whilst the proposed development would make a positive contribution to reducing carbon emissions over its proposed life span, there would undoubtably be adverse effects that need to be balanced against the benefits.

7.4 Before any conclusions can be drawn on the balance of benefits and adverse effects that would arise from the proposed development, it is imperative that the evidence and technical reviews that underpin the various topics in the environmental statement are sufficiently robust to enable an accurate assessment of the significance of such effects. To assist with reviewing the information and supporting evidence presented through this consultation exercise, SKDC and Rutland County Council (RCC) have jointly engaged the professional services of Stantec to provide independent, expert advice on the Preliminary Environmental Information Report (PEIR), including more detailed advice on the Landscape and Visual and Agricultural Land Use chapters.

7.5 The following reviews are appended in full to this report:

- Appendix A - Mallard Pass Solar Farm PEIR Review (July 2022)
- Appendix B - Mallard Pass Solar Farm Peer Review of the Landscape and Visual PEIR Chapter prepared by LDA Design (July 2022)
- Appendix C - Peer Review of the Agricultural Land and Soils PEIR Chapter and Appendix prepared by LDA Design (July 2022)

7.6 SKDC requests that the Environmental Statement submitting with any formal Development Consent Order (DCO) application for this proposal fully takes account of the concerns and recommendations raised in those reports.

7.7 As such, South Kesteven District Council wishes to place on record its formal **holding objection**, until such time as the above issues have been addressed. In the event that the applicant elects to submit further evidence / amended details to overcome the above concerns, South Kesteven District Council would request to be formally consulted on any additional information to allow it to review the extent to which it sufficiently addresses the issues raised.

7.8 South Kesteven District Council wishes to continue to engage proactively with the applicant in addressing these concerns and shaping the proposed development up to the point of the Development Consent Order (DCO) application being made.