



July 2019

Domusea Developments Ltd

**Appraisal of Agricultural Land Quality
at Clays Farm, North End Road, Yapton, BN18 0DT**

Beechwood Court,
Long Toll, Woodcote,
RG8 0RR

1 Introduction

1.1 Reading Agricultural Consultants Ltd (RAC) is instructed by Domusea Developments Ltd to consider the reason for refusal by Arun District Council of an outline application ref Y/62/18/OUT for 33 residential dwellings, access, landscaping and associated works (with some matters reserved).

1.2 The application was refused on 28 June 2019 for the following reason:

"The proposal results in a loss of high grade agricultural land in conflict with policies SO DM1 of the Arun Local Plan, H1 of the Yapton Neighbourhood Development Plan and paragraph 170 of the National Planning Policy Framework."

1.3 This decision followed a meeting of the Development Control Committee on 27 June 2019. The Report to Committee recommended conditional approval of the application subject to a section 106 agreement. In respect of agricultural land, the Report to Committee indicated that:

"As per the plan at Figure 2 of the YNDP, the site is Grade 1 agricultural land. Policy E1 of the YNDP states "Planning permission will be refused for development on grade 1 and grade 2 agricultural land unless: (1) it involves the granting of planning permission for the development of the housing allocations identified in this Plan (Policy SA1 and Policy SA2); or (2) it involves the granting of planning permission for any additional housing sites required by Policy H1 to meet objectively assessed housing needs in the Plan area."

YNDP Policy H1 is out of date with reduced weight. It was amended by the YNP examiner to make explicit that it was an overarching policy to provide flexibility and choice for the provision of additional housing.

Local Plan policy SO DM1 considers soils and states: "Unless designated by this Plan or a Neighbourhood Development Plan, the use of Grades 1, 2 and 3a of the Agricultural Land Classification for any form of development not associated with agriculture, horticulture or forestry will not be permitted unless need for the development outweighs the need to protect such land in the long term."

It is considered that the development would lead to the loss of grade 1 agricultural land and there are no site constraints that could be set against a future agricultural use. The proposal is considered to conflict with the YNDP (policy E2) and with policy SO DM1 of the ALP."

1.4 The Report to Committee concluded:

“The principle of development on this site is contrary to the development plan in respect of the site's location within defined countryside. Members should note that the the Council's current 5.3 year housing land supply (set out in the ALP) is partially reliant on additional housing land being identified through either a review of Neighbourhood Plans or through a Non-Strategic Site Allocations Development Plan Document (DPD). It is vital to consider additional sustainable housing developments in order to contribute to housing land supply and maintain/improve housing delivery rates.

This site was previously considered to be deliverable through the HELAA process and the site is surrounded on three sides by either built or committed residential development and is in close proximity to additional recent approvals for residential development. It is not considered that the development will result in harm to character of the countryside.

There is additional conflict with the development plan in respect of the loss of potentially high value agricultural land. It must be noted that the land is currently used for the grazing of horses and there is no guarantee that if permission was to be refused, that the land would become agricultural land.

It is considered the material considerations set out within this report are such that in accordance with section 38(6) of the Planning and Compulsory Purchase Act 2004, a decision can be taken other than in accordance with the development plan.

It is recommended that the application be approved subject to the following conditions and subject to the signing of a Section 106 which is currently being prepared to cover the items set out below.”

1.5 This appraisal considers the agricultural circumstances at the site in the context of national and local policies for development involving agricultural land. The appraisal does not consider the need for or merits of the proposal.

2 Relevant policies

- 2.1 Paragraph 170 of the National Planning Policy Framework¹ (2019) indicates that planning policies and decisions should contribute to and enhance the natural and local environment by recognising, amongst other matters, the benefits from natural capital and ecosystem services, including the economic and other benefits of the best and most versatile (BMV) agricultural land.
- 2.2 Paragraph 171 goes on to state that plans should allocate land with the least environmental or amenity value, where consistent with other policies in the NPPF. Footnote 53 indicates 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.
- 2.3 Policy SO DM1, Soils, of the adopted Arun Local Plan 2011-2018² states that:

“Unless designated by this Plan or a Neighbourhood Development Plan, the use of Grades 1, 2 and 3a of the Agricultural Land Classification for any form of development not associated with agriculture, horticulture or forestry will not be permitted unless need for the development outweighs the need to protect such land in the long term.

The requirement to protect the best and most versatile land can be outweighed if it is demonstrated through sustainability and options appraisals that:

a. Preservation of land of lower agricultural quality has greater benefits in terms of ecosystem services (for example carbon storage, flood water retention, support of biodiversity);

b. That any site preferred for development is demonstrated to be the best and most sustainable option, including but not limited to the terms of land quality, ecosystem services, infrastructure and proven need; and

c. The proposed development meets the requirements of the countryside policy and/or equine development policy.

Where development is permitted it should, as far as possible, use the lowest grade of land suitable for that development. Development will not be permitted unless:

¹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

² <https://www.arun.gov.uk/download.cfm?doc=docm93jijm4n12844.pdf&ver=12984>.

- d. The applicant has submitted sustainability and options appraisals, mitigation measures, and a soil resources plan for the development site;*
- e. Site appraisal documents submitted by the applicant must demonstrate that consideration has been given to DEFRA's Soil Strategy for England;*
- f. The productivity of the land is demonstrated using a methodology for assessing gross margins as contained in the Arun Soils and Agricultural Land Assessment Report; and*
- g. The applicant has submitted a comprehensive soil resources plan for the development site which demonstrates that care will be taken to preserve the soil resource, such that it can be incorporated into a Productive Green Environment following development.*

Developments shall also be consistent with all other Local Plan policies."

- 2.4 Policy H1 of the Yapton Neighbourhood Plan (YNP)³, cited in the reason for refusal, is concerned with housing requirement and states:

"The minimum housing requirement for Yapton over the period 2014 to 2029 will be established by the emerging Arun Local Plan. An additional buffer of 20% over and above the minimum housing requirement will be permitted to allow for flexibility and consumer choice.

The neighbourhood plan identifies allocations to accommodate growth (policies SA1 and SA2). In addition to these allocations, infill development will be considered acceptable within the built up area, subject to the provisions of policy BB1 and other material planning considerations.

Additional allocations will be made if the emerging Arun Local Plan requires such action or if the identified housing sites do not proceed.

New housing development will be required to ensure that local infrastructure is provided and/or improved in relation to the size and scale of the development proposed. This requirement will apply to all infrastructure, and with particular attention to education provision and flood prevention (fluvial, sea and surface water).

Any development that would result in the additional 20% buffer being exceeded will only be permitted if it can be demonstrated that either the expected child yield would not result in the Yapton CE Primary School exceeding the maximum number of children permitted on its role or that appropriate modifications and/or extensions to the School can be delivered at the developer's expense."

³ <https://www.arun.gov.uk/download.cfm?doc=docm93iim4n4036.pdf&ver=3708>.

2.5 It is not readily apparent how this policy relates to paragraph 170 of the NPPF and Policy SO DM1 of the adopted Arun Local Plan, and it is possible that the reason for refusal intended to refer to Policy E1 of the YNP which is concerned with the protection of high value agricultural land and states:

“Planning permission will be refused for development on grade 1 and grade 2 agricultural land unless:

- it involves the granting of planning permission for the development of the housing allocations identified in this Plan (Policy SA1 and Policy SA2); or*
- it involves the granting of planning permission for any additional housing sites required by Policy H1 to meet objectively assessed housing needs in the Plan area.”*

3 Agricultural land quality and land use

Introduction

- 3.1 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 (1988)⁴, and summarised in Natural England's Technical Information Note 049⁵.
- 3.2 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 and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.
- 3.3 Grade 1 land is excellent quality agricultural land with very minor or no limitations to agricultural use, and Grade 5 is very poor quality land, with severe limitations due to adverse soil, relief, climate or a combination of these. Grade 3 land is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land). Land which is classified as Grades 1, 2 and 3a in the Agricultural Land Classification (ALC) system is defined in Annex 2 of the NPPF as BMV agricultural land.

Site description

- 3.4 The site extends to 1.67ha of which approximately 1.5ha is grass paddock used for grazing horses. The remaining area is occupied by a double barn and a stable building.
- 3.5 The site is bounded to the east by two large residential dwellings, The Steddles and St Mary's Vicarage off North End Road. The land to the immediate north, known as 'Land at Street Buildings, North End Road' has an outline planning permission for 45 dwellings (ref Y/49/17/OUT). The land to the immediate south, 'Land to the north of Yapton Primary School' is allocated in the Yapton Neighbourhood Development Plan for residential development and is the subject of outline application for 38 dwellings (Y/88/18/OUT). The land to the west of the site is arable agricultural land.

⁴ **MAFF (1988).** *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land.* MAFF Publications.

⁵ **Natural England (2012).** *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land,* Second Edition.

- 3.6 Topography across the site is largely level at around 5m above Ordnance Datum (AOD). There is lower-lying land to the south-west of Yapton where water may drain southward within a number of ditches.

Agro-climatic conditions

- 3.7 Agro-climatic data for the site have been interpolated from the Meteorological Office's standard 5km grid point data set at a representative altitude of 5m AOD, and are given in Table 1. Climate at the site is moist and warm with large moisture deficits. The number of field capacity days is slightly higher than average for lowland England.

Table 1: Local agro-climatic conditions

Parameter	Value
Average Annual Rainfall	754mm
Accumulated Temperatures >0°C	1,542 day°
Field Capacity Days	155 days
Average Moisture Deficit, wheat	119mm
Average Moisture Deficit, potatoes	117mm

Soil parent material and soil type

- 3.8 The underlying geology mapped by the British Geological Survey⁶ is of the White Chalk Subgroup, comprising chalk with flints. River Terrace deposits overlie the chalk and may include sand and gravel, locally with lenses of silt, clay or peat.
- 3.9 Detailed soil series mapping⁷ (1:25,000 scale) shows the Hamble series across the site. Hamble series soil profiles are described as stoneless brown silt loam or silty clay loam throughout. With no prominent mottling above 40cm, the soils are commonly assessed as Wetness Class (WC) I⁸.

Existing ALC data

- 3.10 Provisional ALC mapping shows the site as Grade 1 which is defined as:

"Grade 1 - excellent quality agricultural land"

⁶ **British Geological Survey (2019).** *Geology of Britain viewer*, <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

⁷ **Soil Survey of England and Wales (1967),** *Soils of the West Sussex Coastal Plain. Map Sheet SU 90*

⁸ **Jarvis et al (1984),** *Soils and Their Use in South East England, Harpenden, Bulletin 15*

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality."

- 3.11 The provisional maps are not suitable for assessing the quality of individual sites, as explained in Natural England's TIN049:

"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 ..."

- 3.12 TIN049 goes on to say:

"Since 1976, selected areas have been resurveyed in greater detail and to revised 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/>."

- 3.13 The site was described in the Report to Committee as Grade 1 land on the basis of the information contained within the Provisional ALC, which is reproduced as Figure 2 of the YNP. However, the site and other land to the west and east of North End Road, including the land immediately to the north and south of this site subject to applications Y/49/17/OUT and Y/88//18/OUT, was subject to a detailed ALC survey carried out on behalf of MAFF in 1998⁹, and these survey results provide the definitive source of information of ALC at the site.

- 3.14 All of the land surveyed to the west and east of North End Road is classified as Grade 2, as shown in Appendix 1.

- 3.15 Consistent with the mapped soil series, the soils are described as having a dark greyish brown or brown, stoneless to very slightly stony medium silty clay loam topsoil. Upper subsoil horizons are also of stoneless medium silty clay loam but are of yellowish brown. Lower subsoils are of yellowish brown or brown medium or heavy silty clay loam. The lower subsoil is often mottled

⁹ **FRCA (1998)**. *Arun District Local Plan – Objector Sites, Land at Yapton, West Sussex (Including Objector Sites 10293 (viii & ix) and 10127, Agricultural Land Classification.*

and considered to be gleyed. All profiles are freely draining, of WC I, and are limited slightly by droughtiness to Grade 2.

- 3.16 The site therefore comprises approximately 1.5ha of Grade 2 land, and 0.2ha of non-agricultural land (the stables and barn).

Land Use

- 3.17 Information has been obtained from the landowner regarding the current and historic use of the land. The landowner acquired the land at Clays Farm in 1978, since when it has been used continuously for training and grazing horses.
- 3.18 Prior to 1978 the site was occupied by a garden centre. It is understood that no produce was grown on site during this time.
- 3.19 There has therefore been no agricultural production at the site for over forty years.
- 3.20 The site is currently divided into a number of paddocks, which are separated by post and rail fencing.

4 Appraisal of the reason for refusal

- 4.1 The reason for refusal indicates that the proposal will result in the loss of high grade agricultural land, with the Report to Committee stating that the site is classified as excellent quality Grade 1 land.
- 4.2 The site was surveyed in detail on behalf of MAFF in 1998. As the ALC is concerned with the long-term inherent physical characteristics of the soil and land, rather than with the land's current management or nutrient status, the ALC established in 1998 is definitive and will not have altered in the interim.
- 4.3 It is apparent therefore that, whilst the site is BMV land, it is Grade 2 rather than Grade 1 land and that the Committee did not have the definitive ALC information available in making its decision.
- 4.4 In terms of paragraphs 170 and 171 of the NPPF, it is necessary to:
- recognise the economic and other benefits of BMV agricultural land; and
 - where significant development of agricultural land is demonstrated to be necessary, to prefer areas of poorer quality land to those of a higher quality.
- 4.5 As described above, there has been no agricultural production associated with this site for over 40 years. The inherent quality of the land does not provide any economic or other benefit that needs to be recognised by planning decisions.
- 4.6 The development of approximately 1.5ha of agricultural land is not a significant development of agricultural land, particularly in circumstances where that land has not been in agricultural use for over 40 years. Even so, within the context of development around Yapton, it is apparent that this site is of the same quality as other agricultural land for which permission has been approved, that there are no grounds on which to differentiate this site from other agricultural land in terms of its agricultural land quality, and that there are no opportunities to direct development to land of poorer quality.
- 4.7 The YNP recognises the high quality of agricultural land around the village, and that the protection of such land from development would create significant difficulty in addressing the need to provide additional housing (paragraph 7.6 and 7.7).
- 4.8 Both sites to the immediate north and south of Clays Farm are also classified as Grade 2 on the basis of the same definitive survey. Permission was granted for the development of Land at

Street Buildings, North End Road (Y/49/17/OUT) on 18 February 2018, with the Officer's Report concluding that:

"It is considered that the proposal is clearly environmentally and socially sustainable. There would be a cost to the local economy from the loss of high quality agricultural land but this is weighed against the previous and current uses of the land (grazing by horses or sheep) and the economic benefits of the scheme which are considered to override the costs. Therefore, it is considered, on balance that the proposal would be environmentally, socially and economically sustainable and would therefore benefit from the NPPF presumption in favour of sustainable development."

- 4.9 The land north of Yapton CE Primary School is one of two sites proposed for allocation in the YNP, and subject to application Y/88/18/OUT. Paragraph 6.14 of the YNP states that:

"The site is currently classed as agricultural land and is grade 1 classification (based on DEFRA's agricultural land classification mapping). However, it is not presently in use for the growing of crops. The agricultural value of this land is an important consideration but given that all of the land surrounding the village is either classed as grade 1 or grade 2 agricultural land and there are no brownfield sites with potential in the existing built-up area, the need to allocate sustainable sites which address most or all of the other objectives in the Neighbourhood Plan overrides this. This should therefore not be considered to represent a precedent informing speculative applications, where Policy E1 will be applied."

- 4.10 The other site proposed in the YNP for allocation at Cinders Lane is a former horticultural nursery classified as Grade 2. Again, the YNP places weight on the fact that the land has not been farmed for some time, and the need to identify sites for residential development is considered to override the need to protect the land.
- 4.11 Detailed ALC data is available for other land to the south and east of Yapton and shows land to be of Grades 1, 2 and Subgrade 3a (detailed and provisional data are indicated in Appendix 2). The majority of the detailed surveys classify the land as Grade 2, with one area to the north of Burndell Road classified as Grade 1 and since developed for housing at Navigation Drive, The Towpath, Barge Close and Beam Close, and three small separate areas of Subgrade 3a within larger areas of Grade 2 land to the south and south-east of Yapton.
- 4.12 Profiles classified as Grade 1 include silt loam topsoil and sometimes also upper subsoils, over medium silty clay loams. Other profiles of Grade 2 include medium silty clay loam or silt loam topsoils, overlying silty clay loams, on occasion becoming heavier and less well drained with depth. Profiles are of WC I or II and are limited by droughtiness and/or wetness respectively. The

Subgrade 3a land includes heavy silty clay loam upper subsoils, and slowly permeable clay lower subsoils. The profiles are of WC III and limited by wetness to Subgrade 3a.

- 4.13 Collectively, the data show that soils across agricultural land surrounding Yapton have very similar characteristics, and that all developments around the settlement will involve the loss of BMV agricultural land.
- 4.14 The proposal does not conflict with paragraphs 170 and 171 of the NPPF as there are no economic or other benefits associated with the presence of BMV land at Clays Farm, and there are no opportunities to use poorer quality agricultural land for development around Yapton.
- 4.15 Policy SO DM1 of the adopted Arun Local Plan indicates that the use of BMV land for any form of development not associated with agriculture, horticulture or forestry will not be permitted unless the need for the development outweighs the need to protect such land in the long term. Similarly, Policy E1 of the YNP (assumed to be the policy intended to be referenced in the reason for refusal) indicates that development on Grades 1 and 2 agricultural land will be refused unless it meets objectively assessed housing needs in the Plan area.
- 4.16 This is a balance that lies outside the scope of this appraisal, other than to note that it was a balance undertaken in the Report to Committee with the conclusion reached that the material considerations set out in that report enabled a decision to be taken other than in accordance with the development plan. Similar balances were also undertaken in very similar circumstances on sites to the immediate north and south of Clays Farm, both of which involved Grade 2 land that were not in agricultural production and provided little or no economic benefit associated with the presence of BMV land.

5 Summary and Conclusion

- 5.1 The land at Clays Farm, Yapton, extends to 1.7ha, of which 1.5ha is permanent pasture grazed by horses, and 0.2ha includes the curtilage of a barn and stables.
- 5.2 The site has been grazed with horses since its acquisition in 1978, prior to which it was occupied by a garden centre. The site has not therefore been in agricultural production for over 40 years.
- 5.3 A detailed ALC survey has been undertaken on behalf of the former MAFF of land to the west and east of North End Road, including Clays Farm. The survey has classified all this land as Grade 2, which is very good quality agricultural land.
- 5.4 The reason for refusal indicates that the proposal will result in the loss of high grade agricultural land, with the Report to Committee stating that the site is classified as excellent quality Grade 1 land. It is apparent therefore that, whilst the site is BMV land, the Committee did not have the definitive ALC information available in making its decision.
- 5.5 In terms of paragraphs 170 and 171 of the NPPF, it is apparent that:
- there has been no agricultural production associated with this site for over 40 years, and that the inherent quality of the land does not provide any economic or other benefit that needs to be recognised by planning decisions;
 - the development of 1.5ha of land that has not been in agricultural use for over 40 years is not a significant development of agricultural land;
 - there are no opportunities to use areas of poorer quality land to those of a higher quality around Yapton.
- 5.6 Both Policy SO DM1 of the adopted Arun Local Plan and Policy E1 of the YNP (assumed to be the policy intended to be referenced in the reason for refusal), there is a requirement to demonstrate that the need for the development outweighs the need to protect BMV agricultural land. This is a balance that lies outside the scope of this appraisal, other than to note that it was undertaken in the Report to Committee on application Y/62/18/OUT, as well as on the neighbouring sites to the north and south of Clays Farm, both of which also involved Grade 2 land that was not in agricultural production and provided little or no economic benefit associated with the presence of BMV land. In all cases, the balancing exercises concluding that the need for development outweighed the need to protect BMV agricultural land.

Appendix 1: MAFF ALC Report

A1

**ARUN DISTRICT LOCAL PLAN-OBJECTOR SITES
Land At Yapton, West Sussex
(Including Objector Sites 10293 (viii & ix) and 10127)**

**Agricultural Land Classification
ALC Map and Report**

July 1998

**Resource Planning Team
Eastern Region
FRCA Reading**

**RPT Job Number: 4202/055/98
MAFF Reference: EL42/0460**

AGRICULTURAL LAND CLASSIFICATION REPORT
ARUN DISTRICT LOCAL PLAN - OBJECTOR SITES
LAND AT YAPTON, WEST SUSSEX,
INCLUDING OBJECTOR SITES 10293 (viii and ix) AND 10127.

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 16.1 ha of land to the north of Yapton, between Littlehampton and Bognor Regis in West Sussex. The survey was carried out during July 1998.
2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)¹ on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with its statutory input to the Arun District Local Plan. The survey covers three objector sites, numbers 10293 (viii and ix) and 10127. In order to provide a context for appraising the current objector sites further, adjacent land was also surveyed. This survey supersedes any previous ALC information for this land.
3. The work was conducted by members of the Resource Planning Team in the Eastern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.
4. At the time of survey the agricultural land was in permanent grass to the west of North End Road and predominantly wheat to the east of North End Road with a small area of grass. In addition, an area of newly planted trees to the east of the nursery has also been graded. The areas mapped as 'Other land' include scrub, dwellings and glasshouses with hardstandings.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10,000. It is accurate at this scale but any enlargement would be misleading.
6. The area and proportions of the ALC grades and subgrades on the objector sites and all of the surveyed land are summarised in Tables 1 to 4 inclusive.
7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. In total, 16 borings and one soil pit were described.
8. The agricultural land within the survey area has been classified as Grade 2 (very good quality). The principal limitation to land quality is soil droughtiness.

¹ FRCA is an executive agency of MAFF and the Welsh Office

Table 1: Area of grades - Objector Site 10293 (viii)

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	0.5	100	25.0
Other land	1.5	-	75.0
Total surveyed area	0.5	100	25.0
Total site area	2.0	-	100

Table 2: Area of grades and other land - Objector Site 10293 (ix)

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	1.5	100	93.8
Other land	0.1	-	6.2
Total surveyed area	1.5	100	93.8
Total site area	1.6	-	100

Table 3: Area of grades - Objector Site 10127

Grade/Other land	Area (hectares)	% site area
2	1.2	100
Total site area	1.2	100

Table 4: Area of grades and other land - Land at Yapton

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	14.1	100	87.6
Other land	2.0	-	12.4
Total surveyed area	14.1	100	87.6
Total site area	16.1	-	100

9. Across the surveyed area the soils comprise virtually stone free medium silt topsoils overlying similar subsoils. In the prevailing local climate these soils give rise to land that is slightly restricted in terms of the amount of moisture available for crop growth. This area therefore has a minor soil droughtiness limitation which can adversely affect crop yields, especially in drier years. However the land is still very versatile and a wide range of crops can be successfully grown.

FACTORS INFLUENCING ALC GRADE

Climate

10. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

11. The key climatic variables used for grading this site are given in Table 5 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 5: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SU 979 038	SU 981 038
Altitude	m, AOD	5	5
Accumulated Temperature	day°C (Jan-June)	1542	1542
Average Annual Rainfall	mm	754	754
Field Capacity Days	days	155	155
Moisture Deficit, Wheat	mm	119	120
Moisture Deficit, Potatoes	mm	117	117
Overall climatic grade	N/A	Grade 1	Grade 1

12. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

13. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

14. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. The site is not believed to be either frost-prone or to suffer from exposure. As such, the site may be considered as being climatically Grade 1. However, climatic factors do interact with soil properties to influence soil wetness and soil droughtiness, the latter being dominant here due to the prevalent high moisture deficits.

Site

15. The survey area lies at approximately 5m AOD. The land is flat overall and therefore there are no gradients present which are significant in terms of the overall land classification. Other restrictions such as adverse microrelief do not affect the survey area.

Geology and soils

16. The most detailed published geological information for this area (BGS, 1972) shows the survey area to be underlain by brickearth drift deposits.

17. The most detailed published soils information covering the area (SSGB, 1967) shows the site to comprise soils from a the Hamble series in its deep phase. These soils are described as a well drained deep brown earth developed in silty drift. Soils of this nature were found throughout the site.

AGRICULTURAL LAND CLASSIFICATION

18. The details of the classification of the survey area are shown on the attached ALC map and the area statistics of each grade are given in Table 3.

19. The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II.

Grade 2

20. Land of very good quality has been mapped over all the land surveyed in this area. The principal limitation to land quality is soil droughtiness. The soils are characterised by the pit observation, 1P (see Appendix II).

21. The single soil type encountered at this site comprises a medium silty clay loam topsoil which according to laboratory analysis of particle size was bordering a silt loam texture. This passes to a similar upper subsoil which overlies a medium or heavy silty clay loam lower subsoil to 120cm. The soils are virtually stone free with a maximum of 3% flints by volume recorded in the topsoil. Some of the profiles showed a slight indication of wetness in the lower subsoil due to fluctuating groundwater. This was evidenced by some ochreous mottling and manganiferous concretions from approximately 60cm in some locations. These were not significant in the classification as the profiles were all porous and permeable and as such assigned to Wetness Class I. However, the combination of these soil factors in the prevailing local climate, which is characterised by high moisture deficits, results in a slight soil droughtiness limitation. This means that there may be insufficient moisture available in the soil profile for crops to realise their full potential, especially in drier years. This can have an adverse effect on the level and consistency of yields and leads to a Grade 2 classification being appropriate.

Matthew Larkin
Resource Planning Team
Eastern Region
FRCA Reading

SOURCES OF REFERENCE

British Geological Survey (1972) *Sheet No. 317. Chichester, 1:63,360, Drift Edition.*
BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land.*

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SSEW: Harpenden

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this 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 land.

Grade 3: Good to Moderate Quality Land

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

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 a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. 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 in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

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

APPENDIX II

SOIL DATA

Contents:

Sample location map

Soil abbreviations - explanatory note

Soil pit descriptions

Soil boring descriptions (boring and horizon levels)

SOIL PROFILE DESCRIPTIONS: EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a computer database. This uses notations and abbreviations as set out below.

Boring Header Information

1. GRID REF: national 100 km grid square and 8 figure grid reference.
2. USE: Land use at the time of survey. The following abbreviations are used:

ARA:	Arable	WHT:	Wheat	BAR:	Barley
CER:	Cereals	OAT:	Oats	MZE:	Maize
OSR:	Oilseed rape	BEN:	Field beans	BRA:	Brassicac
POT:	Potatoes	SBT:	Sugar beet	FCD:	Fodder crops
LIN:	Linseed	FRT:	Soft and top fruit	FLW:	Fallow
PGR:	Permanent pasture	LEY:	Ley grass	RGR:	Rough grazing
SCR:	Scrub	CFW:	Coniferous woodland	OTH:	Other
DCW:	Deciduous woodland	BOG:	Bog or marsh	SAS:	Set-Aside
HTH:	Heathland	HRT:	Horticultural crops	PLO:	Ploughed

3. GRDNT: Gradient as estimated or measured by a hand-held optical clinometer.
4. GLEY/SPL: Depth in centimetres (cm) to gleying and/or slowly permeable layers.
5. AP (WHEAT/POTS): Crop-adjusted available water capacity.
6. MB (WHEAT/POTS): Moisture Balance. (Crop adjusted AP - crop adjusted MD)
7. DRT: Best grade according to soil droughtiness.
8. If any of the following factors are considered significant, 'Y' will be entered in the relevant column:

MREL:	Microrelief limitation	FLOOD:	Flood risk	EROSN:	Soil erosion risk
EXP:	Exposure limitation	FROST:	Frost prone	DIST:	Disturbed land
CHEM:	Chemical limitation				

9. LIMIT: The main limitation to land quality. The following abbreviations are used:

OC:	Overall Climate	AE:	Aspect	ST:	Topsoil Stoniness
FR:	Frost Risk	GR:	Gradient	MR:	Microrelief
FL:	Flood Risk	TX:	Topsoil Texture	DP:	Soil Depth
CH:	Chemical	WE:	Wetness	WK:	Workability
DR:	Drought	ER:	Erosion Risk	WD:	Soil Wetness/Droughtiness
EX:	Exposure				

Soil Pits and Auger Borings

1. TEXTURE: soil texture classes are denoted by the following abbreviations:

S:	Sand	LS:	Loamy Sand	SL:	Sandy Loam
SZL:	Sandy Silt Loam	CL:	Clay Loam	ZCL:	Silty Clay Loam
ZL:	Silt Loam	SCL:	Sandy Clay Loam	C:	Clay
SC:	Sandy Clay	ZC:	Silty Clay	OL:	Organic Loam
P:	Peat	SP:	Sandy Peat	LP:	Loamy Peat
PL:	Peaty Loam	PS:	Peaty Sand	MZ:	Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of the following prefixes:

F:	Fine (more than 66% of the sand less than 0.2mm)
M:	Medium (less than 66% fine sand and less than 33% coarse sand)
C:	Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content:

M: Medium (<27% clay) H: Heavy (27-35% clay)

2. MOTTLE COL: Mottle colour using Munsell notation.

3. **MOTTLE ABUN:** Mottle abundance, expressed as a percentage of the matrix or surface described:
F: few <2% C: common 2-20% M: many 20-40% VM: very many 40% +
4. **MOTTLE CONT:** Mottle contrast:
F: faint - indistinct mottles, evident only on close inspection
D: distinct - mottles are readily seen
P: prominent - mottling is conspicuous and one of the outstanding features of the horizon
5. **PED. COL:** Ped face colour using Munsell notation.
6. **GLEYS:** If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.
7. **STONE LITH:** Stone Lithology - one of the following is used:

HR:	all hard rocks and stones	FSST:	soft, fine grained sandstone
ZR:	soft, argillaceous, or silty rocks	CH:	chalk
MSST:	soft, medium grained sandstone	GS:	gravel with porous (soft) stones
SI:	soft weathered igneous/metamorphic rock	GH:	gravel with non-porous (hard) stones

Stone contents (>2cm, >6cm and total) are given in percentages (by volume).
8. **STRUCT:** the degree of development, size and shape of soil peds are described using the following notation:

Degree of development	WK:	weakly developed	MD:	moderately developed
	ST:	strongly developed		
Ped size	F:	fine	M:	medium
	C:	coarse		
Ped shape	S:	single grain	M:	massive
	GR:	granular	AB:	angular blocky
	SAB:	sub-angular blocky	PR:	prismatic
	PL:	platy		
9. **CONSIST:** Soil consistence is described using the following notation:

L: loose	FM: firm	EH: extremely hard
VF: very friable	VM: very firm	
FR: friable	EM: extremely firm	
10. **SUBS STR:** Subsoil structural condition recorded for the purpose of calculating profile droughtiness: G: good M: moderate P: poor
11. **POR:** Soil porosity. If a soil horizon has less than 0.5% biopores >0.5 mm, a 'Y' will appear in this column.
12. **IMP:** If the profile is impenetrable to rooting a 'Y' will appear in this column at the appropriate horizon.
13. **SPL:** Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.
14. **CALC:** If the soil horizon is calcareous, a 'Y' will appear in this column.
15. **Other notations:**

APW:	available water capacity (in mm) adjusted for wheat
APP:	available water capacity (in mm) adjusted for potatoes
MBW:	moisture balance, wheat
MBP:	moisture balance, potatoes

SAMPLE	ASPECT			--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS		
NO.	GRID REF	USE	GRDNT	GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST		LIMIT	
1	SU97800400	PGR				1	1	160	41	124	7	2				DR	2	SL GLEY 60+
2	SU97900400	PGR		65		1	1	160	41	124	7	2				DR	2	
3	SU97820408	PGR				1	1	159	40	123	6	2				DR	2	SL GLEY 75-90
4	SU97800374	PGR				1	1	161	42	125	8	2				DR	2	
5	SU98000390	WHT		60		1	1	159	40	123	6	2				DR	2	
6	SU98100390	WHT		70		1	1	160	41	124	7	2				DR	2	
7	SU98200390	WHT		90		1	1	160	41	124	7	2				DR	2	
8	SU97600380	WHT		55		1	1	151	32	123	6	2				DR	2	
9	SU97700380	PGR				1	1	161	42	125	8	2				DR	2	
10	SU97800380	PGR				1	1	161	42	125	8	2				DR	2	SLGL65+ PITLOC
11	SU97910384	WHT		80		1	1	161	42	125	8	2				DR	2	
12	SU98000380	WHT				1	1	160	41	124	7	2				DR	2	
13	SU98100380	WHT				1	1	161	42	125	8	2				DR	2	SL GLEY 75+
14	SU98030369	OTH				1	1	161	42	124	7	2				DR	2	SL GLEY 65+
15	SU98140373	WHT		90		1	1	160	41	124	7	2				DR	2	SL GLEY 75-90
16	SU98170363	WHT				1	1	158	39	122	5	2				DR	2	
1P	SU97800380	PGR				1	1	159	40	123	6	2				DR	2	PIT 95 AUG 120

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES-----			STRUCT/	SUBS				
				COL	ABUN	CONT	COL.	GLEI	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP
1	0-27	MZCL	10YR43	10YR56	66	F	D			0	0	0				ROOT MOTS/BDR ZL
	27-60	MZCL	10YR44							0	0	0		M		
	60-120	HZCL	10YR54	10YR56		C	F	FEW MN	S	0	0	0		M		SLIGHTLY GLEYED
2	0-25	MZCL	10YR43	10YR56		F	F			0	0	0				ROOT MOTTLES
	25-65	MZCL	10YR44							0	0	0		M		
	65-120	HZCL	10YR53 54	10YR56		C	F	FEW MN	Y	0	0	0		M		
3	0-30	MZCL	10YR42	10YR56		F	D			0	0	HR	2			ROOT MOTTLES
	30-50	MZCL	10YR43							0	0	HR	2	M		
	50-75	MZCL	10YR43	10YR56		F	F			0	0	0		M		
	75-90	MZCL	10YR44	10YR56		C	F		S	0	0	0		M		SLIGHTLY GLEYED
	90-120	HZCL	10YR54 63	10YR56		C	D		Y	0	0	0		M		
4	0-30	MZCL	10YR42 43							0	0	0				BORDER MZCL-ZL
	30-55	MZCL	10YR43							0	0	0		M		
	55-120	MZCL	10YR44 54	10YR56		F	F	FEW MN		0	0	0		M		MOTS COM 100+
5	0-30	MZCL	10YR42							0	0	HR	3			
	30-60	MZCL	10YR53 54	10YR56		F	F	FEW MN		0	0	0		M		
	60-120	HZCL	10YR53 54	10YR56		C	F	FEW MN	Y	0	0	0		M		BORDER ZC 100+
6	0-28	MZCL	10YR42 43							0	0	HR	2			PSD=MZCL-ZL BRDR
	28-70	MZCL	10YR44 54							0	0	0		M		BORDER MZCL-ZL
	70-120	MZCL	10YR54 53	10YR56		C	F	FEW MN	Y	0	0	0		M		
7	0-28	MZCL	10YR43							0	0	HR	2			BORDER MZCL-ZL
	28-55	MZCL	10YR44					FEW MN		0	0	0		M		
	55-75	MZCL	10YR44 54	10YR56		F	D	FEW MN		0	0	0		M		
	75-90	HZCL	10YR44 54	10YR56		F	F	FEW MN		0	0	0		M		
	90-120	HZCL	10YR53 54	10YR56		C	D	COM MN	Y	0	0	0		M		
8	0-28	MZCL	10YR43							0	0	HR	2			BORDER MZCL-ZL
	28-55	MZCL	10YR54	10YR56		F	F	FEW MN		0	0	0		M		
	55-95	HZCL	10YR53 54	10YR56		C	D		Y	0	0	HR	2	M		
	95-120	ZC	10YR53	10YR56		M	D	FEW MN	Y	0	0	0		M		
9	0-32	MZCL	10YR43	10YR56		F	D			0	0	0				ROOT MOTS/BDR ZL
	32-60	MZCL	10YR44 54							0	0	0		M		
	60-120	MZCL	10YR54							0	0	0		M		FFOM 100+
10	0-33	MZCL	10YR43	10YR56		F	F			0	0	0				PIT LOC/ROOTMOTS
	33-65	MZCL	10YR44							0	0	0		M		
	65-120	HZCL	10YR44 54	10YR58		C	F	FEW MN		0	0	HR	2	M		SLIGHTLY GLEYED
11	0-28	MZCL	10YR42 43							0	0	0				BORDER MZCL-ZL
	28-40	MZCL	10YR43							0	0	0		M		BORDER MZCL-ZL
	40-80	MZCL	10YR53 54	10YR56		F	F			0	0	0		M		
	80-120	HZCL	10YR53 54	10YR56		C	F	FEW MN	Y	0	0	0		M		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED COL.	----STONES-----			STRUCT/ CONSIST	SUBS			
				COL	ABUN	CONT		GLEY >2	>6	LITH TOT		STR	POR	IMP	SPL CALC
12	0-30	MZCL	10YR43							0 0 HR	1				BORDER MZCL-ZL
	30-95	MZCL	10YR44 54				FEW MN			0 0	0		M		
	95-120	MZCL	10YR53 54 10YR56		F	F	FEW MN			0 0	0		M		
13	0-34	MZCL	10YR43							0 0 HR	2				BORDER MZCL-ZL
	34-75	MZCL	10YR44							0 0	0		M		
	75-120	HZCL	10YR44 54 10YR56		C	F	FEW MN	S		0 0	0		M		SLIGHTLY GLEYED
14	0-32	MZCL	10YR43 44							0 0 HR	2				
	32-65	MZCL	10YR44 54							0 0	0		M		
	65-120	HZCL	10YR44 54 10YR56		C	F	FEW MN	S		0 0 HR	1		M		SLIGHTLY GLEYED
15	0-30	MZCL	10YR42							0 0 HR	2				BORDER MZCL-ZL
	30-50	MZCL	10YR43 44							0 0	0		M		
	50-75	MZCL	10YR44							0 0	0		M		
	75-90	MZCL	10YR44 46 10YR56		C	F		S		0 0	0		M		SLIGHTLY GLEYED
	90-120	HZCL	10YR54 53 10YR56		C	F	FEW MN	Y		0 0	0		M		
16	0-22	MZCL	10YR42 43							0 0 HR	2				
	22-60	MZCL	10YR54							0 0 HR	1		M		
	60-120	HZCL	10YR54 53 10YR56		F	F	FEW MN			0 0	0		M		
1P	0-27	MZCL	10YR42 43 10YR56		F	F				0 0 HR	1				PSD=MZCL-ZL BRDR
	27-78	MZCL	10YR54				10YR54			0 0 HR	1	MDCSAB	FR	M	N PSD=MZCL-ZL BRDR
	78-120	HZCL	10YR54 44 10YR56		C	D	10YR54	S		0 0	0	MDCAB	FR	M	N SL GLEY/PSD=HZCL

Agricultural Land Classification

Arun District Local Plan

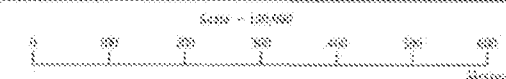
Objector Sites 10127, 10293 (viii & ix)

Land at Yapton

Legend

	Quality	Area (ha)
Grade 1	Excellent	NB
Grade 2	Very Good	14.1
Grade 3a	Good	NB
Grade 3b	Moderate	NB
Grade 4	Poor	NB
Grade 5	Very Poor	NB
	Agricultural land not surveyed	NB
	Other land	2.0
	Site Boundary	
	Total survey area	14.1
	Total site area	16.1

* Not present within survey area

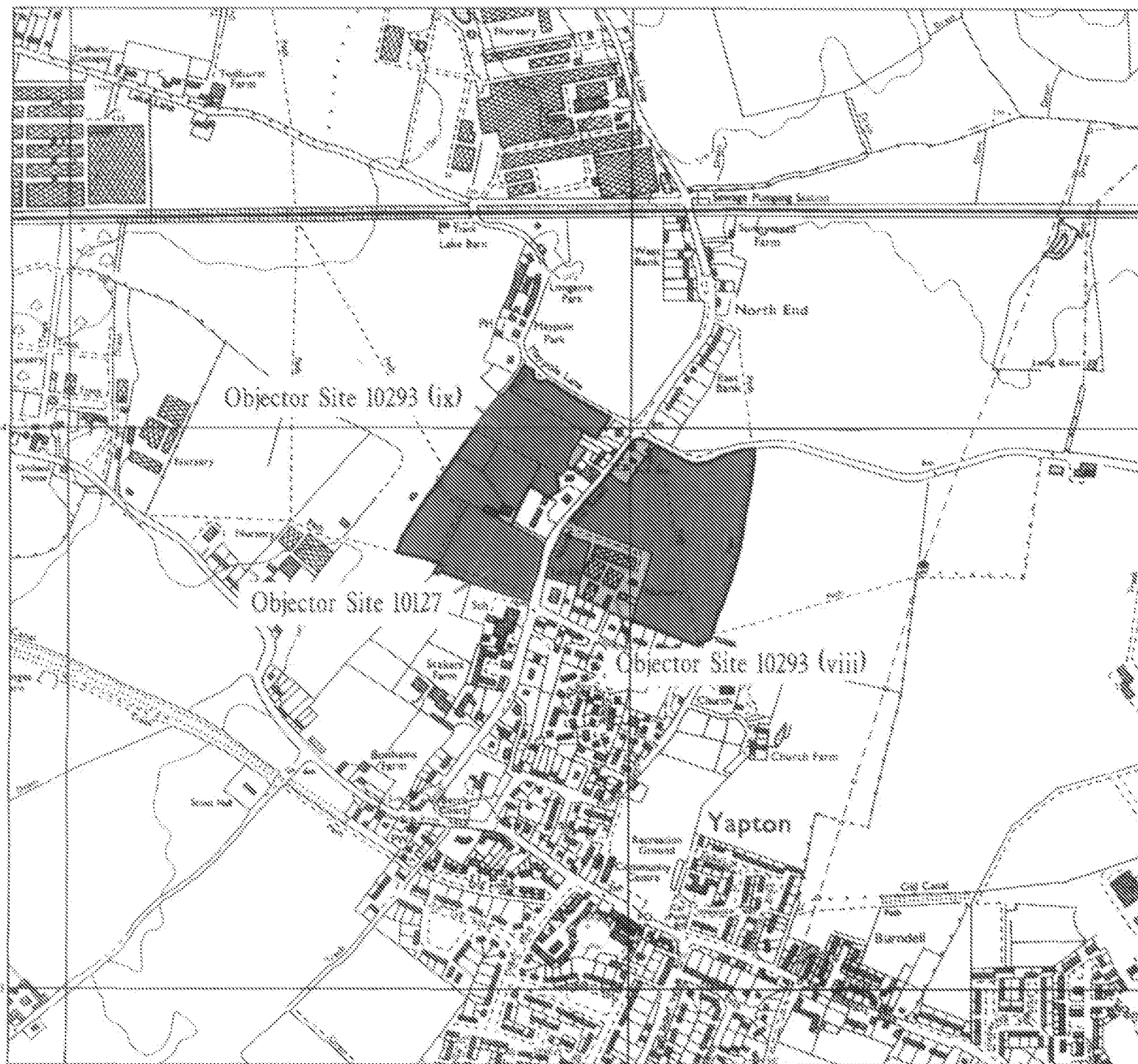


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Agricultural Land Classification

Arun District Local Plan

Objector Sites 10127, 10293 (viii & ix)

Land at Yapton

Sample Point Map

Legend

■ Location of soil pit

• Location of auger
sample point



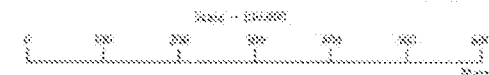
Boundary of
survey area



Agricultural land not
surveyed



Other land



Further details contained in MAFF 0980 Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. MAFF Publications, London SE99 777. The information is accurate at base map scale but any enlargement would be misleading. Reproduction in whole or in part by any means is prohibited without the prior permission of MAFF.

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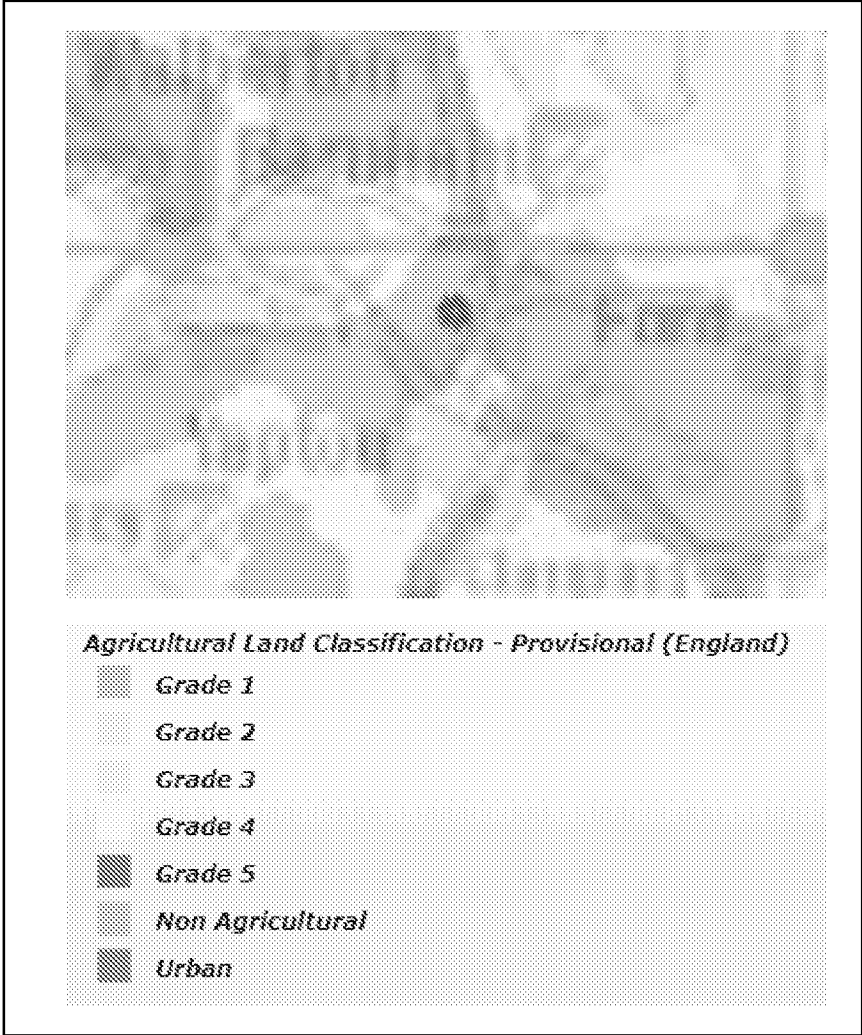
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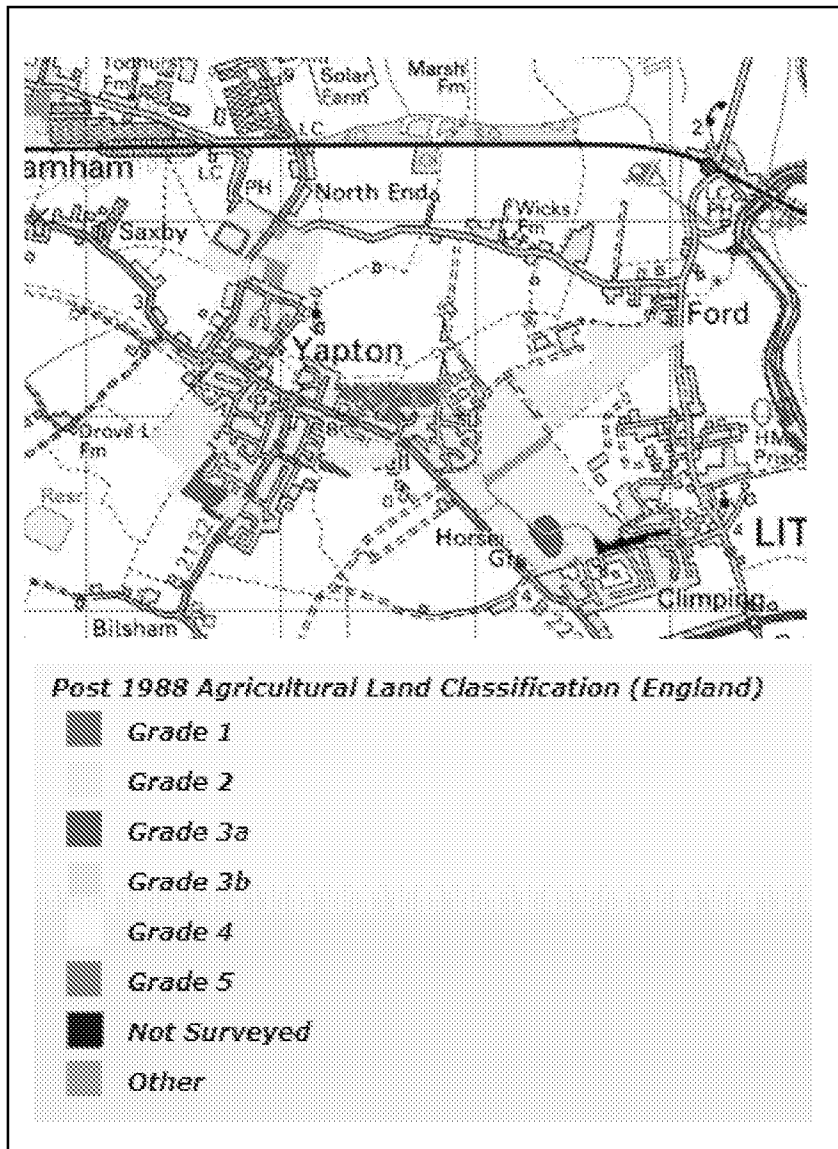
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Appendix 2: Provisional and Detailed ALC Data



Excerpt of Provisional ALC mapping in the locality of Yapton. Dark blue outline indicates the location of Clays Farm. (<https://magic.defra.gov.uk/MagicMap.aspx>)



Excerpt of Detailed ALC mapping at Yapton. Dark blue outline indicates the location of Clays Farm.
<https://magic.defra.gov.uk/MagicMap.aspx>