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**New Forest District Local Plan  
Objector Sites 14  
Land East of Brockhills Lane, Ashley  
Hampshire**

**Agricultural Land Classification  
ALC map and report  
February 1997**



**Ministry of  
Agriculture  
Fisheries  
and Food**

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**Resource Planning Team  
Guildford Statutory Group  
ADAS Reading**

**ADAS Reference 1508/020/97  
MAFF Reference EL 15/00315  
LUPU Commission 02768**

# AGRICULTURAL LAND CLASSIFICATION REPORT

## NEW FOREST DISTRICT LOCAL PLAN, OBJECTOR SITES 14 LAND EAST OF BROCKHILLS LANE, ASHLEY, HAMPSHIRE

### INTRODUCTION

1 This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 10.7 hectares of land on the northern fringe of Ashley in Hampshire. The survey was carried out during February 1997.

2 The survey was commissioned by the Ministry of Agriculture, Fisheries and Food's (MAFF) Land Use Planning Unit in Reading in connection with its statutory input to the New Forest District Local Plan. The site is one of a number of objector sites. This survey supersedes previous ALC information for this land.

3 The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group in ADAS. 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 land use on the site was mostly permanent grassland with one field that had previously been in arable use. The areas of Other include houses, out-buildings and grades, and a small area of woodland.

### 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 surveyed land are summarised in Table 1.

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3a	6.9	70.4	64.5
3b	2.9	29.6	27.1
Other land	0.9	N/A	8.4
Total surveyed area	9.8	100	91.6
Total site area	10.7		100

7 The fieldwork was conducted at an average density of 1 boring per hectare. A total of 10 borings and 1 soil pit was described.

8 Soil wetness is the main limiting factor across the site. The majority of the land has been placed in Subgrade 3a (good quality land) as a result of the presence of subsoils that are poorly structured which inhibit drainage throughout the profiles and cause a wetness limitation. In the areas of Subgrade 3b (moderate quality land) which occur in the two valley locations the wetness limitation is more severe. This type of limitation will affect the flexibility of the land by limiting the number of days when the land is in a suitable condition for grazing by livestock, for trafficking with machinery or for cultivations as well as restricting the types of crops that are suited to these wet conditions.

## FACTORS INFLUENCING ALC GRADE

### Climate

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

10 The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met Office 1989).

Table 2 Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SZ 252 968
Altitude	m, AOD	45
Accumulated Temperature	day°C (Jan June)	1516
Average Annual Rainfall	mm	844
Field Capacity Days	days	175
Moisture Deficit Wheat	mm	106
Moisture Deficit Potatoes	mm	100
Overall climatic grade	N/A	1

11 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.

12 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.

13 The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. There are also no significant local factors such as exposure or frost risk affecting the area. The site is climatically Grade 1.

## Site

14 The site is either flat or gently sloping. There is a small stream that cuts through the extreme south west of the site and a stream that forms the easternmost boundary. There are gentle slopes associated with each feature.

## Geology and soils

15 The most detailed published geological information for the site (BGS 1975) shows the higher flatter land to be developed on Plateau Gravels, with the valleys being developed on Osbourne and Headon Beds.

16 The most detailed published soils information for the site (SSEW 1983 and 1984) shows the area to comprise soils of the Shabbington association. These are described as deep fine loamy and fine loamy over sandy soils, variably affected by groundwater. During fieldwork, deep clay loams over clays were described on the flatter land, with the clays occurring at shallower depths in the valley areas.

## AGRICULTURAL LAND CLASSIFICATION

17 The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

18 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.

### Subgrade 3a

19 The higher land on the site has been placed in this subgrade and is described as good quality agricultural land. Soil wetness is the main limiting factor, as represented by Pit 1. Medium silty clay loam topsoils change into upper subsoils of similar or heavier (HCL) texture with quite high stone contents (48-58%) overlying clay subsoils which are slowly permeable (massive in structure). These soils fall into Wetness Class III and can be classified as no better than Subgrade 3a. Some of the borings in this mapping unit could not be augered to depth; the stony subsoils prevented this - for these borings, there is the assumption that slowly permeable clays lie beneath or the profiles may be stonier than the pit (possibly creating a Subgrade 3a droughtiness limitation).

### Subgrade 3b

20 The valley features are poorer in quality than the rest of the site and are described as moderate quality agricultural land. Here, slowly permeable clays occur beneath the topsoil, forcing the land into Wetness Class IV and Subgrade 3b. This degree of wetness significantly restricts the number of days when the land will be in a suitable condition for trafficking, grazing or cultivations, and the range of crops that would tolerate such conditions would also be limited.

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## SOURCES OF REFERENCE

British Geological Survey (1975) *Sheet No 330 Lymington*  
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* MAFF London

Met Office (1989) *Chmatological Data for Agricultural Land Classification*  
Met Office Bracknell

Soil Survey of England and Wales (1983) *Sheet 6 South East England*  
SSEW Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in South East England*  
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**

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**Contents**

**Sample location map**

**Soil abbreviations - Explanatory Note**

**Soil Pit Descriptions**

**Soil boring descriptions (boring and horizon levels)**

**Database Printout - Horizon Level Information**



## 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

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

3 **GRDNT** Gradient as estimated or measured by a hand held optical clinometer

4 **GLEYSPL** 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

<b>MREL</b>	Microrelief limitation	<b>FLOOD</b>	Flood risk	<b>EROSN</b>	Soil erosion risk
<b>EXP</b>	Exposure limitation	<b>FROST</b>	Frost prone	<b>DIST</b>	Disturbed land
<b>CHEM</b>	Chemical limitation				

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

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

## Soil Pits and Auger Borings

### 1 TEXTURE soil texture classes are denoted by the following abbreviations

<b>S</b>	Sand	<b>LS</b>	Loamy Sand	<b>SL</b>	Sandy Loam
<b>SZL</b>	Sandy Silt Loam	<b>CL</b>	Clay Loam	<b>ZCL</b>	Silty Clay Loam
<b>ZL</b>	Silt Loam	<b>SCL</b>	Sandy Clay Loam	<b>C</b>	Clay
<b>SC</b>	Sandy Clay	<b>ZC</b>	Silty Clay	<b>OL</b>	Organic Loam
<b>P</b>	Peat	<b>SP</b>	Sandy Peat	<b>LP</b>	Loamy Peat
<b>PL</b>	Peaty Loam	<b>PS</b>	Peaty Sand	<b>MZ</b>	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

<b>F</b>	Fine (more than 66% of the sand less than 0.2mm)
<b>M</b>	Medium (less than 66% fine sand and less than 33% coarse sand)
<b>C</b>	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 GLEY 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

<b>HR</b>	all hard rocks and stones	<b>FSST</b>	soft, fine grained sandstone
<b>ZR</b>	soft, argillaceous or silty rocks	<b>CH</b>	chalk
<b>MSST</b>	soft, medium grained sandstone	<b>GS</b>	gravel with porous (soft) stones
<b>SI</b>	soft weathered igneous/metamorphic rock	<b>GH</b>	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	<b>WK</b>	weakly developed	<b>MD</b>	moderately developed
	<b>ST</b>	strongly developed		
Ped size	<b>F</b>	fine	<b>M</b>	medium
	<b>C</b>	coarse		
Ped shape	<b>S</b>	single grain	<b>M</b>	massive
	<b>GR</b>	granular	<b>AB</b>	angular blocky
	<b>SAB</b>	sub-angular blocky	<b>PR</b>	prismatic
	<b>PL</b>	platy		

9 **CONSIST** Soil consistence is described using the following notation

**L** loose    **VF** very friable    **FR** friable    **FM** firm    **VM** very firm  
**EM** extremely firm    **EH** extremely hard

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 NO	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
			GRDNT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB					
1P	SZ25309675	PLO		038 068	3	3A	096	-11 099	-2	3A			WE	3A	
2	SZ25309680	PGR NE		038 050	3	3A	096	-11 107	6	3A			WE	3A	
3	SZ25509680	PGR NE	04	000 028	4	3B	082	-25 085	-16	3B			WE	3B	SPL
4	SZ25209670	PGR SW	01	030	2	2	000	0 000	0				WE	2	IMP
5	SZ25309670	PGR NE		000	1	2	082	-25 083	-18	3B			DR	3A	IMPQDR
6	SZ25409670	PGR		000	1	2	064	-43 064	-37	3B			DR	3B	IMPX2QDR
7	SZ25509670	PGR NE	05	000 030	4	3B	084	-23 087	-14	3B			WE	3B	SPL
8	SZ25209660	PGR SE	01	000	3	3A	000	0 000	0				WE	3A	PIT1
9	SZ25309660	PGR SW	01	030 065	3	3A	000	0 000	0				WT	3A	IMP
10	SZ25209650	PGR SE		000 045	4	3B	097	-10 108	7	3A			WE	3B	VALLEY
11	SZ25309650	PGR SE	03	000	1	1	065	-42 065	-36	3B			DR	3A	IMPQDR

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----			PED COL	----STONES----			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT		GLE	>2	>6		LITH	TOT	STR	POR	IMP	SPL
1P	0-22	mzc1	10YR32 00						1	0	HR	5					
	22-38	mzc1	10YR42 00						0	0	HR	48		M			
	38-52	hc1	10YR52 00	10YR56 00	M			Y	0	0	HR	58		M			
	52-68	c	25Y 63 00	10YR58 00	M			Y	0	0	HR	20		M			
	68-85	c	25Y 63 00	10YR58 00	M			Y	0	0	HR	15	MASS	FM	P	Y	Y
2	0-30	mc1	10YR42 00						0	0	HR	5					
	30-38	mc1	10YR42 00						0	0	HR	5		M			
	38-50	hc1	10YR53 00	000C00 00	M			Y	0	0	HR	2		M			
	50-70	c	10YR53 00	000C00 00	M			Y	0	0	HR	5		P	Y	Y	
3	0-28	hc1	10YR42 00	000C00 00	C			Y	0	0	HR	2					
	28-55	c	25Y 63 00	000C00 00	M			Y	0	0		0		P	Y	Y	
4	0-30	mzc1	10YR32 00						0	0	HR	2					
	30-55	hzc1	25 Y63 00	75YR58 00	C		25 Y66 00	Y	0	0	HR	4		M			
5	0-30	hc1	10YR42 00						0	0	HR	5					
	30-42	hc1	10YR42 00						0	0	HR	5		M			
	42-52	mc1	10YR63 00						0	0	HR	20		M			
6	0-28	hc1	10YR42 00						0	0	HR	5					
	28-40	hc1	10YR54 00						0	0	HR	20		M			
7	0-30	hc1	10YR51 00	000C00 00	M			Y	0	0		0					
	30-55	c	25Y 73 00	000C00 00	M			Y	0	0		0		P	Y	Y	
8	0-30	mzc1	10YR32 00						0	0	HR	3					
9	0-30	mzc1	10YR33 00						0	0	HR	3					
	30-50	hzc1	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M			
	50-65	hzc1	25 Y53 00	10YR58 00	M			Y	0	0	HR	2		M			
	65-80	c	25 Y52 00	75YR58 00	M			Y	0	0	HR	5		P		Y	
10	0-30	mzc1	10YR31 00	000C00 00	C			Y	0	0	HR	5					
	30-45	hc1	10YR52 00	000C00 00	M			Y	0	0	HR	5		M			
	45-70	c	25Y 73 00	000C00 00	M			Y	0	0	HR	5		P	Y	Y	
11	0-20	mzc1	10YR32 00						0	0	HR	2					
	20-38	mzc1	10YR42 00						0	0	HR	10		M			

SOIL PIT DESCRIPTION

Site Name NFDLP SITE 14 Pit Number 1P  
 Grid Reference SZ25309675 Average Annual Rainfall 844 mm  
 Accumulated Temperature 1516 degree days  
 Field Capacity Level 175 days  
 Land Use Ploughed  
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 22	MZCL	10YR32 00	1	5	HR					
22- 38	MZCL	10YR42 00	0	48	HR				M	
38- 52	HCL	10YR52 00	0	58	HR	M			M	
52- 68	C	25Y 63 00	0	20	HR	M			M	
68- 85	C	25Y 63 00	0	15	HR	M	MASS	FM	P	

Wetness Grade 3A Wetness Class III  
 Gleying 038 cm  
 SPL 068 cm

Drought Grade 3A APW 096mm MBW -11 mm  
 APP 099mm MBP -2 mm

FINAL ALC GRADE 3A  
 MAIN LIMITATION Wetness