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**ROTHER DISTRICT LOCAL PLAN  
Land North of Barnhorn Road  
Bexhill**

**Agricultural Land Classification  
ALC Map and Report**

**August 1997**

**Resource Planning Team  
Eastern Region  
FRCA Reading**

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# AGRICULTURAL LAND CLASSIFICATION REPORT

## ROTHER DISTRICT LOCAL PLAN LAND NORTH OF BARNHORN ROAD, BEXHILL

### INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of approximately 6 hectares of land to the north of Barnhorn Road, to the west of Bexhill. The survey was carried out during August 1997.
2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA) on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with the Rother District Local Plan. 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 the 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 grassland.

### 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 below.

**Table 1: Area of grades and other land**

Grade/Other land	Area (hectares)	% site area
2	6.2	100
Total site area	6.2	100

7. The fieldwork was conducted at an average density of 1 boring every hectare. A total of 7 borings and 2 soil pits were described.
8. The area under agricultural use has been classified as Grade 2 (very good quality) and is predominantly limited by soil droughtiness. The soils are variable in nature reflecting the complex underlying geological deposits, but typically comprise fine and coarse silty and loamy profiles, which are on the whole freely draining. Profile available water is often slightly restricted by the combination of the light soil textures, slight stoniness and/or restricted soil

depth over the underlying weathered Tunbridge Wells Sand deposits. Borings of slightly better or worse quality were found within the Grade 2 mapping unit, but it was not considered appropriate to map them separately due to their spatial distribution and variability. Soil droughtiness has the effect of restricting the availability of soil moisture for crops, which may result in the level and consistency of yields being lower.

## FACTORS INFLUENCING ALC GRADE

### Climate

9. Climate affects the grading of the 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**

Factors	Units	Values
Grid reference	N/A	TQ 700 080
Altitude	m,AOD	25
Accumulated Temperature	day°C	1501
Average Annual Rainfall	mm	760
Field Capacity Days	days	160
Moisture Deficit. Wheat	mm	121
Moisture Deficit. Potatoes	mm	118
Overall Climatic Grade	N/A	Grade 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. The site is climatically Grade 1. The site is believed not to be at risk from frost. However, it does lie in an area which is indicated as being 'Rather Exposed' unpublished Met. Office, 1980). Detailed field examination indicates that exposure is not likely to be a significant limitation in the grading of this site.

### Site

14. The agricultural land at this site lies at an altitude of 15-30m AOD. The land falls gently towards the west. Nowhere on the site does gradient or microrelief adversely affect agricultural land quality.

## **Geology and soils**

15. The published geological information (BGS, 1980) shows the whole site to be underlain with Tunbridge Wells Sand deposits.

16. The most recently published soil information (SSEW, 1983) shows the survey area to be mapped as the Curtisden Association. These are described as 'Silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging. Some similar well drained soils. Some well drained coarse loamy soils over sandstone. Slumping locally.' (SSEW, 1983).

17. Upon detailed field examination, soils broadly consistent with the above description were found in the survey area.

## **AGRICULTURAL LAND CLASSIFICATION**

18. 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.

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. The entire area of survey has been mapped as Grade 2 (very good quality agricultural land). The key limitation is soil droughtiness.

21. The profiles are very variable in nature due to the complex underlying lithology from which the soils are derived. Soil inspection pits 1 and 2 are examples of the extreme soil types in the survey area. The overall quality of the land will vary depending on the amount of sand and hard rock in the profile as well as the depth to the soft, weathered sandstone deposits beneath. Overall the profiles comprise fine sandy silt loam and silt loam topsoils which are very slightly stony (2% total flints and/or ironstone). These overlie very similar or slightly heavier upper subsoils which have moderate subsoil structural conditions. Occasional profiles are impenetrable to the auger at approximately 70-90cm depth. In soil pit 1 a very compact, weathered, fine soft sandstone occurs at 45cm which is rootable to 85cm depth. In soil pit 2 however, lower subsoils texture as fine sandy silt loams which become loamy fine sand at depth and contain up to 10% fine soft sandstone. The soils in the survey area are on the whole well drained despite occasional borings showing evidence of slight seasonal waterlogging (in the form of gleying). A wetness class of I has been assigned to these soils. The combination of the light textures together with moderate amounts of stone and limited soil depth in some cases, means that the land is affected by a very minor to slight soil droughtiness limitation. The amount of profile available water for crops is therefore restricted slightly and the level and consistency of crop growth and yields may be reduced.

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## SOURCES OF REFERENCE

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Soil Survey of England and Wales (1983) *Sheet 6, Soils of South East England*. 1:250,000 scale. SSEW: Harpenden.

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SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES----			STRUCT/	SUBS	CALC				
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT		CONSIST	STR	POR	IMP
1	0-32	FSZL	10YR43						0	0	HR	2					
	32-50	FSZL	10YR53	10YR68	C			Y	0	0	FSST	10		M			LOOSE, FRIABLE
	50-70	FSZL	25Y 7273	10YR5868	M			Y	0	0	FSST	50		M			ROOTS 85 FSST
2	0-30	FSZL	10YR4344						0	0	HR	2					
	30-50	FSZL	75YR44						0	0	HR	2		M			
	50-75	FSZL	10YR5458						0	0	HR	4		M			
	75-120	FSZL	25Y7273	10YR58	C			Y	0	0	HR	2		M			ASS ROOTS 115
3	0-30	FSZL	10YR44						0	0	HR	2					
	30-60	FSZL	75YR46						0	0	HR	2		M			LOOSE
	60-75	LFS	75YR58	10YR66	F				0	0	HR	2		M			LOOSE
	75-120	LFS	10YR78	75YR68	C			S	0	0		0		M			LOOSE, FRIABLE
4	0-28	FSZL	10YR53						0	0	HR	2					
	28-40	MCL	10YR53						0	0	HR	2		M			LOOSE, FRIABLE
	40-120	MCL	10YR54						0	0	HR	2		M			LOOSE, FRIABLE
5	0-35	ZL	10YR54						0	0	HR	2					
	35-55	MZCL	10YR54	75YR58	F				0	0	HR	2		M			SOFT
	55-65	MZCL	10YR54	75YR68	C			Y	0	0	HR	15		M			FRIABLE, LOOSE
	65-105	FSZL	10YR6473	75YR6856	M			Y	0	0	FSST	10		M			ASS ROOTS 105
6	0-30	ZL	10YR44						0	0	HR	2					
	30-55	MZCL	75YR44						0	0		0		M			LOOSE, FRIABLE
	55-120	FSZL	75YR46	10YR66	F				0	0	HR	5		M			LOOSE, FRIABLE
7	0-30	ZL	10YR4454						0	0	HR	2					
	30-50	MZCL	75YR44						0	0	HR	5		M			LOOSE, FRIABLE
	50-90	MZCL	10YR54						0	0	HR	5		M			IMP 90 FSST

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES----			STRUCT/	SUBS	CALC	
				COL	ABUN	CONT	COL.	GLEY >2	>6	LITH	TOT	CONSIST		STR
1P	0-25	FSZL	10YR4344					0	0	HR	2			
	25-45	FSZL	10YR54	75YR6858	C		S	0	0	FSST	10	MVCSAB	FR M	LOOSE, FRIABLE
	45-85	FSST	10YR54	10YR5658	C			0	0		0		P	ROOTS 85 FSST
2P	0-31	ZL	10YR44					0	0	HR	2			
	31-45	FSZL	75YR4658		C			0	0	FSST	2	WKCSAB	FR G	LOOSE, POROUS
	45-53	FSZL	75YR4658					0	0	FSST	10	WKCSAB	FR G	LOOSE, POROUS
	53-69	FSZL	10YR64	75YR58	M		Y	0	0	FSST	5	MDVCAB	FR M	LOOSE, POROUS
	69-120	LFS	10YR78	75YR68	M		S	0	0		0	MDVCPL	FR M	LOOSE, POROUS

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SAMPLE NO.	GRID REF	ASPECT USE	GRDNT	GLEY	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS
					SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT	
1	TQ69900800	PGR W	4	32	1	1	121	0	129	11					DR	3A	IMP 70 SEE 1P
2	TQ70000800	PGR W	4	75	1	1	154	33	146	28						1	SEE PIT 2
3	TQ70100800	PGR		75	1	1	194	73	141	23						1	SEE PIT 2
4	TQ69900790	PGR W	5		1	1	164	43	126	8					DR	2	
5	TQ70000790	PGR SW	3	55	1	1	129	72	129	19					DR	2	SEE PIT 1
6	TQ70100790	PGR			1	1	199	78	140	22						1	SEE PIT 2
7	TQ70200790	PGR			1	1	138	17	132	14					DR	2	IMP 90 SEE 1P



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SAMPLE NO.	GRID REF	USE	ASPECT	--WETNESS--			-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM		ALC	COMMENTS
				GRDNT	GLEYS	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT	
1P	TQ	PGR	W 4	25		1	1	104	-17	103	-15				DR	3A	DR TO 85CM	
2P	TQ	PGR		53		1	1	203	82	149	31					1		
2P	TQ	PGR		53		1	1	203	82	149	31					1		