Gatwick Airport Northern Runway Project

Environmental Statement
Appendix 19.6.1: Published Agricultural Land Classification Data

Book 5

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APFP Regulations 5(2)(a) **Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009**

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 19.6.1 of the Environmental Statement (ES) prepared on behalf of Gatwick Airport Limited (GAL) for the proposal to make best use of Gatwick Airport's existing runways and infrastructure (referred to within this report as 'the Project').

1.1.2 This document provides the published Agricultural Land Classification (ALC) data used to inform the **ES Chapter 19: Agricultural Land Use and Recreation** (Doc Ref. 5.3). These include the following data sources:

- Crawley Borough Local Plan ALC Map and Report (March 1994).
- Horsham District Local Plan Land at Ifield Court Farm, Crawley. Reconnaissance Survey ALC Map and Report (March 1995).
- Reigate and Banstead Local Plan Land South East of Horley Semi Detailed Survey ALC Map and Report (November 1997).

2 Crawley Borough Local Plan ALC Map and Report (March 1994)

4204-042-94

A1
Crawley Borough Local Plan
Agricultural Land Classification
ALC Map and Report
March 1994

CRAWLEY BOROUGH LOCAL PLAN
AGRICULTURAL LAND CLASSIFICATION REPORT

1. Summary

1.1 During February 1994, an Agricultural Land Classification (ALC), survey was carried out on approximately 128 hectares of land immediately to the north-east of Crawley, West Sussex. ADAS was commissioned by MAFF to determine the quality of land under consideration for inclusion in the Crawley Borough Local Plan.

1.2 The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 86 borings and six soil inspection pits were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land, (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on its use for agriculture.

At the time of survey most of the western part of the site was in permanent grassland being grazed by cattle and horses. Land to the east of the B2036, Balcombe Road, was in a mixture of cereal cropping and set-aside.

1.3 The distribution of grades and subgrades is shown on the attached ALC map and the areas and extent are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement may be misleading.

Table 1 : Distribution of Grades and Subgrades

		Area (ha)	% total agricultural area
Grade	2	5.0	6.0
	3b	75.5	91.3
	4	2.2	2.7
Total agricultural area		82.7	100%
Non-agricultural		3.8	
Woodland		31.4	
Farm Buildings		0.4	
Urban		4.7	
Not surveyed		5.0	
Total area of site		128.0 ha	

1.4 Appendix 1 gives a general description of the grades, subgrades and land-use categories identified in the survey.

1.5 The land surveyed has been classified predominantly moderate, (Subgrade 3b) quality with smaller areas of Grades 2 and 4. A considerable proportion of the total site area has been mapped as non-agricultural land uses, such as woodland or urban. The ALC grading of the site is primarily determined by soil wetness limitations. Across most of area surveyed soils comprise silty clay loam topsoils overlying gleyed and slowly permeable silty clay loam and silty clay subsoils derived from deposits of

Tunbridge Wells Sand. These significantly impede soil drainage. Where land has been assigned to grade 2, soils are lighter and more sandy and thereby better drained. They are affected by only slight soil wetness problems. Grade 4 land has been mapped where disturbance has occurred and a micro-relief limitation has resulted.

2. Climate

2.1 Estimates of climatic variables relevant to the assessment of agricultural land quality were obtained by interpolation from a 5km grid point dataset (Met. Office, 1989) for representative locations in the survey area.

Climatic Interpolations

Grid Reference	TQ 289387	TQ 300393
Altitude, (m, AOD)	65	75
Accumulated Temperature (°days, Jan-June)	1451	1439
Average Annual Rainfall (mm)	799	795
Field Capacity Days	170	169
Moisture deficit, wheat (mm)	104	104
Moisture deficit, potatoes (mm)	96	95

2.2 Climatic factors are considered first when classifying land since climate can be overriding in the sense that adverse climatic conditions may restrict land quality irrespective of favourable site and soil conditions. The details in the table above show that there is no overall climatic limitation affecting this site. In addition, no local climatic factors such as exposure or frost risk affect the land quality.

2.3 However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. At this locality, average annual rainfall and field capacity days are relatively high in regional terms, whilst crop adjusted moisture deficits are correspondingly low. The effect will be an enhanced likelihood of soil wetness problems and a reduced chance of the land being droughty.

3. Relief

3.1 The site lies at an altitude of approximately 65-75 m AOD, rising gently from west to east. Nowhere on the site do gradient or microrelief affect agricultural land quality.

4. Geology and Soils

4.1 The published geology map for the site area, (British Geological Survey, 1973) shows a complex pattern of geological deposits underlying the site. To the far west of the site a band of river terrace gravels, (deposited by the River Mole) has been mapped. Adjacent to this a band of alluvium is shown running the length of Gatwick Stream. East of here, much of the remainder of the site is underlain by deposits of Tunbridge Wells Sandstone. Localised bands of clay within the Sandstone are also indicated, to the north-east of the site.

4.2 Soil Survey of England and Wales (1983), Sheet 6, Soils of South-East England shows the entire site to comprise soils of the Curtisden association. These are described as 'silty soils over siltstone with slowly permeable subsoils', (SSEW, 1984).

4.3 Detailed field examination of the soils on the site confirmed the presence of silty soils derived from Tunbridge Wells Sand, which had slowly permeable subsoil horizons giving rise to imperfect drainage.

5. Agricultural Land Classification

5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.

5.2 The location of the soil observation points are shown on the attached sample point map.

Grade 2

5.3 Land of this quality occurs as a small unit towards the north-west of the site. Profiles typically comprise non-calcareous medium clay loam or silty clay loam topsoils, which are generally stone free. These overlie heavier textured upper subsoils of heavy clay loam or silty clay loam. Subsoils tend to become more sandy and/or slightly stony with depth, passing to sandy clay loam, medium sandy loam or occasionally loamy sand from about 40-70 cm depth. These lower subsoil horizons may contain 5-10% flints. As a result, occasional observations were found to be impenetrable, (to soil auger), below 70 cm.

This land is affected by imperfect soil drainage as evidenced by gleying from shallow depths and commonly within the topsoil. Subsoils were not, however, found to be slowly permeable. Such drainage characteristics equate to Wetness Class II. Land is thereby assigned to Grade 2 on the basis of slight soil wetness restrictions, given the climatic regime and easily workable topsoil textures.

Occasional profiles of this quality were found elsewhere on the site. However, their extent and distribution was not sufficient to justify separate mapping.

Subgrade 3b

5.4 The majority of the site has been assigned to Subgrade 3b, moderate quality land, on the basis of soil wetness limitations. Profiles typically comprise stoneless, medium or heavy silty clay loam topsoils which are non-calcareous. These overlie similar upper subsoils and pass to silty clay or occasionally clay in the lower subsoil. Commonly subsoils contained siltstone fragments comprising between 2 and 50% of the total volume. Occasional profiles were impenetrable, (to soil auger), as a consequence. Silty clay loam and silty clay subsoil horizons were found to be slowly permeable, thereby causing soil drainage to be significantly impeded. Profiles were gleyed from shallow depth, commonly from the topsoil, as a result of the poor drainage status of

thereby causing soil drainage to be significantly impeded. Profiles were gleyed from shallow depth, commonly from the topsoil, as a result of the poor drainage status of the land. These soil characteristics, ie, of shallow gleying and slow permeability, equate to a Wetness Class of IV. The land is therefore assigned to Subgrade 3b as a result of soil wetness which may restrict the opportunities for cultivations and/or grazing and/or adversely affect crop growth and development.

Grade 4

5.5 Two small units of poor quality land have been mapped towards the western boundary of the site. Here soil profiles are similar to those described in section 5.4 above. However, the land has been disturbed and the microrelief limitation which exists as a result is likely to present severe difficulties in the utilisation of the land. In some areas soil has been piled up to form hummocks whilst in others topsoil has been scraped off. It would be impractical and outside normal agricultural practices to rectify the microrelief restriction. This land is only suitable for grazing as a result.

Not-Surveyed

5.6 5 hectares of land to the south of Forge Farm was not surveyed for health and safety reasons. At the time of survey, the occupier indicated that the land had recently been subject to the disposal of abattoir waste.

SOURCES OF REFERENCE

British Geological Survey (1972) Sheet 302, Horsham.

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

Meteorological Office (1989) Climatic datasets for Agricultural Land Classification.

Soil Survey of England and Wales (1983) Sheet 6, Soils of South-East England.

Soil Survey of England and Wales (1984) Bulletin 15, Soils and their use in South-East England.

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	STONES GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
1	0-35	mzcl	25Y 53 00 10YR58 00 C					Y	0	0		0							
	35-55	hzcl	25Y 74 00 10YR58 61 C			00MN00 00		Y	0	0		0		P		Y			
	55-90	zl	25Y 72 00 10YR58 00 C					Y	0	0	ZR	15		M					
1P	0-28	mzcl	25Y 52 00 75YR56 00 C					Y	0	0		0							
	28-70	zc	05Y 71 00 10YR68 00 M					Y	0	0		0	STVCPR	VM	P	Y		Y	
2	0-25	mzcl	25Y 53 00 10YR58 00 C					Y	0	0		0							
	25-45	hzcl	05Y 52 00 10YR58 00 C					Y	0	0		0		M					
	45-75	mzcl	25 Y52 00 10YR78 00 M					Y	0	0		0		P		Y			
2P	0-31	mzcl	25 Y52 00 75YR58 00 C					Y	0	0		0							
	31-56	mzcl	25 Y71 00 10YR68 00 M					Y	0	0		0	WKVCSB	VM	P	Y		Y	
	56-76	hzcl	25 Y71 00 10YR68 00 M					Y	0	0		0	MDCOAB	FM	P	Y		Y	
	76-120	zc	25 Y71 00 10YR68 00 M					Y	0	0	ZR	30	MDCOPR	FM	P	Y		Y	
3	0-25	hzcl	25Y 42 00 10YR58 61 C					Y	0	0		0							
	25-65	zc	25Y 72 00 10YR78 00 M					Y	0	0		0		P		Y			
3P	0-23	hcl	25 Y52 00 75YR46 00 C					Y	0	0		0							
	23-36	c	25 Y63 00 75YR68 00 C			10YR71 00		Y	0	0		0	MDCSAB	FM	M	Y			
	36-58	c	10YR71 00 75YR78 00 M					Y	0	0		0	MDCSAB	FM	M	Y			
	58-75	c	10YR71 00 75YR68 00 M					Y	0	0		0	WKCSAB	FR	M	Y		Y	Many Mn concs.
4	0-25	mzcl	25Y 52 00						0	0		0							
	25-40	mzcl	25Y 72 00 10YR78 00 M					Y	0	0		0		P					
	40-90	zl	25Y 71 00 10YR78 00 M					Y	0	0		0		M					
4P	0-30	hzcl	25 Y62 00 10YR44 00 C					Y	0	0		0							
	30-52	zc	25 Y62 00 75YR68 00 C			10YR71 00		Y	0	0		0	MDMPR	FM	P	Y		Y	
	52-82	zc	25 Y80 00 75YR68 00 M					Y	0	0		0	WKVCPR	VM	P	Y		Y	Very dry
5	0-25	mzcl	25Y 52 00 10YR58 00 C					Y	0	0		0							
	25-50	mzcl	25Y 72 00 10YR78 00 C					Y	0	0		0		P		Y			
	50-95	hzcl	25Y 71 00 10YR78 00 M			00MN00 00		Y	0	0		0		P		Y			
5P	0-24	mzcl	25Y 53 00 10YR56 62 C					Y	0	0	ZR	2							
	24-43	hzcl	25Y 72 00 10YR56 00 M					Y	0	0		0	MDVCPR	FM	P	Y		Y	
	43-60	hzcl	25Y 71 00 75YR58 00 M					Y	0	0		0	WKVCPR	FM	P	Y		Y	
	60-76	zc	25Y 71 00 75YR58 00 M					Y	0	0		0	MDCOPL	FM	P	Y		Y	
	76-90	hzcl	25Y 81 00 75YR58 00 M					Y	0	0		0	WKMSAB	FM	M	Y		Y	
6	0-25	hzcl	25Y 43 00 10YR58 61 C					Y	0	0		0							
	25-80	c	10YR62 00 10YR78 61 M					Y	0	0		0		P		Y			
6P	0-28	hzcl	25Y 53 00						0	0	ZR	2							
	28-52	zc	25Y 63 00 75YR56 00 C					Y	0	0	ZR	10	WKCSAB	FR	M			Y	
	52-70	zc	25Y 72 00 75YR76 00 M					Y	0	0	ZR	50	MDCOPL	FM	P	Y		Y	Imp 70, siltst.

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	STONES GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
7	0-30	mzcl	10YR43 00 75YR56 00 C					Y	0	0		0						
	30-46	zc	25Y 61 00 73YR58 00 M					Y	0	0	HR	1		P		Y		
	46-70	c	10YR63 00 75YR58 00 M			00MN00 00		Y	0	0	HR	1		P		Y		
9	0-35	hzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	35-65	c	10YR72 00 10YR78 61 M					Y	0	0		0		0		Y		
10	0-25	hzcl	25Y 53 00 10YR56 00 C					Y	0	0		0						
	25-60	zc	25Y 72 00 05YR46 00 M					Y	0	0		0		P		Y		
11	0-30	mzcl	25Y 52 00 75YR58 00 C					Y	0	0		0						
	30-60	zc	25Y 72 00 05YR46 00 M					Y	0	0		0		P		Y		
12	0-25	mzcl	25Y 53 00 10YR56 00 C					Y	0	0		0						
	25-70	zc	25Y 72 00 05YR46 00 M					Y	0	0	ZR	2		P		Y		
13	0-30	mzcl	25Y 42 00						0	0		0						
	30-60	hzcl	25Y 62 00 10YR78 71 M					Y	0	0		0		P		Y		
	60-80	zc	25Y 72 00 10YR78 00 M					Y	0	0		0		P		Y		
14	0-30	hzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-50	hzcl	25Y 52 00 10YR78 71 M			00MN00 00		Y	0	0		0		P		Y		
	50-75	zc	25Y 72 00 75YR68 00 M			00MN00 00		Y	0	0		0		P		Y		
15	0-30	hzcl	25Y 52 00 10YR58 61 C					Y	0	0		0						
	30-45	hzcl	25Y 62 00 10YR78 00 C					Y	0	0		0		P		Y		
	45-70	zc	25Y 71 00 10YR78 00 M					Y	0	0		0		P		Y		
16	0-25	hzcl	25Y 53 00 10YR58 61 C					Y	0	0		0						
	25-55	c	10YR62 00 10YR78 61 C					Y	0	0		0		P		Y		
	55-75	c	10YR72 00 10YR78 61 M			00MN00 00		Y	0	0		0		P		Y		
17	0-30	mcl	25Y 42 00 75YR58 61 C					Y	0	0		0						
	30-42	hcl	25Y 62 00 75YR58 61 M					Y	0	0		0		M				
	42-60	c	25Y 61 00 75YR58 00 C					Y	0	0	HR	1		M		Y		
	60-75	c	25Y 61 00 75YR58 00 C					Y	0	0	HR	5		M		Y		
	75-85	c	25Y 63 00 10YR58 61 C					Y	0	0	HR	1		M		Y		
	85-120	c	25Y 61 00 75YR58 00 C					Y	0	0	HR	1		M		Y		
19	0-5	mcl	10YR42 00						0	0		0						
	5-30	c	10YR51 00 10YR58 00 C					Y	0	0		0		M				
	30-60	c	10YR62 00 10YR58 61 M					Y	0	0		0		M		Y		
20	0-25	hzcl	10YR53 00 10YR58 00 C					Y	0	0		0						
	25-60	c	10YR62 00 10YR68 51 M					Y	0	0		0		P		Y		
21	0-38	mzcl	25Y 53 00 10YR56 00 C					Y	0	0		0						
	38-60	zc	25Y 72 00 10YR56 00 M					Y	0	0		0		P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
22	0-28	mzcl	25Y 53 00	10YR56 00	C			Y	0	0		0						
	28-48	hzcl	25Y 53 00	10YR56 00	C			Y	0	0		0		P		Y		
	48-60	zc	25Y 63 00	10YR56 00	C			Y	0	0		0		P		Y		
	60-70	zc	25Y 71 00	75YR58 00	M			Y	0	0		0		P		Y		
25	0-30	mzcl	25Y 42 00	10YR58 61	C			Y	0	0		0						
	30-60	hzcl	25Y 62 00	10YR78 00	C			Y	0	0		0		P		Y		
	60-80	c	25Y 61 00	75YR78 00	M			Y	0	0		0		P		Y		
26	0-30	mzcl	25Y 52-00	10YR58-00	C		10YR61-00	Y	0	0		0						
	30-45	hzcl	25Y 62-00	10YR78-00	C			Y	0	0		0		P		Y		
	45-70	c	25Y 61-00	75YR78-00	M			Y	0	0		0		P		Y		
27	0-28	mzcl	25Y 42 00	75YR58 00	C			Y	0	0		0						
	28-38	hcl	25Y 42 00	75YR58 00	C			Y	0	0		0		M				
	38-72	scl	25Y 52 00	75YR58 00	M			Y	0	0		0		M				Imp 72
28	0-28	mzcl	25Y 52 00	75YR58 00	M			Y	0	0		0						
	28-60	hzcl	25Y 61 00	75YR58 00	M			Y	0	0		0		M				
	60-80	scl	25Y 63 00	75YR58 00	M		00MN00 00	Y	0	0	HR	5		M				
30	0-30	mzcl	25Y 52 00	10YR58 61	C			Y	0	0		0						
	30-45	hzcl	25Y 62 00	10YR78 00	C			Y	0	0		0		P		Y		
	45-70	c	25Y 61 00	75YR78 00	M			Y	0	0		0		P		Y		
31	0-25	hzcl	25Y 42 00	25Y 66 00	C			Y	0	0		0						
	25-65	zc	25Y 73 00	25Y 78 71	M			Y	0	0		0		P		Y		
32	0-30	hzcl	25Y 53 00	25Y 56 00	C			Y	0	0		0						
	30-65	zc	25Y 63 00	25Y 68 81	C			Y	0	0		0		P		Y		
	65-80	zc	25Y 72 00	05YR68 71	M			Y	0	0		0		P		Y		
33	0-25	mzcl	25Y 53 00	10YR56 00					0	0		0						
	25-38	mzcl	25Y 53 00	10YR56 00	C			Y	0	0		0		M				
	38-65	hzcl	25Y 63 00	10YR56 00	C			Y	0	0		0		P		Y		
	65-100	zc	25Y 63 00	75YR58 00	M			Y	0	0	ZR	2		P		Y		
34	0-26	mzcl	25Y 52 00	10YR56 00	C			Y	0	0		0						
	26-60	zc	25Y 63 00	75YR58 00	M			Y	0	0		0		P		Y		
35	0-25	mzcl	25Y 62 00	10YR56 00	C			Y	0	0		0						
	25-40	hzcl	25Y 62 00	75YR58 00	C			Y	0	0		0		P		Y		
	40-60	zc	25Y 72 00	75YR58 00	M			Y	0	0		0		P		Y		
36	0-27	mzcl	25Y 52 00	10YR56 00	F				0	0		0						
	27-38	hzcl	25Y 62 00	10YR56 00	C			Y	0	0	ZR	5		P		Y		
	38-48	hzcl	25Y 62 00	10YR56 00	C			Y	0	0	ZR	15		P		Y		
	48-70	zc	25Y 72 00	05YR46 00	M			Y	0	0		0		P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
37	0-38	mzcl	25Y 52 00	10YR56 00	F				0	0		0						
	38-55	zc	25Y 63 00	10YR56 00	C			Y	0	0	ZR	10		P		Y		
	55-70	zc	25Y 72 00	05YR46 00	M			Y	0	0	ZR	2		P		Y		
38	0-30	mzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	30-45	hcl	25Y 52 00	75YR58 00	M			Y	0	0		0		M				
	45-78	c	25Y 63 00	75YR58 00	M			Y	0	0	HR	15		P		Y		
	78-85	scl	25Y 63 00	75YR58 00	M			Y	0	0	HR	15		M				
39	0-22	mcl	25Y 43 00	75YR58 00	C			Y	0	0		0						
	22-48	hcl	25Y 52 00	75YR58 00	C			Y	0	0		0		M				
	48-78	scl	25Y 53 00	75YR58 00	M			Y	0	0	HR	5		M				
	78-90	msl	25Y 63 00	75YR58 00	M			Y	0	0	HR	10		M				
40	0-25	mzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	25-36	hcl	25Y 52 00	75YR58 00	C			Y	0	0		0		M				
	36-68	hcl	25Y 53 00	75YR58 00	M			Y	0	0	HR	5		M				
	68-78	scl	25Y 63 00	75YR58 00	M		00MN00 00	Y	0	0	HR	10		M				Imp 78
42	0-25	hzcl	10YR52 00	10YR58 61	C			Y	0	0		0						
	25-65	c	10YR73 00	75YR58 62	M		00MN00 00	Y	0	0		0		M		Y		
43	0-35	mzcl	25Y 43 00	25Y 66 00	C			Y	0	0		0						
	35-70	hzcl	25Y 72 00	25Y 78 83	C			Y	0	0		0		P		Y		
44	0-40	hzcl	25Y 42 00	25Y 66 00	C			Y	0	0		0						
	40-75	zc	25Y 73 00	25Y 78 83	C			Y	0	0		0		P		Y		
	75-100	zc	25Y 72 00	05YR78 61	M			Y	0	0		0		P		Y		
47	0-30	mzcl	25Y 63 00	10YR58 00	F				0	0	ZR	2						
	30-50	zc	25Y 71 00	75YR58 00	M			Y	0	0	ZR	10		P		Y		
48	0-35	hzcl	25Y 52 00	10YR56 00	C			Y	0	0		0						
	35-60	zc	25Y 62 00	75YR58 00	M			Y	0	0	ZR	5		P		Y		
49	0-15	mzcl	25Y 52 00	10YR56 00	C			Y	0	0		0						
	15-38	hzcl	25Y 62 00	10YR56 00	C			Y	0	0	ZR	5		P		Y		
	38-68	zc	25Y 61 00	75YR58 00	M			Y	0	0	ZR	5		P		Y		
	68-85	hzcl	25Y 61 00	75YR58 00	M			Y	0	0	ZR	2		P		Y		Imp 85
50	0-28	mzcl	25Y 52 00	10YR56 00	C			Y	0	0		0						
	28-38	hzcl	25Y 52 00	10YR56 00	C			Y	0	0		0		P		Y		
	38-70	zc	25Y 72 00	75YR58 00	M			Y	0	0	ZR	5		P		Y		
52	0-28	mcl	25Y 53 00						0	0		0						
	28-65	hcl	10YR53 00	10YR58 68	C		00MN00 00	Y	0	0		0		M				
	65-80	msl	10YR53 00	10YR58 68	M		00MN00 00	Y	0	0		0		M				
	80-120	lms	10YR44 00					Y	0	0		0		M				

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
55	0-25	hzcl	10YR53 00	10YR58 00	C			Y	0	0		0						
	25-40	hzcl	10YR52 00	10YR58 61	C			Y	0	0		0			P		Y	
	40-70	c	10YR72 00	75YR68 83	M	00MN00 00		Y	0	0		0			M		Y	
56	0-25	hzcl	25Y 42 00	10YR58 61	C			Y	0	0		0						
	25-45	zc	25Y 73 00	25Y 78 81	C			Y	0	0		0			P		Y	
	45-75	zc	25Y 81 73	25Y 78 00	M			Y	0	0		0			P		Y	
57	0-25	mzcl	25Y 42 00	10YR58 00	C			Y	0	0		0						
	25-60	zc	25Y 72 81	25Y 78 00	M			Y	0	0		0			P		Y	
61	0-25	mzcl	25Y 63 00						0	0	ZR	1						
	25-35	mzcl	25Y 63 00	05YR46 00	C			Y	0	0	ZR	1			P		Y	
	35-70	zc	25Y 71 00	05YR46 00	M			Y	0	0	ZR	1			P		Y	
62	0-28	mzcl	25Y 52 00	10YR56 00	F				0	0	ZR	2						
	28-60	zc	25Y 62 00	75YR56 00	M			Y	0	0	ZR	10			P		Y	
63	0-35	mzcl	25Y 52 00	10YR56 00	C			Y	0	0	ZR	2						
	35-60	zc	25Y 63 00	75YR58 00	M			Y	0	0	ZR	2			P		Y	
64	0-25	mzcl	25Y 53 00						0	0		0						
	25-38	mzcl	25Y 53 00	10YR56 00	C			Y	0	0	ZR	3			P		Y	
	38-80	zc	25Y 61 00	75YR58 00	M			Y	0	0	ZR	10			P		Y	
66	0-22	mcl	25 Y53 00	75YR56 00	C			Y	0	0		0						
	22-30	hcl	10YR53 00	10YR58 00	C	10YR71 00		Y	0	0		0		M				
	30-80	c	25 Y73 00	75YR58 00	M			Y	0	0		0		M			Y	
67	0-25	hcl	10YR51 00	75YR56 00	M			Y	0	0		0						
	25-55	c	10YR61 00	10YR58 00	M	10YR71 00		Y	0	0		0		M			Y	
	55-80	scl	10YR61 00	75YR58 00	M	10YR71 00		Y	0	0		0		M			Y	
	80-82	zc	25 Y70 00	10YR58 00	M			Y	0	0		0		P			Y	
69	0-38	hzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	38-58	zc	25Y 63 00	05YR46 00	M	00MN00 00		Y	0	0		0		P			Y	
	58-70	zc	10YR71 00	75YR58 00	M			Y	0	0		0		P			Y	
70	0-28	hzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	28-39	zc	25Y 51 00	75YR85 00	C			Y	0	0		0		P			Y	
	39-70	zc	25Y 71 00	75YR58 00	M			Y	0	0		0		P			Y	
71	0-38	hzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	38-70	zc	25Y 71 00	75YR58 00	M			Y	0	0		0		P			Y	
75	0-28	mzcl	25Y 53 00						2	0	ZR	10						
	28-40	hzcl	10YR71 72	75YR46 00	C			Y	0	0	ZR	20		P			Y	
	40-47	zc	10YR71 72	75YR46 00	C			Y	0	0	ZR	20		P			Y	
	47-80	zc	25Y 72 00	75Y 58 00	M	05YR54 00		Y	0	0	ZR	20		P			Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
76	0-28	mzcl	25 Y53 00						0	0	ZR	1						
	28-50	hzcl	10YR72 00	10YR68 00	C			Y	0	0	ZR	5			P		Y	
	50-70	zc	10YR72 00	10YR68 00	M			Y	0	0	ZR	10			P		Y	
	70-90	hzcl	25 Y53 00	10YR68 00	C			Y	0	0	ZR	20			P		Y	
77	0-28	mzcl	25Y 53 00						2	0	ZR	2						
	28-80	zc	10YR52 00	75YR58 00	C			Y	0	0	ZR	5			P		Y	
78	0-27	hzcl	10YR53 00						2	0	ZR	10						
	27-88	zc	25Y 52 00	75YR58 00	C		25Y 72 00	Y	0	0	ZR	15			P		Y	
	88-100	zc	25Y 70 00	05YR78 00	M			Y	0	0		0			P		Y	
80	0-25	mcl	10YR53 00	75YR58 00	C			Y	0	0		0						
	25-55	hcl	25 Y72 00	75YR58 00	C			Y	0	0		0			M			
	55-65	c	25 Y72 00	75YR58 00	C			Y	0	0		0			M			
	65-70	scl	75YR58 00		C		00MN00 00	Y	0	0		0			M			
	70-78	c	75YR58 00		C		00MN00 00	Y	0	0		0			M			
	78-90	lms	10YR34 00						0	0		0			M			
81	0-28	hcl	25 Y52 00	75YR56 00	C		10YR61 00	Y	0	0		0						
	28-60	c	25 Y73 00	75YR58 00	C		25 Y72 00	Y	0	0		0			M		Y	
	60-65	scl	10YR34 00					Y	0	0		0			M			Imp 65
83	0-38	hzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	38-75	zc	25Y 63 00	75YR58 00	M			Y	0	0		0			P		Y	
	75-100	zc	25Y 63 00	75YR58 00	M			Y	0	0		0			P		Y	
84	0-30	mzcl	25Y 42 00						0	0		0						
	30-45	hzcl	25Y 62 00	10YR78 61	C			Y	0	0		0			P		Y	
	45-70	zc	25Y 72 00	75YR78 00	M		00MN00 00	Y	0	0		0			P		Y	
85	0-30	mzcl	25Y 42 00						0	0		0						
	30-50	hzcl	25Y 63 00	10YR78 00	C			Y	0	0		0			P		Y	
	50-80	zc	25Y 73 00	75YR78 00	M			Y	0	0		0			P		Y	
86	0-28	mzcl	25Y 53 00						0	0		0						
	28-70	zc	25Y 63 00	10YR68 00	C			Y	0	0	ZR	10			P		Y	
87	0-25	mzcl	25Y 53 00	75YR58 00	C			Y	0	0		0						
	25-70	zc	25Y 73 00	75YR68 00	M			Y	0	0		0			P		Y	
88	0-25	mcl	25Y 53 00	75YR58 00	C			Y	0	0		0						
	25-40	hcl	25Y 63 00	25Y 63 00	M		00MN00 00	Y	0	0		0			M			
	40-90	scl	25Y 63 00	75YR58 00	M			Y	0	0	HR	5			M			
89	0-32	hcl	25Y 52-00	75YR58-00	C			Y	0	0		0						
	32-38	hcl	10YR53-00	75YR58-00	C		25Y 70-00	Y	0	0		0			M			
	38-75	c	25Y 63-00	10YR58-00	M		10YR81-00	Y	0	0		0			M		Y	
	75-90	sc	25Y 70-00	75YR58-00	M		00MN00-00	Y	0	0		0			M		Y	Imp 90, gravelly

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
90	0-25	hcl	10YR51 00 75YR46 00 C					Y	0	0		0						
	25-45	c	10YR51 00 75YR46 00 M					Y	0	0		0		M		Y		Imp 45
91	0-25	hcl	10YR42 00 75YR46 00 C				10YR61 00	Y	0	0		0						
	25-85	c	10YR72 00 75YR46 58 M					Y	0	0		0		P		Y		
92	0-26	mzcl	25Y 52 00 75YR58 00 C					Y	0	0		0						
	26-38	hzcl	25Y 52 00 75YR58 00 C					Y	0	0		0		P		Y		
	38-70	zc	25Y 71 00 75YR58 00 M					Y	0	0		0		P		Y		
98	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-50	hzcl	25Y 71 00 75YR78 00 M					Y	0	0		0		P		Y		
	50-70	zc	25Y 72 00 75YR68 00 M					Y	0	0		0		P		Y		
99	0-25	hzcl	10YR52 00 10YR58 00 F						0	0		0						
	25-55	c	75YR62 00 75YR68 00 C				00MN00 00	Y	0	0		0		P		Y		
	55-70	c	10YR52 00 75YR68 81 M				00MN00 00	Y	0	0		0		P		Y		
100	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-60	hzcl	25Y 62 00 10YR78 61 M					Y	0	0		0		P		Y		
	60-70	zc	25Y 71 00 75YR78 00 M					Y	0	0		0		P		Y		
101	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-65	hzcl	25Y 62 00 10YR78 61 M					Y	0	0		0		P		Y		
103	0-22	mcl	10YR43 00					Y	0	0		0						
	22-40	hcl	10YR53 00 75YR58 00 C				10YR51 00	Y	0	0		0		M				
	40-70	c	10YR64 00 75YR58 00 C				00MN00 00	Y	0	0		0		M		Y		
	70-75	lms	10YR34 00						0	0		0		M				
	75-90	scl	10YR63 00		M		00MN00 00	Y	0	0	HR	20		M				
106	0-25	mzcl	25 Y62 00 75YR56 00 C					Y	0	0		0						
	25-90	mzcl	25 Y72 00 10YR68 00 M					Y	0	0		0		P		Y		
110	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-60	hzcl	25Y 62 00 10YR78 00 M					Y	0	0		0		P		Y		
	60-70	zc	25Y 72 00 75YR78 00 M				00MN00 00	Y	0	0		0		P		Y		
111	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-45	zc	25Y 72 00 40YR78 00 M					Y	0	0		0		P		Y		
	45-70	zc	25Y 62 81 75YR78 00 M					Y	0	0	ZR	20		P		Y		
115	0-25	mzcl	25 Y53 00						0	0		0						
	25-50	mzcl	25 Y73 00 10YR58 00 C				10YR71 00	Y	0	0		0		P		Y		
	50-70	zc	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
	70-75	hzcl	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
	75-90	mzcl	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
116	0-25	mzcl	25 Y52 00 75YR58 00 C					Y	0	0		0						
	25-48	hzcl	25 Y63 00 10YR58 00 M				10YR71 00	Y	0	0		0		P		Y		
	48-80	zc	25 Y63 73 10YR58 00 M					Y	0	0		0		P		Y		
117	0-20	mzcl	25 Y52 00 75YR58 00 C					Y	0	0		0						
	20-35	mzcl	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
	35-55	zl	10YR71 00 10YR58 00 M				05YR58 00	Y	0	0		0		M				
	55-65	hzcl	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
	65-80	zc	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
120	0-30	mcl	10YR52 00 10YR58 00 C					Y	0	0		0						
	30-43	hcl	25 Y73 00 10YR58 00 M				00MN00 00	Y	0	0		0		M				
	43-80	c	25 Y73 00 10YR58 00 M				00MN00 00	Y	0	0	HR	5		M		Y		
124	0-38	mzcl	05 Y51 00 75YR48 00 C					Y	0	0		0						
	38-50	hzcl	25 Y62 00 10YR58 00 M				25 Y72 00	Y	0	0		0		P		Y		
	50-80	mzcl	25 Y62 00 10YR58 00 M				25 Y72 00	Y	0	0		0		P		Y		
125	0-30	mzcl	25 Y52 00 75YR46 00 C					Y	0	0		0						
	30-75	c	10YR71 00 10YR58 00 M					Y	0	0		0		M		Y		
126	0-15	mcl	10YR51 00 75YR46 00 C					Y	0	0		0						
	15-30	hcl	10YR61 00 75YR56 00 M					Y	0	0		0		M				
	30-75	c	25 Y70 00 75YR58 00 M					Y	0	0		0		M		Y		

SAMPLE NO.	GRID REF	ASPECT USE		GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	DIST	FROST LIMIT	CHEM	ALC	COMMENTS
1	TQ30103990	SAS		0	035	4	3B	000	0	000	0						WE	3B		
1P	TQ29423942	PGR		0	028	4	3B	094	-11	104	6	3A					WE	3B		
2	TQ30103980	SAS		0	045	4	3B	000	0	000	0						WE	3B		
2P	TQ29403870	PGR		0	031	4	3B	137	32	118	20	1					WE	3B		
3	TQ29903970	SAS		0	025	4	3B	088	-17	096	-2	3A					WE	3B		
3P	TQ28903890	PGR		0	058	3	3B	105	0	117	19	3A					WE	3B		SPL 58
4	TQ30003970	SAS		025		2	2	151	46	139	41	1					WE	2		
4P	TQ29903940	SAS	W 01	0	030	4	3B	000	0	000	0						WE	3B		
5	TQ30103970	SAS		0	025	4	3B	135	30	124	26	1					WE	3B		
5P	TQ30103960	SAS	S 02	0	024	4	3B	000	0	000	0						WE	3B		
6	TQ30233970	SAS	SE 04	0	025	4	3B	000	0	000	0						WE	3B		
6P	TQ30003910	CER	W 01	028	028	4	3B	000	0	000	0						WE	3B		IMP 70 SILTST.
7	TQ29103960	PGR		0	030	4	3B	000	0	000	0						WE	3B		
9	TQ29303960	PGR		0	035	4	3B	000	0	000	0						WE	3B		
10	TQ29403960	PGR		0	025	4	3B	000	0	000	0						WE	3B		
11	TQ29503960	PGR		0	030	4	3B	000	0	000	0						WE	3B		
12	TQ29603960	SAS	NW 01	0	025	4	3B	000	0	000	0						WE	3B		
13	TQ29903960	SAS		030	030	4	3B	101	-4	105	7	3A					WE	3B		
14	TQ30003960	SAS		0	030	4	3B	000	0	000	0						WE	3B		
15	TQ30103960	SAS		0	030	4	3B	000	0	000	0						WE	3B		
16	TQ30203960	SAS	SE 04	0	025	4	3B	100	-5	111	13	3A					WE	3B		
17	TQ29103950	PGR		0	042	4	3B	136	31	109	11	1					WE	3B		
19	TQ29303950	PGR		005	030	4	3B	082	-23	088	-10	3B					WE	3B		
20	TQ29403950	PGR		0	025	4	3B	000	0	000	0						WE	3B		
21	TQ29503950	PGR		0	038	4	3B	000	0	000	0						WE	3B		
22	TQ29603950	SAS	NW 01	0	028	4	3B	000	0	000	0						WE	3B		
25	TQ30103950	SAS		0	030	4	3B	000	0	000	0						WE	3B		
26	TQ30203950	SAS		0	030	4	3B	000	0	000	0						WE	3B		
27	TQ28903940	PGR		0		2	2	109	4	117	19	3A					DR	3A		IMP 72
28	TQ29003940	PGR		0		2	2	120	15	122	24	2					WE	2		
30	TQ29303940	PGR		0	030	4	3B	000	0	000	0						WE	3B		
31	TQ29403940	PGR		0	025	4	3B	000	0	000	0						WE	3B		
32	TQ29513942	PGR		0	030	4	3B	102	-3	105	7	3A					WE	3B		
33	TQ29703940	SAS	NW 01	025	038	4	3B	000	0	000	0						WE	3B		
34	TQ29803940	SAS	W 01	0	026	4	3B	000	0	000	0						WE	3B		
35	TQ29903940	SAS	W 01	0	025	4	3B	000	0	000	0						WE	3B		
36	TQ30003940	SAS	W 01	027	027	4	3B	102	-3	112	14	3A					WE	3B		
37	TQ30103940	SAS	W 01	038	038	4	3B	000	0	000	0						WE	3B		
38	TQ28803930	PGR		0	045	4	3B	113	8	115	17	2					WE	3B		
39	TQ28903930	PGR		0		2	2	123	18	113	15	2					WE	2		
40	TQ29003930	PGR		0		2	2	113	8	117	19	2					WE	2		IMP 78
42	TQ29203926	PGR		0	025	4	3B	000	0	000	0						WE	3B		

SAMPLE NO.	GRID REF	ASPECT USE		GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	DIST	FROST LIMIT	CHEM	ALC	COMMENTS
43	TQ29303930	PGR		0	035	4	3B	000	0	000	0						WE	3B		
44	TQ29403930	PGR		0	040	4	3B	129	24	121	23	2					WE	3B		
47	TQ29803930	CER	W 02	030	030	4	3B	000	0	000	0						WE	3B		
48	TQ29903931	SAS	W 01	0	035	4	3B	000	0	000	0						WE	3B		
49	TQ30003930	SAS		0	015	4	3B	092	-13	093	-5	3A					WE	3B		IMP 85
50	TQ30103930	SAS	E 01	0	038	4	3B	000	0	000	0						WE	3B		
52	TQ28903920	PGR		028		2	2	136	31	117	19	1					WE	2		
55	TQ29203920	PGR		0	025	4	3B	100	-5	112	14	3A					WE	3B		
56	TQ29303920	PGR		0	025	4	3B	101	-4	108	10	3A					WE	3B		
57	TQ29403920	PGR		0	025	4	3B	000	0	000	0						WE	3B		
61	TQ29803920	CER	W 02	025	025	4	3B	000	0	000	0						WE	3B		
62	TQ29903920	CER	W 02	028	028	4	3B	000	0	000	0						WE	3B		
63	TQ30003920	CER	E 02	0	035	4	3B	000	0	000	0						WE	3B		
64	TQ30103920	CER	E 02	025	025	4	3B	000	0	000	0						WE	3B		
66	TQ28903910	PGR		0	030	4	3B	000	0	000	0						WE	3B		
67	TQ29003910	PGR		0	025	4	3B	000	0	000	0						WE	3B		
69	TQ29203910	PGR		0	038	4	3B	000	0	000	0						WE	3B		
70	TQ29303910	PGR		0	028	4	3B	000	0	000	0						WE	3B		
71	TQ29403910	PGR		0	038	4	3B	000	0	000	0						WE	3B		
75	TQ29803910	CER	W 01	028	028	4	3B	000	0	000	0						WE	3B		
76	TQ29903910	CER	W 01	028	028	4	3B	123	18	118	20	2					WE	3B		
77	TQ30003910	CER	W 01	028	028	4	3B	000	0	000	0						WE	3B		
78	TQ30103910	CER	E 01	027	027	4	3B	000	0	000	0						WE	3B		
80	TQ28903900	PGR		0		2	2	115	10	117	19	2					WE	2		
81	TQ29003900	PGR		0	028	4	3B	000	0	000	0						WE	3B		IMP 65
83	TQ29203900	PGR		0	038	4	3B	000	0	000	0						WE	3B		
84	TQ29823899	SAS		030	030	4	3B	000	0	000	0						WE	3B		
85	TQ29903900	SAS		030	030	4	3B	000	0	000	0						WE	3B		
86	TQ30003900	SAS	SW 01	028	028	4	3B	000	0	000	0						WE	3B		
87	TQ30103900	SAS		0	025	4	3B	000	0	000	0						WE	3B		
88	TQ28853890	PGR		0		2	2	121	16	112	14	2					WE	2		
89	TQ28903890	PGR		0	038	4	3B	000	0	000	0						WE	3B		
90	TQ29003890	PGR		0	025	4	3B	000	0	000	0						WE	3B		VERY WET
91	TQ29103890	PGR		0	025	4	3B	000	0	000	0						WE	3B		
92	TQ29223890	PGR		0	026	4	3B	000	0	000	0						WE	3B		
98	TQ29803890	SAS		0	030	4	3B	095	-10	105	7	3A					WE	3B		
99	TQ29903889	SAS		025	025	4	3B	094	-11	106	8	3A					WE	3B		
100	TQ30023891	SAS		0	030	4	3B	000	0	000	0						WE	3B		
101	TQ30103890	SAS		0	030	4	3B	090	-15	099	1	3A					WE	3B		
103	TQ28903880	PGR		0	040	4	3B	000	0	000	0						WE	3B		
106	TQ29303880	PGR		0	025	4	3B	130	25	124	26	2					WE	3B		
110	TQ29803880	SAS		0	030	4	3B	000	0	000	0						WE	3B		

SAMPLE NO.	GRID REF	ASPECT USE	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
111	TQ29903880	SAS	0	030	4	3B	094	-11	103	5	3A					WE	3B	
115	TQ29203870	PGR	025	025	4	3B	126	21	120	22	2					WE	3B	
116	TQ29303870	PGR	0	025	4	3B	000	0	000	0						WE	3B	
117	TQ29403870	PGR	0	055	3	3A	000	0	000	0						WE	3A	
120	TQ28863855	PGR	0	043	4	3B	000	0	000	0						WE	3B	
124	TQ29283863	PGR	0	038	4	3B	000	0	000	0						WE	3B	
125	TQ28853845	PGR	0	030	4	3B	000	0	000	0						WE	3B	
126	TQ29003850	PGR	0	030	4	3B	000	0	000	0						WE	3B	

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 1P

Grid Reference: TQ29423942

Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 28	MZCL	25Y 52 00	0	0	C	
28- 70	ZC	05Y 71 00	0	0	M	STVCPR

Wetness Grade : 3B
Wetness Class : IV
Gleying :0 cm
SPL :028 cm

Drought Grade : 3A
APW : 094mm MBW : -11 mm
APP : 104mm MBP : 6 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 2P

Grid Reference: TQ29403870 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 31	MZCL	25 Y52 00	0	0	C	
31- 56	MZCL	25 Y71 00	0	0	M	WKVCSB
56- 76	HZCL	25 Y71 00	0	0	M	MDCOAB
76-120	ZC	25 Y71 00	0	30	M	MDCOPR

Wetness Grade : 3B Wetness Class : IV
Gleying :0 cm
SPL :031 cm

Drought Grade : 1 APW : 137mm MBW : 32 mm
APP : 118mm MBP : 20 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 3P

Grid Reference: TQ28903890 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 23	HCL	25 Y52 00	0	0	C	
23- 36	C	25 Y63 00	0	0	C	MDCSAB
36- 58	C	10YR71 00	0	0	M	MDCSAB
58- 75	C	10YR71 00	0	0	M	WKCSAB

Wetness Grade : 3B Wetness Class : III
Gleying :0 cm
SPL :058 cm

Drought Grade : 3A APW : 105mm MBW : 0 mm
APP : 117mm MBP : 19 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 4P

Grid Reference: TQ29903940
Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use :
Slope and Aspect : 01 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	HZCL	25 Y62 00	0	0	C	
30- 52	ZC	25 Y62 00	0	0	C	MDMPR
52- 82	ZC	25 Y80 00	0	0	M	WKVCPR

Wetness Grade : 3B
Wetness Class : IV
Gleying :0 cm
SPL :030 cm

Drought Grade :
APW : 000mm MBW : 0 mm
APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 5P

Grid Reference: TQ30103960
Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use :
Slope and Aspect : 02 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 24	MZCL	25Y 53 00	0	2	C	
24- 43	HZCL	25Y 72 00	0	0	M	MDVCPR
43- 60	HZCL	25Y 71 00	0	0	M	WKVCPR
60- 76	ZC	25Y 71 00	0	0	M	MDCOPL
76- 90	HZCL	25Y 81 00	0	0	M	WKMSAB

Wetness Grade : 3B
Wetness Class : IV
Gleying :0 cm
SPL :024 cm

Drought Grade :
APW : 000mm MBW : 0 mm
APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 6P

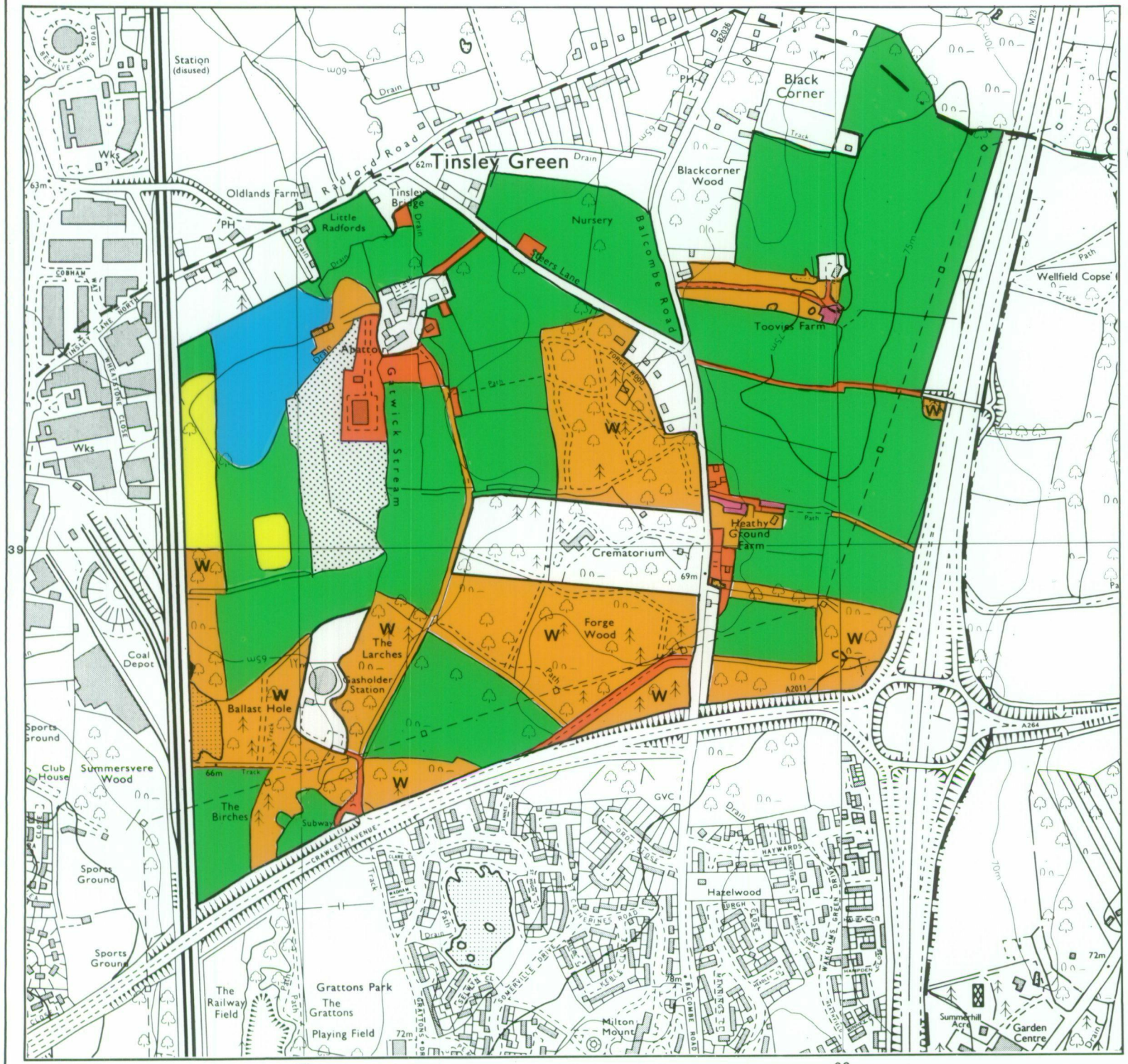
Grid Reference: TQ30003910 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use : Cereals
Slope and Aspect : 01 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 28	HZCL	25Y 53 00	0	2		
28- 52	ZC	25Y 63 00	0	10	C	WKCSAB
52- 70	ZC	25Y 72 00	0	50	M	MDCOPL

Wetness Grade : 3B Wetness Class : IV
Gleying :028 cm
SPL :028 cm

Drought Grade : APW : 000mm MBW : 0 mm
APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness



MAFF Ministry of Agriculture Fisheries and Food

Agricultural Land Classification

Crawley Borough Local Plan

Agricultural Land

Grade	Quality	Area(ha)
1	Excellent	nil
2	Very Good	5.0
3a	Good	nil
3b	Moderate	75.5
4	Poor	2.2
5	Very Poor	nil

Other Land Categories

	Area (ha)
Urban	4.7
Non-Agricultural	3.8
Woodland	31.4
Agricultural Buildings	0.4
Open Water	nil
Not Surveyed	5.0

Total agricultural land area **82.7**
Total survey area **128.0**

*Grade/category not present within survey area

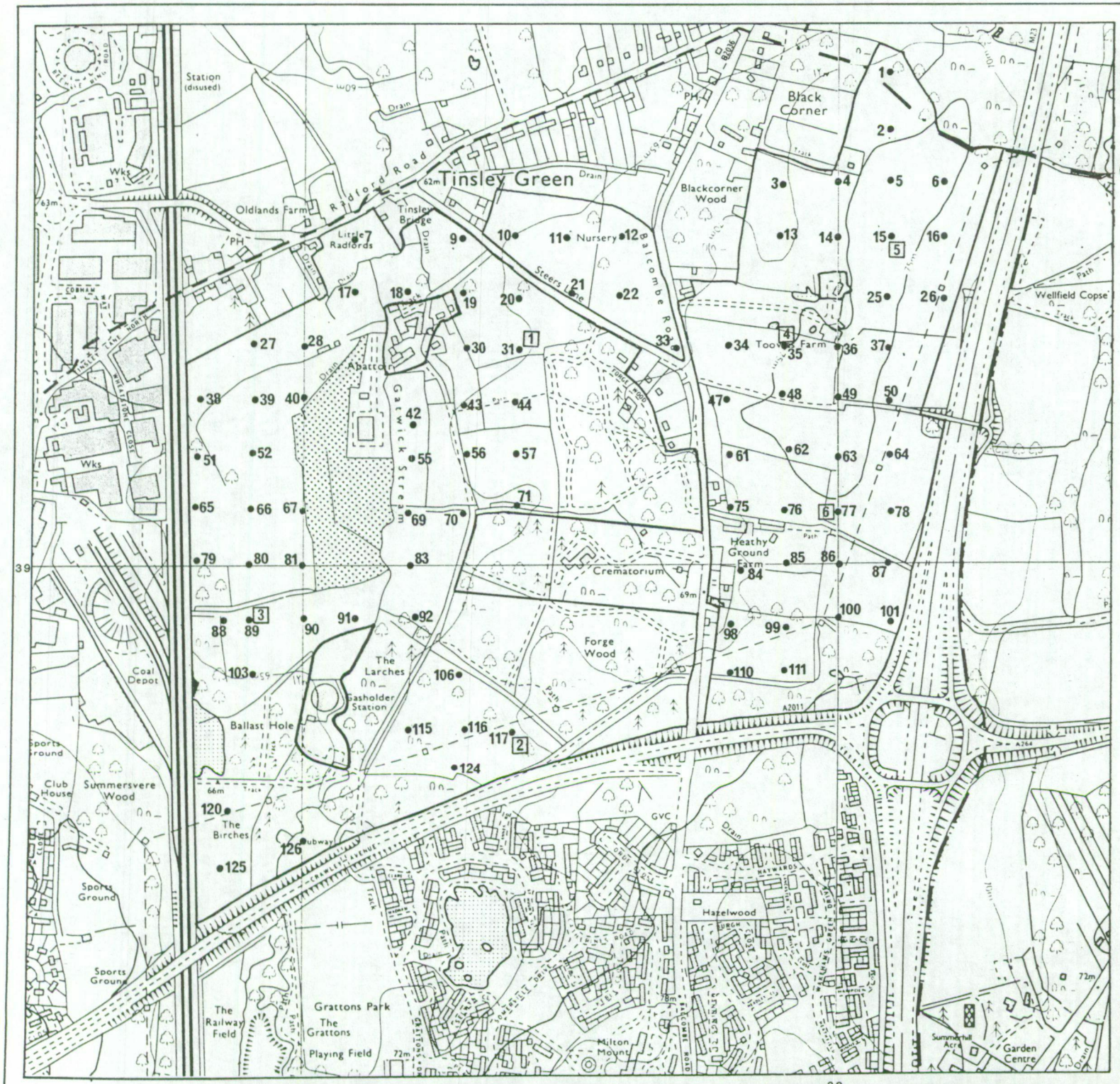
Scale 1:10,000

0 100 200 300 400 500 600 Metres

Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. MAFF (Publications), London SE99 7TP.

The information is accurate at the base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, ADAS Statutory Unit, Guildford.
Based on the 1992 Ordnance Survey 10,000 map with the permission of the Controller of her Majesty's Stationery Office.
Source Map(s): TQ 23 NE TQ 33 NW
Reference no. 4204/042/94 EL 42/496



MAFF Ministry of Agriculture Fisheries and Food

Location of Auger Borings

Crawley Borough Local Plan

•5 Auger boring

2 Profile pit

Not surveyed

Scale 1:10,000

0 100 200 300 400 500 600

Metres

The information is accurate at the base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, ADAS Statutory Unit, Guildford.

Based on the 1983 1992 Ordnance Survey 10,000 map with the permission of the Controller of Her Majesty's Stationery Office.

Source Map(s) TQ 23 NE TQ 33 NW

Reference 4204/042/94 EL 42 496

3 Horsham District Local Plan Land at Ifield Court Farm, Crawley. Reconnaissance Survey ALC Map and Report (March 1995)

A1
Horsham District Local Plan
Land at Ifield Court Farm,
Crawley.
Reconnaissance Survey
Agricultural Land Classification
ALC Map and Report
March 1995

AGRICULTURAL LAND CLASSIFICATION REPORT

HORSHAM DISTRICT LOCAL PLAN.
LAND AT IFIELD COURT FARM, CRAWLEY.
RECONNAISSANCE SURVEY.

1. Summary

1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in the Horsham District of West Sussex. The work forms part of MAFF's statutory input to the preparation of the Horsham District Local Plan.

1.2 The site comprises 120 hectares of land around Ifield Court Farm at Ifield, north-west of Crawley in West Sussex. An Agricultural Land Classification (ALC) survey was carried out in March 1995. The survey was undertaken at a reconnaissance level of approximately one boring per 5 hectares of agricultural land surveyed. The southern half of the site has been previously surveyed by Bioscan UK Ltd in January 1995. Consequently, the boring density of the ADAS survey was decreased in this area of the site, being sufficient to verify the Bioscan findings. A total of 21 borings and two soil inspection pits were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land, (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose a long term limitation on its use for agriculture.

1.3 The survey work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.

1.4 At the time of the survey the agricultural land on the site comprised permanent grassland, cereals and recently ploughed land. Areas marked as non-agricultural include scrubland and areas of woodland have also been marked on the map. Areas of urban comprise private dwellings, gardens and tarmac roads. An area of open water has been mapped around Ifield Court Hotel and farm buildings have been mapped around Ifield Court Farm.

1.5 The distribution of grades and subgrades is shown on the attached ALC map, and the areas and extent are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site
3b	99.0	82.5
Non-agricultural	1.0	0.8
Woodland	1.7	1.4
Urban	17.3	14.5
Farm buildings	0.6	0.5
Open Water	0.4	0.3
Total area of site	120.0	100%

1.6 Appendix I gives a general description of the grades, subgrades and land use categories identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

1.7 The majority of the agricultural land on the site has been classified as Subgrade 3b, moderate quality land, with soil wetness as the main limitation. Soil profiles typically comprise medium clay loam and heavy clay loam topsoils resting upon clay subsoils. Profiles are commonly gleyed from the topsoil, and the clay subsoils are slowly permeable and significantly impede drainage, such that a classification of Subgrade 3b is appropriate. Poorly drained wet soils restrict plant growth and development and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock.
The previous Bioscan survey similarly found land to be classified as Subgrade 3b due to a wetness limitation.

2. Climate

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

2.2 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature (degree days Jan-June), as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km gridpoint dataset (Met. Office 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site.

2.4 However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. At this locality the climate is relatively warm and moist, therefore the likelihood of soil wetness problems may be increased.

2.5 No local climatic factors such as exposure or frost risk are believed to affect the site.

Table 2 : Climatic Interpolation

Grid Reference	TQ 245 381
Altitude (m)	65
Accumulated Temperature (degree days, Jan-June)	1452
Average Annual Rainfall (mm)	812
Field Capacity (days)	172
Moisture Deficit, Wheat (mm)	104
Moisture Deficit, Potatoes (mm)	96
Overall Climatic Grade	1

3. Relief

3.1 The site is relatively flat, lying at an altitude of approximately 65m AOD.

4. Geology and Soils

4.1 The published geological map (BGS, 1972) shows the majority of the site to be underlain by Weald Clay. Alluvium is mapped around watercourses, clay-ironstone beds in the north of the site and small bands of River Mole 2nd terrace deposits towards the south of the site.

4.2 The published Soil Survey map (SSEW, 1983) shows the soils on the site to comprise those of the Wickham 1 association. These are described as 'slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils' (SSEW 1983).

4.3 Detailed field examination found the majority of the soils on the site to be silty and clayey with slowly permeable subsoils.

5. Agricultural Land Classification

5.1 The location of the soil observation points are shown on the attached sample point map.

Subgrade 3b

5.2 All of the agricultural land on the site has been classified as Subgrade 3b, at a reconnaissance survey level, due to a significant soil wetness limitation. Soil profiles were found to typically comprise medium silty clay loam and heavy silty clay loam topsoils commonly resting directly upon clay subsoils. Profiles show evidence of drainage imperfections in the form of gleying, usually from the topsoils. Two soil inspection pits dug on the site indicated the clay subsoils to be poorly structured with low porosity, and therefore classified as slowly permeable layers which significantly impede drainage. The presence of gleying and the relatively shallow depth to these slowly permeable layers means that these soils are assigned to Wetness Class IV, with a resultant classification of Subgrade 3b given the prevailing climatic conditions. Poorly drained wet soils can inhibit plant and root development, and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock. This can in turn affect the frequency and timing of such operations.

ADAS Ref: 4205/18/95
MAFF Ref: EL 42/130

Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1972), Sheet No. 302, Horsham, 1:50,000 Series (solid and drift edition).

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

Meteorological Office (1989), Climatological Data for Agricultural Land Classification.

Soil Survey of England and Wales (1983), Sheet 6, Soils of South East England, 1:250,000 and accompanying legend.

AGRICULTURAL LAND CLASSIFICATION, SUMMARY REPORT

HORSHAM DISTRICT LOCAL PLAN.
LAND AT IFIELD COURT FARM, CRAWLEY.
RECONNAISSANCE SURVEY.

1. Summary

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1.3 The survey work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.

1.4 At the time of the survey the agricultural land on the site comprised permanent grassland, cereals and recently ploughed land. Areas marked as non-agricultural include scrubland and areas of woodland have also been marked on the map. Areas of urban comprise private dwellings, gardens and tarmac roads. An area of open water has been mapped around Ifield Court Hotel and farm buildings have been mapped around Ifield Court Farm.

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Woodland	1.7	1.4
Urban	17.3	14.5
Farm buildings	0.6	0.5
Open Water	0.4	0.3
Total area of site	120.0	100%

1.6 Appendix I gives a general description of the grades, subgrades and land use categories identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

1.7 The majority of the agricultural land on the site has been classified as Subgrade 3b, moderate quality land, with soil wetness as the main limitation. Soil profiles typically comprise medium clay loam and heavy clay loam topsoils resting upon clay subsoils. Profiles are commonly gleyed from the topsoil, and the clay subsoils are slowly permeable and significantly impede drainage, such that a classification of Subgrade 3b is appropriate. Poorly drained wet soils restrict plant growth and development and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock.
The previous Bioscan survey similarly found land to be classified as Subgrade 3b due to a wetness limitation.

ADAS Ref: 4205/18/95
MAFF Ref: EL 42/130

Resource Planning Team
Guildford Statutory Group
ADAS Reading

APPENDIX I

DESCRIPTION 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 (eg. 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.

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

Agricultural Buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. polythene tunnels erected for lambing) may be ignored.

Open Water

Includes lakes, ponds and rivers as map scale permits.

Land Not Surveyed

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.

MAFF Ministry of Agriculture Fisheries and Food

Agricultural Land Classification

Horsham District Local Plan
Land at Ifield Court Farm.
Reconnaissance Survey

Agricultural Land

Grade	Quality	Area(ha)
1	Excellent	nil
2	Very Good	nil
3a	Good	nil
3b	Moderate	99.0
4	Poor	nil
5	Very Poor	nil

Other Land Categories

		Area (ha)
	Urban	17.3
	Non-Agricultural	1.0
W	Woodland	1.7
	Agricultural Buildings	0.6
	Open Water	0.4
*	Not Surveyed	nil

Total agricultural land area 99.0
Total survey area 120.0

*Grade/category not present within survey area

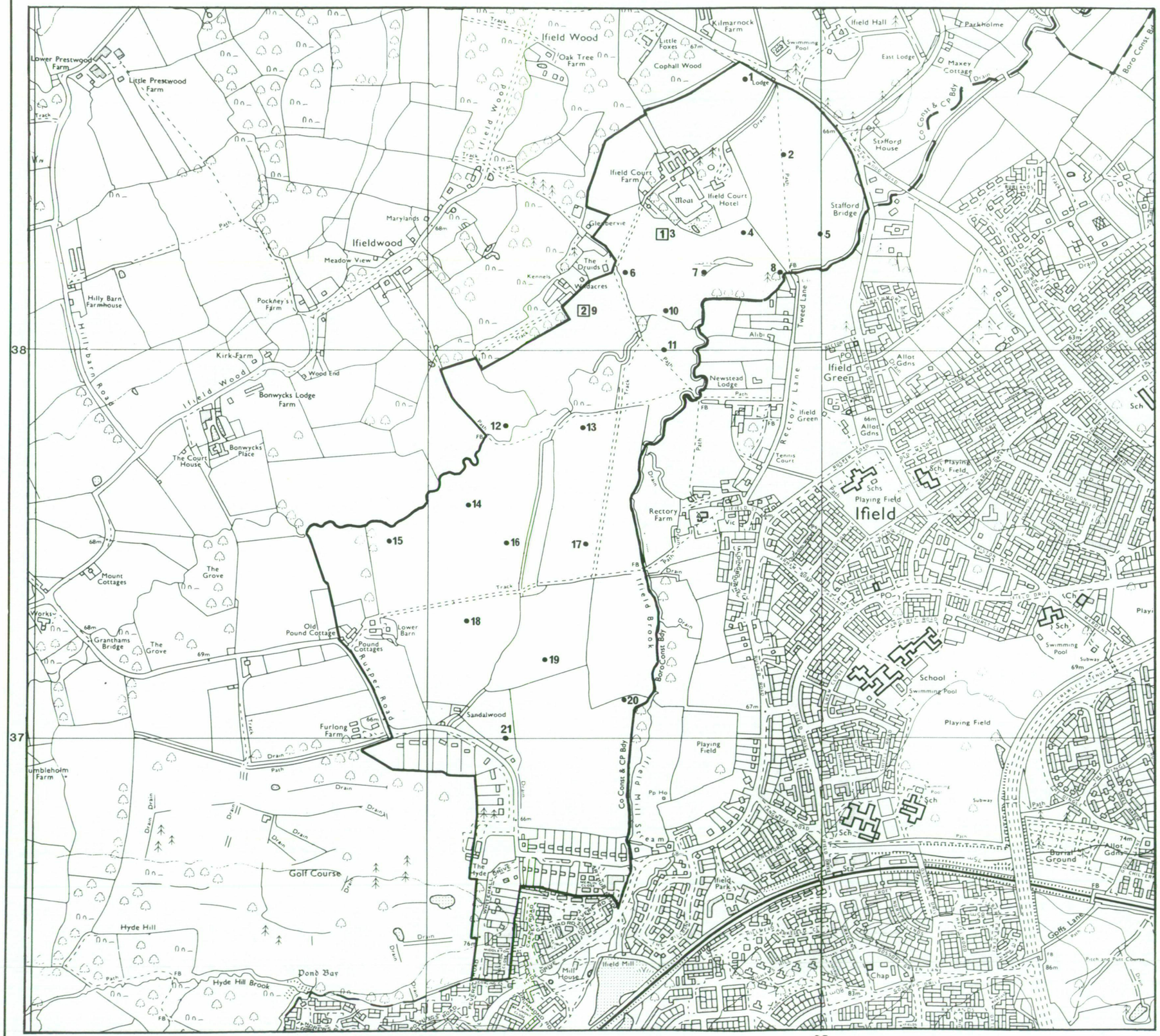
Scale 1:10,000

0 100 200 300 400 500 600 700 800 900 Metres

Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales – Revised guidelines and criteria for grading the quality of agricultural land. MAFF (Publications), London SE99 7TP.

The information is accurate at the base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, ADAS Statutory Unit, Guildford.
Based on the 1992 1983 Ordnance Survey 10.000 map with the permission of the Controller of her Majesty's Stationery Office.
Source Map(s): TQ 23 NW TQ 23 NE
Reference no. 4205/18/95 EL 42/130



MAFF Ministry of Agriculture Fisheries and Food

Location of Auger Borings

Horsham District Local Plan
Land at Ifield Court Farm.

Reconnaissance Survey

•5 Auger boring

[2] Profile pit

Scale 1:10,000

0 100 200 300 400 500 600 700 800 900

Metres

The information is accurate at the base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, ADAS Statutory Unit, Guildford.
Based on the 1992 1983 Ordnance Survey 10.000 map with the permission of the Controller of her Majesty's Stationery Office.
Source Map(s) TQ 23 NW TQ 23 NE
Reference no. 4205/18/95 EL 42/130

4 Reigate and Banstead Local Plan Land South East of Horley Semi Detailed Survey ALC Map and Report (November 1997)

A1

REIGATE AND BANSTEAD DISTRICT LOCAL PLAN
Land South East of Horley
Semi Detailed Survey

Agricultural Land Classification
ALC Map and Report

November 1997

Resource Planning Team
Eastern Region
FRCA Reading

RPT Job Number 4005/123/97
FRCA Reference EL 40/00522

AGRICULTURAL LAND CLASSIFICATION REPORT

REIGATE AND BANSTEAD DISTRICT LOCAL PLAN
LAND SOUTH EAST OF HORLEY, SURREY
SEMI DETAILED SURVEY

INTRODUCTION

1 This report presents the findings of a semi detailed Agricultural Land Classification (ALC) survey of 101 1 ha on three parcels of land located between the M23 the London Brighton railway line and Smallfield Road to the south east of Horley in Surrey The survey was carried out during November and December 1997

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 the Reigate and Banstead 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 most of the agricultural land on the site was in permanent grassland Land to the west of Harrowsley Green Farm located in the northern most block of land had recently been ploughed The areas mapped as Other land include woodland roads and tracks a business unit farm buildings and residential dwellings

SUMMARY

5 The findings of the survey are shown on the enclosed ALC map The map has been drawn at a scale of 1 15 000 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
3b Other land	95 2 5 9	100	94 2 5 8
Total surveyed area Total site area	95 2 101 1	100	94 2 100

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

7 The fieldwork was conducted at an average density of approximately 1 boring per 2 hectares of agricultural land In total 65 borings and four soil pits were described

8 All of the agricultural land on this site has been classified as Subgrade 3b (moderate quality) The principal limitation to land quality is soil wetness and workability arising from soils typically derived from Weald Clay Profiles typically comprise medium and occasionally heavy textured topsoils which overlie heavy textured subsoils at shallow depths within the soil profile These subsoils act to impede soil drainage At this locality the interaction between such poor soil drainage and the topsoil textures means that this land is subject to reduced flexibility of cropping stocking and cultivations Subgrade 3b is appropriate

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)

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 (ATO January to June) as a measure of the relative warmth of a locality

Table 2 Climatic and altitude data

	Units	Values	
Grid Reference	N/A	TQ 300 430	TQ 290 420
Altitude	m AOD	57	58
Accumulated Temperature	day°C (Jan June)	1458	1458
Average Annual Rainfall	mm	774	783
Field Capacity Days	days	164	166
Moisture Deficit Wheat	mm	109	107
Moisture Deficit Potatoes	mm	102	100
Overall climatic grade	N/A	Grade 1	Grade 1

13 The combination of rainfall and accumulated temperature at this site mean that there is no overall climatic limitation However climatic factors do interact with soil properties to influence soil wetness and droughtiness limitations At this locality the soil moisture deficits are tending slightly above average in regional terms As a result the likelihood of soil droughtiness problems may be increased No local climatic factors such as exposure or frost risk are believed to adversely affect the land quality on the site This site is climatically Grade 1

Site

14 The three separate parcels of land that constitute the site are all relatively flat and lie at approximately 57 59 m AOD Nowhere on the site do gradient or microrelief adversely affect agricultural land quality

Geology and soils

15 The most detailed published geological information for the site (BGS 1978) shows the entire site to be underlain by a solid deposit of Weald Clay Drift deposits of low terrace river gravels overlie much of the site These occur across the northern and western half of the most northern block of land across the western half of the land adjacent to the railway line and across all of the remaining south easterly block of land Drift deposits of alluvium are shown to flank the Burstow stream which occurs in the most northern block of land

16 The most recent detailed published soil map for this area (SSEW 1983 and 1984) maps two soil associations across the three areas of land Broadly speaking soils of the Shabbington Association are mapped in conjunction with the river gravel deposits These soils are described as Deep fine loamy and fine loamy over sandy soils variably affected by groundwater Some slowly permeable seasonally waterlogged fine loamy over clayey soils (SSEW 1983) Soils of the Wickham 1 Association are mapped across the area underlain by the Weald Clay These soils are described as Slowly permeable seasonally waterlogged fine silty over clayey fine loamy over clayey and clayey soils (SSEW 1983) Soils similar to the latter rather than the Shabbington Association were found across the site

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 page 8

Subgrade 3b

19 All of the land on this site has been classified as Subgrade 3b (moderate quality) All of this land is subject to significant soil wetness and workability limitations resulting from soils derived from the underlying Weald Clay

20 The topsoils on the site tend to be medium textured typically medium (silty) clay loams though heavy textured topsoils heavy (silty) clay loams also prevail These pass into heavy textured subsoils heavy (silty) clay loams and (silty) clays immediately below the

topsoil These profiles tend to be stoneless or very slightly stony throughout with topsoils and subsoils containing 0 2% total flints by volume Occasionally lower subsoils are slightly to moderately stony containing 10 20% total flints These profiles are typified by Pits 2 3 and 4 Around Haroldslea Poultry Farm in the northern block of land the profiles tend to be silty in texture here subsoils contain 5 25% total siltstone by volume The latter are typified by Pit 1 All of the pits on the site show the (silty) clay subsoils to be poorly structured the heavy (silty) clay loam subsoils are either moderately or poorly structured (depending upon the constituent soil ped consistency) All of these subsoils are slowly permeable and act to significantly impede soil drainage as indicated by gleying either from the surface or directly below the topsoil Given the prevailing climate these profiles are assessed as poorly drained (Wetness Class IV)

21 The interaction between the medium and heavy textured topsoils poor soil drainage and prevailing local climate means that this land is limited by soil wetness and workability Soil wetness can adversely affect seed germination and survival and can inhibit the development of a good root system It also influences the sensitivity of soil to structural damage and is therefore a major factor in determining the number of days when cultivation trafficking or grazing can take place

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FRCA Reading

SOURCES OF REFERENCE

British Geological Survey (1978) *Sheet No 286 Reigate 1 50 000 (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*
MAFF London

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

Soil Survey of England and Wales (1983) *Sheet 6 1 250 000 scale Soils of South East England and accompanying legend*
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

Contents

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**	Brassicae
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 **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

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

program ALC012 LIST OF BORINGS HEADERS 05/01/98 REIGATE BLP HORLEY SE page 1

SAMPLE NO	GRID REF	ASPECT USE	GRDNT	--WETNESS-- GLEY	SPL	CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	TQ30204330	PGR		0	25	4	3B		0		0					WE	3B	Water table 15
2	TQ30404330	PGR		0	29	4	3B		0		0					WE	3B	Ridge & furrow
3	TQ29404320	PLO		35	35	4	3B		0		0					WE	3B	
4	TQ29504320	PLO		25	25	4	3B	91	-18	97	-5	3A				WE	3B	Imp 60 Mn & HR
5	TQ29704320	PLO		25	25	4	3B		0		0					WE	3B	Fe 70 Water 65
6	TQ29904320	PLO		28	28	4	3B		0		0					WE	3B	
7	TQ30104320	PGR		0	28	4	3B		0		0					WE	3B	Very wet
8	TQ30304320	PGR		0	29	4	3B		0		0					WE	3B	Ridge & furrow
9	TQ29404310	PLO		25	25	4	3B		0		0					WE	3B	
10	TQ29604310	PLO		25	25	4	3B		0		0					WE	3B	Wet 30 Imp 80
11	TQ29804310	PLO		25	25	4	3B		0		0					WE	3B	Fe concs 65+
12	TQ30204310	PGR		0	30	4	3B		0		0					WE	3B	Water table 10
13	TQ30404310	PGR		0	30	4	3B		0		0					WE	3B	Ridge & furrow
14	TQ29404300	RGR		0	30	4	3B		0		0					WE	3B	
15	TQ29504300	PLO		25	25	4	3B		0		0					WE	3B	Wet25 Imp/Fe65
16	TQ29704300	PLO		25	25	4	3B		0		0					WE	3B	Wet 25
17	TQ29904300	PGR		0	23	4	3B		0		0					WE	3B	
18	TQ30104300	PGR		30	30	4	3B		0		0					WE	3B	
19	TQ30304300	PGR		0	35	4	3B		0		0					WE	3B	S1 drier
20	TQ29434294	PGR		0	35	4	3B		0		0					WE	3B	
21	TQ29664290	PLO		25	25	4	3B		0		0					WE	3B	
22	TQ29804290	PLO		25	25	4	3B		0		0					WE	3B	
23	TQ30004290	PGR		0	20	4	3B		0		0					WE	3B	
24	TQ30204290	PGR		0	28	4	3B		0		0					WE	3B	
25	TQ30404290	PGR		0	30	4	3B		0		0					WE	3B	Standing water
26	TQ29504280	PGR		0	30	4	3B		0		0					WE	3B	
27	TQ29944280	PGR		0	25	4	3B		0		0					WE	3B	
28	TQ30104280	PGR		0	28	4	3B		0		0					WE	3B	
29	TQ30304280	PGR		0	35	4	3B		0		0					WE	3B	
30	TQ29404270	PGR		0	25	4	3B		0		0					WE	3B	
31	TQ29604270	PGR		0	30	4	3B		0		0					WE	3B	
32	TQ29724270	PGR		30	30	4	3B		0		0					WE	3B	S1 drier
33	TQ30034272	PGR		0	30	4	3B		0		0					WE	3B	
34	TQ30204270	PGR		0	35	4	3B		0		0					WE	3B	
35	TQ28744242	PGR		28	48	3	3A	120	11	114	12	2				WE	3A	Med upr s/soil
36	TQ28804230	PGR		0	25	4	3B		0		0					WE	3B	
37	TQ29034227	PGR		35	35	4	3B		0		0					WE	3B	
38	TQ28724220	PGR		0	28	4	3B		0		0					WE	3B	
39	TQ28804220	PGR		0	30	4	3B		0		0					WE	3B	
40	TQ28904220	PGR		30	30	4	3B		0		0					WE	3B	
41	TQ28824210	PGR		0	35	4	3B		0		0					WE	3B	
42	TQ28904210	PGR		30	30	4	3B		0		0					WE	3B	

SAMPLE NO	GRID REF	ASPECT USE	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
43	TQ29004210	PLO	28	28	4	3B	100	-9	97	-5	3A				WE	3B	Imp 85 stony
44	TQ29804210	PGR	25	25	4	3B		0		0					WE	3B	V many Mn 38
45	TQ28734200	PGR	0	25	4	3B		0		0					WE	3B	
46	TQ28804200	PGR	0	25	4	3B		0		0					WE	3B	
47	TQ28904202	PGR	0	75	3	3A		0		0					WE	3A	Wet 50
48	TQ29004200	PGR	0	28	4	3B		0		0					WE	3B	Very wet 50
49	TQ29104200	PGR	0	28	4	3B	113	4	99	-3	3A				WE	3B	Imp 105 stony
50	TQ29704200	PGR	25	25	4	3B		0		0					WE	3B	
51	TQ29904200	PGR	20	20	4	3B		0		0					WE	3B	
52	TQ28804190	PGR	0	20	4	3B		0		0					WE	3B	Standing water
53	TQ29004190	PGR	0	25	4	3B		0		0					WE	3B	Very wet 60
54	TQ29804190	PGR	0	25	4	3B		0		0					WE	3B	
55	TQ30004190	PGR	0	22	4	3B		0		0					WE	3B	
56	TQ28804180	PGR	28		2	2	126	17	96	-6	2				WD	2	Mod stony 45
57	TQ28904180	PGR	20	40	4	3B		0		0					WE	3B	Med upr s/soil
58	TQ29104180	PGR	28	28	4	3B		0		0					WE	3B	
59	TQ29304176	PGR	28	28	4	3B		0		0					WE	3B	Standing water
60	TQ29754180	PGR	10	10	4	3B		0		0					WE	3B	
61	TQ29904180	PGR	0	20	4	3B		0		0					WE	3B	
62	TQ30104180	PGR	0	35	4	3B		0		0					WE	3B	
63	TQ28804170	PGR	25	35	4	3B		0		0					WE	3B	
64	TQ29004170	PGR	25	25	4	3B	79	-30	81	-21	3B				WE	3B	Impen 55
65	TQ29204170	PGR	28	28	4	3B	97	-12	96	-6	3A				WE	3B	Imp85 stony/Mn
1P	TQ30104280	PGR	0	24	4	3B	121	12	99	-3	2				WE	3B	Includes ZR
2P	TQ29004210	PGR	0	28	4	3B	85	-24	88	-14	3B				WE	3B	Many Mn at 55
3P	TQ29804210	PGR	20	20	4	3B	98	-11	110	11	3A				WE	3B	
4P	TQ29404287	PGR	0	29	4	3B	93	-16	103	0	3A				WE	3B	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL	GLEY	----STONES---- 2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
1	0-25	MZCL	10YR53	10YR58	C			Y	0	0		0							
	25-60	ZC	25Y 61 71	10YR68	M			Y	0	0		0		P			Y		
2	0-29	MZCL	10YR53	10YR58	C			Y	0	0		0							
	29-60	ZC	25Y 71 72	75YR68	M			Y	0	0		0		P			Y		
3	0-35	MCL	10YR42						0	0	HR	2							
	35-70	C	25Y 73	10YR68	M	D		Y	0	0	HR	2		P			Y		
	70-85	HCL	25Y 72	75YR58	M	D		Y	0	0	HR	5		M			Y		
4	0-25	MCL	10YR42						0	0	HR	2							
	25-40	HCL	25Y 63 52	10YR58	C	D		Y	0	0	HR	2		M			Y		
	40-60	HCL	25Y 53 62	75YR58	M	D		Y	0	0	HR	10		M			Y		Imp60 stony/Mn
5	0-25	MCL	25Y 42						0	0	HR	2							
	25-70	C	25Y 62	10YR5868	M	D		Y	0	0		0		P			Y		
	70-90	HCL	25Y 63	75YR58	M	D		Y	0	0	HR	2		P			Y		
6	0-28	MCL	25Y 42 52						0	0	HR	2							
	28-75	C	25Y 62 63	10YR58	M	D		Y	0	0		0		P			Y		
	75-120	C	N 71 41	10YR58	M	D		Y	0	0		0		P			Y		Very blue matrix
7	0-28	MCL	25Y 62	75YR56	M			Y	0	0		0							
	28-60	ZC	25Y 61 62	10YR68	M			Y	0	0		0		P			Y		
8	0-29	MZCL	10YR53	10YR56	C			Y	0	0		0							
	29-42	MZCL	10YR53	10YR58	M			Y	0	0		0		P			Y		
	42-50	C	25Y 51	75YR68	M			Y	0	0		0		P			Y		
	50 70	ZC	25Y 51 61	75YR68	M			Y	0	0		0		P			Y		
9	0 25	MCL	10YR42 43						0	0	HR	2							
	25 55	HCL	25Y 53 71	10YR5868	M	D		Y	0	0	HR	2		P			Y		
	55 85	HCL	25Y 72 62	75YR58	M	D		Y	0	0	HR	10		M			Y		
	85-100	HCL	25Y 62 72	75YR58	M	D		Y	0	0	HR	30		M					Stonier- Q spl
10	0-25	MCL	25Y 42						0	0	HR	2							
	25-70	C	25Y 51 61	10YR58	M	D		Y	0	0		0		P			Y		
	70-80	C	25Y 71	75YR58	M	D		Y	0	0	HR	5		P					
11	0-25	HCL	25Y 42 52						0	0	HR	2							
	25-65	C	25Y 61 63	10YR58	M	D		Y	0	0		0		P			Y		
	65-90	C	25Y 72 82	75YR58	M	D		Y	0	0		0		P			Y		Fe concretions
12	0 30	MZCL	10YR53	10YR58	C			Y	0	0		0							
	30 60	ZC	25Y 51 61	75YR68	M			Y	0	0		0		P			Y		
13	0-30	MZCL	25Y 52	10YR58				Y	0	0		0							
	30-60	C	25Y 52 62	10YR68	M			Y	0	0		0		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES- --- COL	ABUN	CONT	PED COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
14	0-30	MCL	25Y 42	10YR46	C	D		Y	0	0	HR	2							
	30 65	HCL	25Y 53 71	10YR5868	M	D		Y	0	0	HR	5		M		Y			
	65-120	C	05Y 71	10YR68	M	D		Y	0	0		0		P		Y			
15	0-25	MCL	25Y 42						0	0	HR	2							
	25-55	C	25Y 52	10YR58	M	D		Y	0	0		0		P		Y			
	55-65	HCL	25Y 71	75YR58	M	D		Y	0	0	HR	5		M		Y			Imp 65 stony/Fe
16	0-25	HZCL	25Y 42						0	0	HR	2							
	25-80	C	25Y 72	10YR68	M	D		Y	0	0		0		P		Y			
17	0-27	MZCL	25Y 52	75YR46	C	F		Y	0	0		0							
	27-35	HZCL	25Y 63	75YR56	C	D		Y	0	0		0		M		Y			
	35-65	ZC	25Y 73 71	75YR58	M	D		Y	0	0		0		P		Y			
	65-100	ZC	05Y 81	05YR58	M	D		Y	0	0		0		P		Y			
18	0-30	MZCL	10YR53						0	0		0							
	30-44	HZCL	25Y 63	75YR56	C			Y	0	0		0		M		Y			
	44-70	ZC	25Y 71 63	75YR68	M			Y	0	0		0		P		Y			
19	0-35	MZCL	10YR53	10YR56	C			Y	0	0		0							
	35-60	ZC	25Y 71 63	75YR68	M			Y	0	0		0		P		Y			
20	0-35	MZCL	25Y 52	75YR56	C	D		Y	0	0	HR	2							
	35 45	HZCL	25Y 62 72	75YR56	C	D		Y	0	0	HR	2		P		Y			
	45 80	C	25Y 73 71	75YR68	M			Y	0	0	HR	2		P		Y			
21	0-25	HCL	25Y 42						0	0	HR	2							
	25 60	C	25Y 62 72	10YR68	M	D		Y	0	0		0		P		Y			
	60-80	ZC	25Y 72	75YR68	M	D		Y	0	0		0		P		Y			
22	0-25	HCL	25Y 42						0	0	HR	2							
	25-70	ZC	25Y 71	75YR68	M	D		Y	0	0		0		P		Y			
23	0-20	MZCL	25Y 52	75YR56	C	D		Y	0	0		0							
	20 40	HZCL	25Y 62	75YR56	C	D		Y	0	0		0		M		Y			
	40 52	ZC	25Y 62	75YR56	C	D		Y	0	0		0		P		Y			
	52 80	ZC	25Y 71 73	75YR68	M	D		Y	0	0		0		P		Y			
24	0-28	HZCL	25Y 63 72	05YR58	C	D		Y	0	0		0							
	28-50	ZC	25Y 71	75YR68	M	D		Y	0	0		0		P		Y			
	50-75	ZC	05Y 71	75YR58	M	D		Y	0	0		0		P		Y			
25	0-30	HZCL	25Y 62 52	75YR68	C			Y	0	0		0							
	30 60	ZC	25Y 71 63	75YR68	M			Y	0	0		0		P		Y			
26	0-30	MZCL	25Y 62	75YR56	C			Y	0	0		0							
	30-60	C	25Y 72	75YR56	C			Y	0	0		0		P		Y			

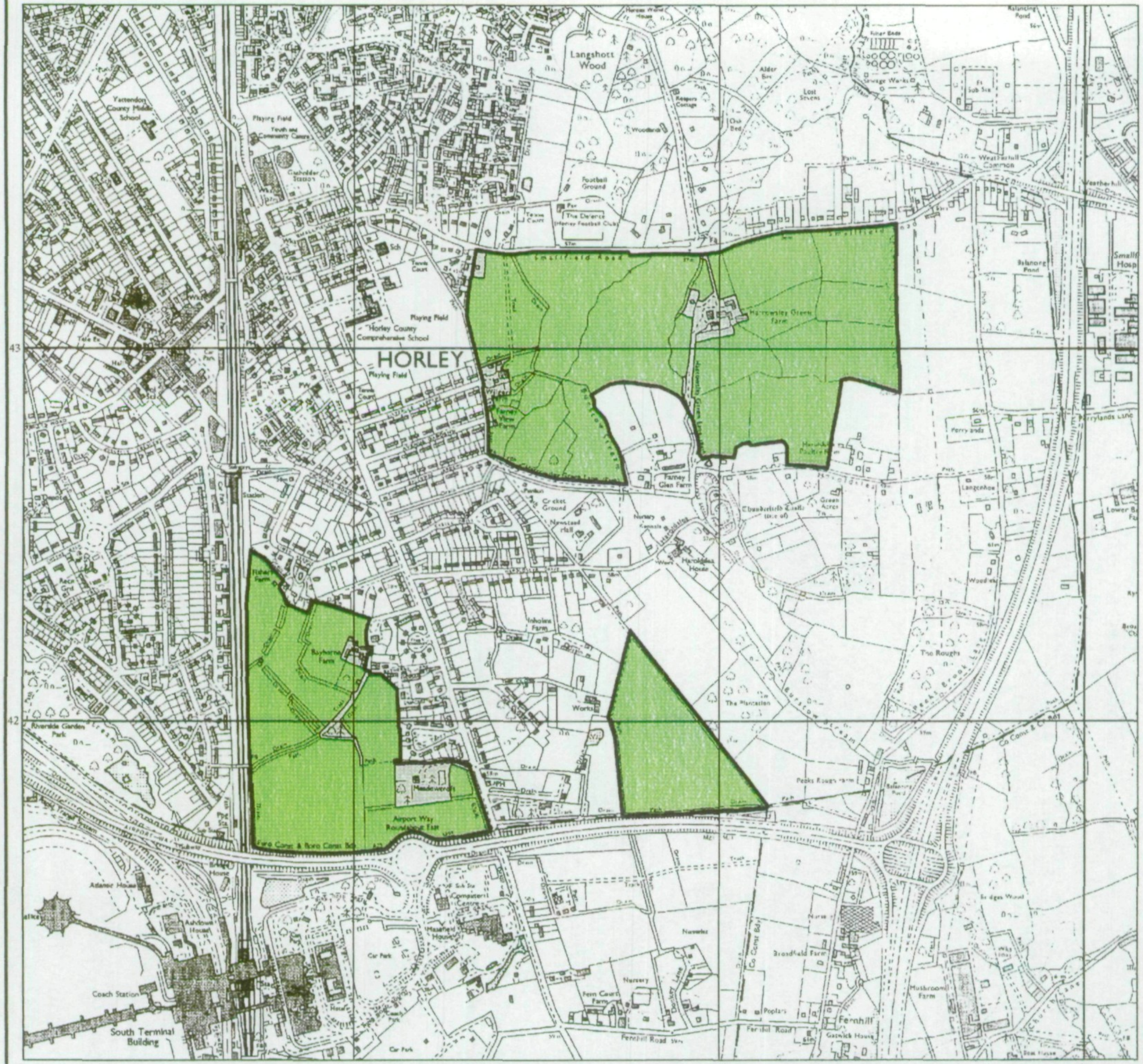
SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES ---- COL	ABUN	CONT	PED COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
27	0-25	HZCL	25Y 62	75YR56	C	D		Y	0	0		0							
	25-65	ZC	25Y 63	75YR68	M	D		Y	0	0		0			P		Y		
	65-80	ZC	25Y 71 73	05YR58	C	D		Y	0	0		0			P		Y		
28	0-28	MZCL	25Y 62	75YR56	C	D		Y	0	0		0							
	28-50	ZC	25Y 73 72	75YR66	C	D		Y	0	0		0			P		Y		
	50-95	ZC	05Y 71	75YR58	M	D		Y	0	0		0			P		Y		
29	0-35	MZCL	25Y 62	75YR46	C	D		Y	0	0		0							
	35-42	HZCL	25Y 72	75YR68	C	D		Y	0	0		0			M		Y		
	42-100	ZC	05Y 71	75YR68	M	D		Y	0	0		0			P		Y		
30	0-25	MZCL	25Y 52	75YR56	C	D		Y	0	0		0							
	25-50	HZCL	25Y 62	75YR5658	C			Y	0	0		0			P		Y		
	50-80	C	25Y 72	75YR58	M			Y	0	0		0			P		Y		
31	0-30	HCL	25Y 42	10YR46	C	D		Y	0	0	HR	2							
	30-60	C	05Y 62	10YR5868	M	D		Y	0	0		0			P		Y		
32	0-30	HCL	10YR53						0	0	HR	2							
	30-55	C	25Y 62	10YR58	M	D		Y	0	0		0			M		Y		
	55-120	C	25Y 62 72	75YR5868	M	D		Y	0	0		0			P		Y		
33	0 30	HZCL	25Y 52	75YR56	C	D		Y	0	0		0							
	30-80	C	25Y 62	75YR58	M	D		Y	0	0		0			P		Y		
34	0-35	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	35-45	HZCL	25Y 62	75YR66	C	D		Y	0	0		0			M		Y		
	45-80	ZC	25Y 63 71	75YR66	M	D		Y	0	0		0			P		Y		
35	0-28	MZCL	10YR42	75YR46	F	F			0	0		0							
	28-48	MZCL	25Y 53	75YR56	C	F		Y	0	0		0			M				
	48 55	HZCL	25Y 63	75YR66	C	D		Y	0	0		0			P		Y		
	55-85	ZC	25Y 72	75YR68	M	D		Y	0	0		0			P		Y		
	85-95	HCL	25Y 73	10YR58	M	D		Y	0	0	HR	10			P		Y		
36	0-25	MCL	25Y 62	75YR46	C	D		Y	0	0	HR	2							
	25-65	HCL	25Y 81	75YR58	M	D		Y	0	0	HR	2			P		Y		
	65-80	C	25Y 71	75YR68	M			Y	0	0	HR	2			P		Y		
37	0-35	MZCL	10YR42	10YR46	F	D			0	0		0							
	35-60	HCL	25Y 63	10YR68	C	D		Y	0	0	HR	10			P		Y		
	60 120	MCL	05Y 71	75YR68	M	D		Y	0	0	HR	15			P		Y		V pale- prob spl
38	0 28	MZCL	25Y 62	75YR46	C	D		Y	0	0	HR	2							
	28-42	HCL	25Y 63	75YR56	C	D		Y	0	0	HR	5			P		Y		
	42-60	C	25Y 71	75YR68	M	D		Y	0	0	HR	2			P		Y		
	60-80	HCL	25Y 71	10YR58	M	D		Y	0	0	HR	10			P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
39	0-30	MCL	25Y 62	75YR46	C	D		Y	0	0		0							
	30-40	HCL	25Y 53	75YR56	C	D		Y	0	0	HR	2			P		Y		
	40-75	HCL	25Y 71	75YR58	M	D		Y	0	0	HR	2			P		Y		
	75-120	HCL	05Y 81	10YR558	M	D		Y	0	0	HR	5			P		Y		
40	0-30	MCL	10YR42						0	0	HR	2							
	30-65	HCL	25Y 63 62	10YR58	C	D		Y	0	0		0			P		Y		
	65-80	SCL	25Y 72	75YR58	M	D		Y	0	0	HR	10			P		Y		
	80-120	ZC	05Y 71	10YR68	M	D		Y	0	0		0			P		Y		
41	0-35	MZCL	25Y 62	75YR46	C	D		Y	0	0	HR	2							
	35-48	ZC	25Y 62	75YR56	M	D		Y	0	0	HR	2			P		Y		
	48-60	C	25Y 72	75YR5666	M	D		Y	0	0	HR	2			P		Y		
	60-80	ZC	05Y 81	05YR58	M	D		Y	0	0		0			P		Y		
42	0-30	MCL	10YR42						0	0	HR	2							
	30-70	HCL	25Y 53 62	10YR5868	M	D		Y	0	0		0			P		Y		
	70-120	ZC	05Y 71 72	75TR58	M	D		Y	0	0		0			P		Y		
43	0-28	MCL	10YR43 32						0	0	HR	2							
	28-55	HCL	25Y 53 62	10YR68	M			Y	0	0	HR	5			P		Y		
	55 75	HCL	25Y 53 61	10YR58	M			Y	0	0	HR	10			P		Y		
	75-85	MSL	10YR42 43	10YR58	C			Y	0	0	HR	20			M				Imp 85 stony/Mn
44	0-25	MCL	10YR42	10YR58	F				0	0	HR	2							
	25-38	C	25Y 62 61	75YR68	M			Y	0	0		0			P		Y		
	38-70	C	10YR62	75YR58	M			Y	0	0		0			P		Y		
45	0-25	MZCL	25Y 52	75YR46		C		Y	0	0	HR	2							
	25-40	HZCL	25Y 63	75YR58	C	D		Y	0	0	HR	2			P		Y		
	40-80	ZC	05Y 81	75YR68	M	D		Y	0	0		0			P		Y		
46	0-25	MZCL	25Y 62	75YR46	C	D		Y	0	0	HR	2							
	25 58	HZCL	25Y 72	10YR58	M	D		Y	0	0	HR	10			P		Y		
	58-80	ZC	05Y 71	75YR68	M	D		Y	0	0		0			P		Y		
47	0 28	MZCL	25Y 52	75YR46	C	D		Y	0	0	HR	2							
	28-50	HCL	25Y 64 74	75YR68	M	D		Y	0	0	HR	25			M				Stonier- Q spl
	50-75	HCL	25Y 72	75YR58	M	D		Y	0	0	HR	45			M				Stonier- Q spl
	75-120	ZC	05Y 81	10YR58	M	D		Y	0	0		0			P		Y		
48	0-28	MCL	10YR52	10YR58	C			Y	0	0		0							
	28 40	HCL	25Y 51 52	75YR68	M			Y	0	0		0			P		Y		
	40 50	C	25Y 51 52	75YR68	M			Y	0	0	HR	2			P		Y		
	50 120	HCL	10YR53 52	10YR58	C			Y	0	0	HR	50			M		Y		
49	0-28	MCL	10YR42 52	10YR58	C			Y	0	0	HR	2							
	28-95	HCL	25Y 53 62	10YR68	M			Y	0	0	HR	2			P		Y		
	95-105	HCL	10YR53	10YR56	C			Y	0	0		0			P		Y		Imp 105 stony

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
50	0-25	MZCL	25Y 42						0	0	HR	2							
	25-70	ZC	05Y 71	10YR68	M	D		Y	0	0		0			P		Y		
51	0-20	MCL	10YR42	10YR46	F	D			0	0	HR	2							
	20-70	ZC	05Y 71	10YR68	M	D		Y	0	0		0			P		Y		
52	0-20	MZCL	10YR53	10YR58	C			Y	0	0		0							
	20-70	C	10YR52	10YR56	M			Y	0	0	HR	4			P		Y		
53	0-25	MCL	10YR43						0	0	HR	2							
	25-35	HCL	10YR53	10YR56	C			Y	0	0	HR	2			M		Y		
	35-50	HCL	10YR72 63	10YR68	C			Y	0	0		0			M		Y		
	50-60	HCL	25Y 71 72	10YR68	C			Y	0	0		0			M		Y		
	60-120	C	25Y 71 72	10YR68	C			Y	0	0		0			P		Y		
54	0-25	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	25-40	HZCL	25Y 72	75YR68	M	D		Y	0	0		0			P		Y		
	40-80	ZC	25Y 71	75YR58	M	D		Y	0	0		0			P		Y		
55	0-22	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	22-35	HZCL	25Y 71	75YR68	C	D		Y	0	0		0			P		Y		
	35-60	HZCL	25Y 71	75YR68	M	D		Y	0	0	HR	2			P		Y		
56	0-28	MCL	10YR42	00MN00	F				0	0	HR	2							
	28-45	HCL	25Y 53 62	10YR58	C			Y	0	0		0			P				
	45-55	SCL	25Y 42	10YR58	C			Y	0	0	HR	25			M				{ Lighter
	55-90	SCL	25Y 62 71	75YR5868	C			Y	0	0	HR	35			M				{ and
	90-120	MCL	25Y 71 72	75YR68	M			Y	0	0	HR	20			M				{ stonier
57	0-20	MCL	10YR43						0	0		0							
	20-40	MCL	10YR53	75YR56	C			Y	0	0		0			M				
	40-75	HCL	25Y 51 52	75YR56	M			Y	0	0		0			M		Y		
58	0-28	MCL	10YR42						0	0	HR	2							
	28-45	HCL	25Y 53 62	10YR68	M	D		Y	0	0		0			P		Y		
	45-55	SCL	25Y 42	10YR58	C	D		Y	0	0	HR	25			P		Y		
	55-90	SCL	25Y 62 74	75YR5868	M	D		Y	0	0	HR	30			P		Y		
	90-120	MCL	25Y 71 72	75YR68	C	D		Y	0	0	HR	20			M				
59	0-28	MCL	10YR42						0	0	HR	2							
	28-60	HCL	25Y 63 62	75YR58	M			Y	0	0		0			P		Y		
	60-120	ZC	05Y 71	75YR68	M			Y	0	0		0			P		Y		
60	0-10	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	10-62	HZCL	25Y 72	75YR68	M	D		Y	0	0	HR	2			P		Y		
	62 80	HCL	25Y 71	10YR58	M	D		Y	0	0	HR	20			M				Prob spl- see 4P
61	0 20	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	20-80	HCL	25Y 72	75YR58	M	D		Y	0	0	HR	2			P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
62	0-20	ZC	25Y 72	75YR58	M	D		Y	0	0		0							
	20-35	MZCL	25Y 52	75YR58	C	D		Y	0	0		0		M					
	35-60	HCL	25Y 73 72	10YR58	M	D		Y	0	0	HR	5		P		Y			
	60-75	SCL	25Y 71	75YR58	M	D		Y	0	0	HR	40		M					
63	0-25	MCL	25Y 42						0	0	HR	2							
	25-35	MCL	25Y 42 52	10YR58	C	D		Y	0	0	HR	5		M					
	35-60	HCL	25Y 53 62	10YR58	C	D		Y	0	0	HR	5		P		Y			
	60-80	HCL	10YR53	10YR5868	C	D		Y	0	0	HR	20		P		Y			
	80-120	HCL	05GY41	10YR68	C	D		Y	0	0	HR	15		P		Y			
64	0-25	MCL	10YR52						0	0		0							
	25-50	C	10YR52	10YR58	C			Y	0	0	HR	5		P		Y			
	50-55	HCL	10YR52	10YR58	C			Y	0	0	HR	35		M					Imp55 stonier
65	0 28	MCL	10YR42						0	0	HR	2							
	28 60	HCL	25Y 53 62	10YR5868	M	D		Y	0	0	HR	5		P		Y			
	60-75	HCL	25Y 53 61	10YR5868	C	D		Y	0	0	HR	20		P		Y			Prob spl- see 4P
	75-85	SCL	10YR43 53	10YR68	C	D		Y	0	0	HR	30		M					Imp 85 stony/Mn

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES- COL	ABUN	CONT	PED COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
1P	0-24	MZCL	25Y 62	75YR46 68	C	D		Y	0	0	ZR	2						
	24-56	HZCL	25Y 63 71	75YR68	M	D		Y	0	0	ZR	5	MDMPR	FM	P	Y		Y
	56-70	ZC	05Y 81	75YR56	M	D		Y	0	0	ZR	10	WKVCAB	FM	P	Y		Y
	70-120	ZC	05Y 71	05YR58	M	D		Y	0	0	ZR	25	STVCPL	FM	P	Y		Y
2P	0-29	MZCL	25Y 52	75YR56	C	F		Y	0	0	HR	2						
	29-42	HZCL	25Y 52 62	75YR68	C	D		Y	0	0	HR	2	WKCAB	FM	P	Y		Y
	42-50	C	25Y 71	75YR68	M	D		Y	0	0	HR	2	WKCAB	FM	P	Y		Y
	50-70	HCL	25Y 62	75YR68	M	D		Y	0	0	HR	20		FM	P			
3P	0-20	MZCL	10YR42	10YR56	F	D			0	0	HR	2						
	20-43	C	25Y 62 61	75YR58	M	D		Y	0	0		0	MDCAB	FM	P	Y		Y
	43-53	HZCL	05Y 71	75YR56	M	D		Y	0	0		0	MDCAB	FR	M	Y		Y
	53-70	HCL	05Y 71	75YR58	M	D		Y	0	0	HR	5	MDCAB	FR	M	Y		Y
4P	0-28	MCL	10YR42	10YR58	C			Y	0	0	HR	2						
	28-40	HCL	25Y 53 63	75YR68	M			Y	0	0	HR	2	MDCAB	FR	M	Y		Y
	40-55	C	25Y 63 62	75YR6866	M			Y	0	0		0	WKCAB	FM	P	Y		Y



MAFF Ministry of Agriculture Fisheries and Food

Agricultural Land Classification

Reigate & Banstead District Local Plan
Land south-east of Horley
Semi-detailed Survey

Legend

	Quality	Area (ha)
Grade 1	Excellent	Nil
Grade 2	Very Good	Nil
Grade 3a	Good	Nil
Grade 3b	Moderate	95.2
Grade 4	Poor	Nil
Grade 5	Very Poor	Nil
	Agricultural land not surveyed	Nil
	Other land	5.9
	Site Boundary	
	Total survey area	95.2
	Total site area	101.1

* Not present within survey area

Scale - 1:15,000

0 200 400 600 Metres

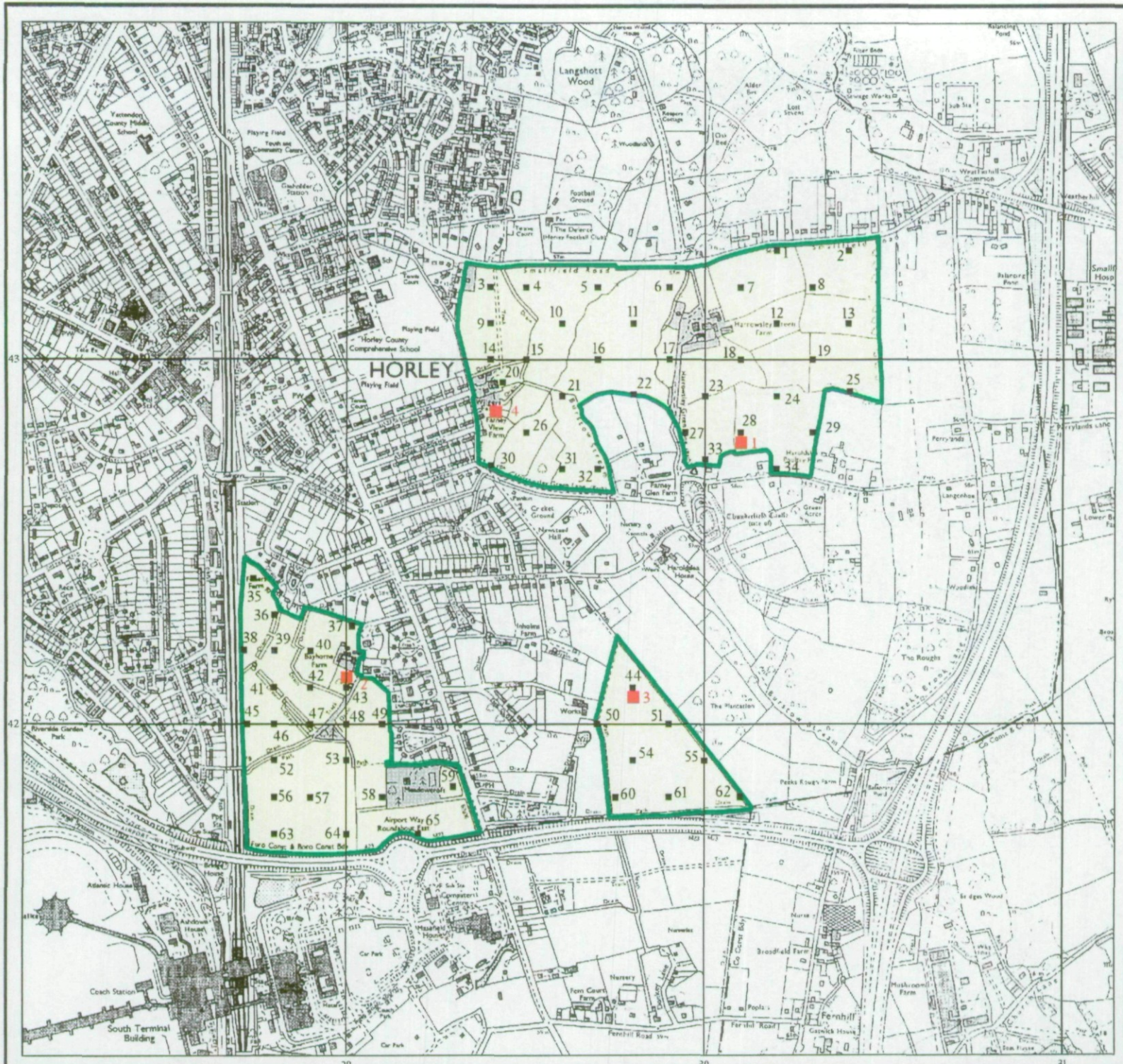
Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. Maff (publications), London SE99 7TP.

The information is accurate at base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, FRCA, Reading

Source map(s): tq24se, tq34sw

Reference no: 4005 /123 /97



MAFF Ministry of Agriculture Fisheries and Food

Agricultural Land Classification

Reigate & Banstead District Local Plan

Land south-east of Horley

Semi-detailed Survey

Sample Point Map

Legend

- 1 — Location of soil pit
- 1 — Location of auger sample point
- Boundary of survey area
- Agricultural land not surveyed
- Other land

Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. Maff (publications), London SE99 7TP.
The information is accurate at base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, FRCA, Reading.

MAFF Licence No: GD272361
Source map(s): tq24se, tq34sw
Reference no: 4005/123/97

4.1 Glossary

Table 4.1: Glossary of Terms

Term	Description
ES	Environmental Statement
GAL	Gatwick Airport Limited
ALC	Agricultural Land Classification