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STATEMENT OF PHYSICAL CHARACTERISTICS PROPOSED QUARRY EXTENSION, THORNE FARM, NEAR RAMSGATE, KENT

ADAS Ref 2012/91/92
MAFF Ref EL 20/00050

Resource Planning Team
ADAS Statutory Group
Reading
September 1992

STATEMENT OF PHYSICAL CHARACTERISTICS

PROPOSED QUARRY EXTENSION, THORNE FARM, NEAR RAMSGATE, KENT

1 BACKGROUND

1 1 Land on this 3 32 ha site was inspected on 15 September 1992 in connection with proposals for chalk extraction An Agricultural Land Classification (ALC) Survey was undertaken in accordance with the guidelines and criteria contained in the MAFF publication 'Agricultural Land Classification in England and Wales' (MAFF 1988) These guidelines provide a framework for classifying land according to the degree to which its physical or chemical characteristics impose long term limitations on agricultural use

1 2 4 auger boring samples were made together with a soil inspection pit to record additional soil information At the time of survey the majority of the area was growing a brassica crop The existing, unused quarry comprises an overgrown area not currently in agricultural use No irrigation is currently available on the site

1 3 The results of the ALC survey are shown on the accompanying coloured plan at a scale of 1 5000 This plan is only accurate at the scale shown as any enlargement could be misleading In addition to the ALC survey a record of the soil resources of the site is included in section 4

2 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2 1 Climatic data for the site was obtained by interpolation from a 5 km grid dataset (Met Office, 1989) to give the following

Climate Interpolation

Grid Reference	TR 335 652
Altitude (m)	36
Accumulated Temperature (day degrees C)	1448
Average Annual Rainfall (mm)	613
Field Capacity Days	124
Moisture Deficit - wheat (mm)	125
- potatoes (mm	123

2 2 The climate of the area is dry in both a national and regional context Due to this and its coastal proximity the site is subject to high moisture deficits Consequently, soils require high available water capacities if they are no to be droughty The dry climate increases the opportunity for landwork particularly on finer textured soil types The site is likely to be exposed to the prevailing southwesterly winds

Relief

2 3 The site has an overall southerly aspect with gradients of about 2-3° Gradient is therefore not a factor limiting land quality on the site

Geology and Soils

2 4 The published 1 50,000 scale geological survey map covering the site No 274 (Ramsgate) (IGS, 1980)shows it as formed on the Upper Chalk, close to its boundary with the Thanet Sand Detailed inspection of the site confirms this, although the chalk is covered by up to 1 metre or more of silty aeolian drift This latter deposit forms the main soil making material on the site, giving rise to deep, well drained soils typically of medium silty clay loam texture passing into weathered chalk at variable depths

3 **AGRICULTURAL LAND CLASSIFICATION**

3 1 A breakdown of the area and relative extent of the grades is given below

Grade	Ha	% Agricultural Area
2	2 70	100
Non-Agricultural*	0 62	
Total Site Area	3 32	

*Woodland and scrub associated with the existing disused quarry

Grade 2

3 2 The agricultural area of the site has been assessed as wholly grade 2 The main limitation in terms of agricultural land quality is a minor droughtiness limitation Soils on the site comprise deep and moderately deep medium silty clay loams typically passing into chalk from 70-80 cm Chalky horizons containing around 10-40% chalk may occur immediately above the chalk bedrock Deeper soils were noted at the south of the site towards the existing quarry These had no chalk bedrock within 120 cm and approach grade 1 quality

3 3 The soils are friable and relatively easy to work, are well drained (Wetness Class I) and capable of growing a range of agricultural and horticultural crops However, moisture balance calculations indicate that they are slightly droughty soils due to a combination of high moisture deficits and the appearance of a chalk substratum within 120 cm

4 SOIL RESOURCES

4 1 The following description of the soil resources is intended as a guide to the resource available for restoration on the site and not as a guide to soil stripping Due to uniformity of soil type only one soil unit is recognised

Topsoil

4 2 Topsoils comprise uniform very slightly stony (c 1% flints) medium silty clay loams, dark brown (10YR 4/2) in colour These are typically slightly calcareous, although one non-calcareous sample was noted Topsoils are around 30 cm deep, although this was difficult to

judge at the time of survey since the soil had been slightly ridged for the brassica crop

Subsoil

4 3 Subsoils are typically calcareous medium silty clay loams (occasionally silt loam) dark brown and dark yellowish brown (10YR 4/3 and 10YR 4/4) in colour Up to 40% chalk stones may occur immediately above the chalk bedrock but the content is typically 10-20% as the chalk is approached Subsoils also contain occasional flints some which may be large (>6 cm) When examined soil structure comprised moderately well developed medium or coarse subangular blocky peds of friable consistency The chalk bedrock, although weathered was dry, hard and difficult to dig

The pit description appended is representative of the soils found on the site

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SOURCES OF REFERENCE

INSTITUTE OF GEOLOGICAL SCIENCES (1980) Solid and Drift Edition Geological Map Sheet No 274 (Ramsgate)

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

METEOROLOGICAL OFFICE (1989) Climatological datasets for Agricultural Land Classification

SOIL PIT DESCRIPTION

Site Name THORNE FM THORNE KENT Pit Number 5F

Grid Reference TR33436515 Average Annual Rainfall 613 mm
Accumulated Temperature 1448 degree day
Field Capacity Level 124 days
Land Use
Slope and Aspect 1 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 30	MZCL	10YR42 00	1	1		
30- 50	MZCL	10YR43 00	0	1		CORAC
50- 80	ZL	10YR44 00	0	10		MSAB
80-120	CH	007Z00 00	0	0		

Wetness Grade 1 Wetness Class I
Gleying 000 cm
SPL No SPL

Drought Grade 2 APW 154mm MBW 29 mm
APP 127mm MBP 4 mm

FINAL ALC GRADE 2
MAIN LIMITATION Droughtiness