PROPOSED DEVELOPMENT OF LAND TO THE WEST OF PADGBURY LANE, CONGLETON

1. APPLICATION SITE

AGRICULTURAL LAND CLASSIFICATION

Report of Survey

1. SUMMARY

Eight hectares of land to the west of Congleton were graded under the Revised Agricultural Land Classification System. 41% of the agricultural land was found to be Grade 2, 35% to be Sub-grade 3a, with a further 19% classified as Sub-grade 3b and a small area classified as Grade 4.

2. INTRODUCTION

The survey area lies to the west of Congleton and is bounded by Padgbury Lane in the east, Loach Brook in the west, agricultural land and housing in the north and housing in the south. The survey was carried out as part of MAFF's statutory role in response to an ad hoc planning application to the Local Planning Authority.

The site was surveyed in 1992 using the MAFF Revised Agricultural Land Classification System, with soils being augered to a depth of 100 cm at 100 m grid intersections. Additional profiles were described as necessary to determine land quality boundaries and several soil pits were dug to examine soil structure.

3. CLIMATE LIMITATIONS

The grade of the land is determined by the most limiting factor present. The overall climate is considered first because it can have an overriding influence on restricting land to lower grades, despite other favourable conditions. The main parameters used in the assessment of the climatic limitations are the Average Annual Rainfall (AAR), as a measure of overall wetness and the Accumulated Temperature above 0°C for the period January to June (ATO), as a measure of warmth. The figures for AAR and ATO indicate that there are no climatic limitations on this site.

4. SITE LIMITATIONS

The assessment of site factors is primarily concerned with the way topography influences the use of agricultural machinery and hence the cropping potential of the land. The majority of the site is gently undulating, with the land lying at an altitude of 95 m. However, gradient is a limiting factor along Loach Brook.

5. SOIL LIMITATIONS

The site is covered by a complex drift geology which has influenced the soils. In the centre of the site the soils have been derived from Boulder Clay and include medium sandy loams over sandy clay loam over clay. The soils derived from the Glacial Lake Deposits and the Glacial Sand and Gravel are typified by medium sandy loam topsoils overlying loamy medium sand over sand with clay at depth. Along Loach Brook the soils have been derived from alluvial drift and are typified by medium clay loam topsoils over clay/silty clay.

6. INTERACTIVE LIMITATIONS

The interactions between climate, site and soil determines whether a soil will be prone to wetness, droughtiness or erosion.

Seasonal waterlogging affects the soil workability and crop yields, hence wetness is an important parameter in the classification of land. It is measured by reference to climate particularly field capacity days, soil water and topsoil texture. This site is at field capacity for approximately 198 days. Some of the soils have gley morphology within 40 cm and are slowly permeable within 54 cm, falling into Wetness Class IV. Other profiles fall into Wetness Class III, being gleyed below 40 cm and having a slowly permeable layer within 72 cm.

The other soils on this site do not exhibit gley morphology within 70 cm and do not have a slowly permeable layer within 80 cm. These soils fall into Wetness Class I and being light textured are prone to drought. A soil's susceptibility to drought is measured by the amount of water the profile can hold (Ap) in comparison to the potential soil moisture deficit for the area (MD). In this area the moisture deficit for wheat is 83 mm and for potatoes is 68 mm.

7. LAND USE

At the time of survey the land was under rough pasture and scrub.

8. AGRICULTURAL LAND CLASSIFICATION

Land quality ranges from Grade 2 to Grade 4.

8.1 **Grade 2**

Grade 2 is mapped over 3.2 ha and 39% of the site to include soils which have medium sandy loam topsoils overlying loamy medium sand over medium sand with clay at depth.

These soils fall into Wetness Class I with no evidence of gleying in the profile within 70 cm and the slowly permeable layer within 80 cm. In dry years crop yields may be slightly reduced due to a lack of available water, but these soils

are very flexible and capable of supporting a wide range of crops. Isolated profiles of Grade 1 and Sub-grade 3a occur within the land mapped as Grade 2, but these areas are too small to map separately at this scale.

8.2 Sub-grade 3a

This Sub-grade accounts for 2.8 ha and 34% of the site, where the soils are too poorly drained for a higher grade. Typically medium sandy loam topsoils overlie sandy clay loam over clay. These soils exhibit gley morphology within 50 cm and are slowly permeable within 60 cm, falling into Wetness Class III.

8.3 Sub-grade 3b

This Sub-grade occupies 1.5 ha and accounts for 18% of the site to include soils which have medium clay loam topsoils with clay/silty clay within 40 cm. These soils are too poorly drained for a higher grade showing distinct gleying within 40 cm and have a slowly permeable layer within 50 cm. Gradient is a limiting factor for those areas where the angle of slope exceeds 7°.

8.4 Grade 4

This grade is mapped over 0.4 ha and 5% of the site to include those areas where the angle of slope exceeds 11°.

8.5 Non-agricultural land

The remaining 0.3 ha and 4% of the survey area includes an area of scrub woodland and an area of waste ground.

BREAKDOWN OF AGRICULTURAL LAND CLASSIFICATION GRADES

Grade	Area (ha)	% of total	% of Agricultural land
2	3.2	39	41
3a	2.8	34	35
3b	1.5	18	19
4	0.4	5	5
Non agricultural	0.3	4	
TOTAL	8.2	100	100

RESOURCE PLANNING TEAM
WOLVERHAMPTON
DECEMBER 1992

PROPOSED DEVELOPMENT OF LAND TO THE WEST OF PADGBURY LANE, CONGLETON

2. AREA OF LAND NORTH WEST OF THE APPLICATION SITE

AGRICULTURAL LAND CLASSIFICATION

Report of Survey

1. SUMMARY

Nine hectares of land to the north west of the application site at Padgbury Lane, Congleton were graded under the Revised Agricultural Land Classification System. 78% of the agricultural land was found to be Grade 2, a further 17% to be Sub-grade 3b and a small area classified as Grade 4.

2. INTRODUCTION

The survey area lies to the north west of the application site at Padgbury Lane Congleton, It is bounded by Loach Brook in the west, housing and Padgbury Lane in the north and east and agricultural land and housing in the south.

The site was surveyed in 1992 using the MAFF Revised Agricultural Land Classification System, with soils being augered to a depth of 100 cm at 100 m grid intersections. Additional profiles were described as necessary to determine land quality boundaries and a soil pit was dug to examine soil structure.

3. CLIMATE LIMITATIONS

The grade of the land is determined by the most limiting factor present. The overall climate is considered first because it can have an overriding influence on restricting land to lower grades, despite other favourable conditions. The main parameters used in the assessment of the climatic limitations are the Average Annual Rainfall (AAR), as a measure of overall wetness, and the Accumulated Temperature above 0°C for the period January to June (ATO), as a measure of warmth. The figures for AAR and ATO indicate that there are no climatic limitations on this site.

4. SITE LIMITATIONS

The assessment of site factors is primarily concerned with the way topography influences the use of agricultural machinery and hence to cropping potential of the land. The site lies at a maximum altitude of 97 m in the southern part of the site, falling to 90 m in the north. The majority of the site is gently undulating, however, gradient is a limiting factor along Loach Brook. The frequent winter flooding of Loach Brook near Bellbro Farm is a further site limitation to the agricultural use of the land within the survey area.

5. SOIL LIMITATIONS

The site is covered by a complex drift geology which has influenced the soils. The majority of the soils are derived from Fluvio-Glacial Deposits and Glacial Sand and Gravel. These soils include medium sandy loam topsoils overlying loamy medium sand over sand. Along Loach Brook the soils have been derived from alluvial drift and are typified by medium sandy loam topsoils overlying heavy silty clay loam.

6. INTERACTIVE LIMITATIONS

The interactions between climate, site and soil determines whether a soil will be prone to wetness, droughtiness or erosion.

Seasonal waterlogging affects the soil workability and crop yields, hence wetness is an important parameter in the classification of land. It is measured by reference to climate particularly field capacity days, soil water and topsoil texture. This site is at field capacity for approximately 198 days. Some of the soils have gley morphology within 40 cm and are slowly permeable within 54 cm, falling into Wetness Class IV. The other soils on this site do not exhibit gley morphology within 70 cm and do not have a slowly permeable layer within 80 cm. These soils fall into Wetness Class I and being light textured are prone to drought. A soil's susceptibility to drought is measured by the amount of water the profile can hold (Ap) in comparison to the potential soil moisture deficit for the area (MD). In this area the moisture deficit for what is 83 mm and for potatoes is 68 mm.

7. LAND USE

At the time of survey the land was under grass.

8. AGRICULTURAL LAND CLASSIFICATION

Land quality ranges from Grade 2 to Grade 4.

8.1 **Grade 2**

Grade 2 is mapped over 6.7 ha and 77% of the site to include soils which are typified by medium sandy loam topsoils overlying loamy medium sand over sand. These soils fall into Wetness Class I with no evidence of gleying in the profile within 70 cm and no slowly permeable layer within 80 cm. In dry years, crop yields may be slightly reduced due to lack of available water, but these soils are very flexible and capable of supporting a wide range of crops.

8.2 **Sub-grade 3b**

This Sub-grade occupies 1.5 ha and accounts for 17% of the site to include soils which have medium sandy loam topsoils over heavy silty clay loam. These

soils are too poorly drained for a higher grade showing distinct gleying within 40 cm and have a slowly permeable layer within 50 cm. Gradient is a limiting factor for those areas where the angle of slope exceeds 7°. Flooding is a limiting factor for the area of land adjacent to Loach Brook, near Bellbro Farm.

8.3 Grade 4

This grade is mapped over 0.5 ha and 6% of the site to include those areas where the slope exceeds 11°.

8.4 Non agricultural land

The remaining 0.03 ha and<1% of the survey area includes a small pond.

BREAKDOWN OF AGRICULTURAL LAND CLASSIFICATION GRADES

Grade	Area (ha)	% of total	% of Agricultural land
2	6.7	77	78
3b	1.5	17	16
4	0.5	6	6
Non-agricultural	<0.1	<1	
TOTAL	8.7	100	100

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PROPOSED DEVELOPMENT OF LAND TO THE WEST OF PADGBURY LANE, CONGLETON

3. AREA OF LAND SOUTH OF THE APPLICATION SITE

AGRICULTURAL LAND CLASSIFICATION

Report of Survey

1. SUMMARY

Twenty two hectares of land to the south of the application site at Padgbury Lane, Congleton were graded under the Revised Agricultural Land Classification System. 70% of the agricultural land was found to be Grade 2 and 30% to be Sub-grade 3b.

2. INTRODUCTION

The survey area lies to the south of the application site at Padgbury Lane, Congleton. It is bounded by Loach Brook in the north, a minor road in the south and agricultural land in the west and east.

The site was surveyed in 1992 using the MAFF Revised Agricultural Land Classification System, with soils being augered to a depth of 100 cm at 100 m grid intersections. Additional profiles were described as necessary to determine land quality boundaries and several soil puts were dug to examine soil structure.

3. CLIMATE LIMITATIONS

The grade of land is determined by the most limiting factor present. The overall climate is considered first because it can have an overriding influence on restricting land to lower grades, despite other favourable conditions. The main parameters used in the assessment of the climatic limitations are the Average Annual Rainfall (AAR), as a measure of overall wetness and the Accumulated Temperature above 0°C for the period January to June (ATO), as a measure of warmth. The figures for AAR and ATO indicate that there are no climatic limitations on this site.

4. SITE LIMITATIONS

The assessment of site factors is primarily concerned with the way topography influences the use of agricultural machinery and hence the cropping potential of the land. The site lies at a maximum altitude of 103 m in the south west corner of the site, falling to 90 m in the north along Loach Brook. The land is gently undulating and nowhere does gradient limit the classification of the land.

5. SOIL LIMITATIONS

The site is covered by a complex drift geology which has influenced the soils. Along Loach Brook the soils have been derived from alluvial drift and are typified by medium clay loam topsoils over clay/silty clay. The soils in the west of the site have been derived from Boulder Clay and include medium sandy loams over clay. The soils derived from the Glacial Lake Deposits are typified by medium sandy loam topsoils overlying loamy medium sand/loamy medium fine sand over sand with clay at depth.

6. INTERACTIVE LIMITATIONS

The interactions between climate, site and soil determines whether a soil will be prone to wetness, droughtiness or erosion.

Seasonal waterlogging affects the soil workability and crop yields, hence wetness is an important parameter in the classification of land. It is measured by reference to climate particularly field capacity days, soil water and topsoil texture. This site is at field capacity for approximately 198 days. Some of the soils have gley morphology within 40 cm and are slowly permeable within 54 cm, falling into Wetness Class IV. The other soils on this site do not exhibit gley morphology within 70 cm and do no have a slowly permeable layer within 80 cm. These soils fall into Wetness Class I and being light textured are prone to drought. A soil's susceptibility to drought is measured by the amount of water the profile can hold (Ap) in comparison to the potential soil moisture deficit for the area (MD). In this area the moisture deficit for wheat is 83 mm and for potatoes is 68 mm.

7. LAND USE

At the time of survey the land was under grass.

8. AGRICULTURAL LAND CLASSIFICATION

Land quality ranges from Grade 2 to Sub-grade 3b.

8.1 Grade 2

Grade 2 is mapped over 15.2 ha and 69% of the site to include soils which are typified by medium sandy loam topsoils overlying loamy medium sand/loamy fine sand and sand with clay at depth.

These soils fall into Wetness Class I with no evidence of gleying in the profile within 70 cm and no slowly permeable layer within 80 cm. In dry years crop yields may be slightly reduced due to a lack of available water, but these soils are very flexible and capable of supporting a wide range of crops.

Isolated profiles of Grade 1 and Sub-grade 3a occur within the land mapped as Grade 2, but these areas are too small to map separately at this scale.

8.2 Sub-grade 3b

This Sub-grade occupies 6.6 ha and accounts for 30% of the site to include soils which have medium sandy loam/medium clay loam topsoils over clay/silty clay. These soils are too poorly drained for a higher grade showing distinct gleying within 40 cm and have a slowly permeable layer within 50 cm.

8.3 Non-Agricultural land

The remaining 0.3 ha and 1% of the survey area is mapped over a number of former marl pits.

BREAKDOWN OF AGRICULTURAL LAND CLASSIFICATION GRADES

Grade	Area (ha)	% of total	% of Agricultural land
2	15.2	69	70
3b	6.6	30	30
Non agricultural	0.3	1	
TOTAL	22.1	100	100

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