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Newbury District Local Plan
Site 36: Bath Road, Beenham
Agricultural Land Classification
ALC Map and Report
February 1994

NEWBURY DISTRICT LOCAL PLAN
SITE 36: BATH ROAD, BEENHAM
AGRICULTURAL LAND CLASSIFICATION REPORT

1. Summary

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

1.2 Site 36 adjacent to the Bath Road, Beenham comprising approximately 5 ha of land was surveyed in February 1994. The survey was undertaken at a detailed level of slightly less than two borings per hectare. A total of 8 soil auger borings and one soil inspection pit were assessed 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.

1.3 The work was conducted 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 was under permanent pasture and rough grazing.

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 1:5,000. It is accurate at this scale, but any enlargement would be misleading. This map supersedes any previous survey information for this site.

Table 1: Distribution of Grades and Subgrades

Grade	Area(ha)	% of Site	% of Agricultural Area	
2	3.6	69.2	70.6	
3a	0.4	7.7	7.8	
3b	0.5	9.6	9.8	
4	0.6	11.5	11.8	
Non-agricultural	<0.1	0.1	100%	(5.1 ha)
Not Surveyed	0.1	1.9		
Total Area of Site	5.2 ha	100%		

1.6 Appendix 1 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 area in agricultural use has been classified very good, Grade 2, to poor, Grade 4, quality. The principal limitations include both soil wetness and soil droughtiness. The majority of the area is very good quality, and is characterised by a slight soil wetness limitation, evidenced by gleying at shallow depths in the profile over slowly permeable clays at depth. Towards the south of the Grade 2 area and including land mapped as good quality, Subgrade 3a, soil droughtiness becomes the principal limitation. This is due to the presence of an extremely stony lower subsoil horizon restricting available water. The remaining areas have been classified as moderate, Subgrade 3b, and poor quality, Grade 4, due to the presence of a high water table, considered to be present for much of the year, in a situation where land is unlikely to benefit significantly from artificial drainage. Prolonged soil wetness severely restricts the number of days when trafficking by machinery, cultivations and/or livestock grazing may occur.

2. Climate

2.1 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.

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, 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 No local climatic factors such as exposure or frost risk affect the site. However, climatic and soil factors interact to influence soil wetness and droughtiness limitations.

Table 2 : Climatic Interpolation

Grid Reference:	SU 598675
Altitude (m) :	57
Accumulated Temperature (°days) :	1463
Average Annual Rainfall (mm) :	689
Field Capacity (days) :	147
Moisture Deficit, Wheat (mm) :	111
Moisture Deficit, Potatoes (mm) :	104
Overall Climatic Grade :	1

3. Relief

3.1 The site lies at approximately 57 m AOD, in the valley of the River Kennet. Overall, the site slopes slightly from north to south. However gradient and microrelief do not affect agricultural land quality on this site.

4. Geology and Soil

4.1 The British Geological Survey published map, Sheet 268, Reading (1946, 1:63,360), shows the site to be entirely underlain by Recent Valley Gravel deposits.

4.2 The Soil Survey of England and Wales published map, Sheet 6, Soils of South East England (1983, 1:250,000), shows the site to be underlain by soils from the Bursleden, Wickham 4 and Hamble 2 Associations. These are respectively described by the legend accompanying the map, as:-

i) Bursleden - 'deep fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging, associated with deep coarse loamy soils, variably affected by groundwater. Some slowly permeable seasonally waterlogged loamy over clayey soils' Soils of this general nature were found towards the north of this site.

ii) Wickham 4 - 'slowly permeable seasonally waterlogged fine loamy over clayey soils, often with brown subsoils.' Soils of this nature were found across the centre of the site.

iii) Hamble 2 - 'deep stoneless well drained silty soils and similar soils affected by groundwater'. Usually found on flat land. Soils with shallow gravel and high groundwater levels were found at this site towards the south.

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 very good quality is mapped for the majority of the site in a single unit towards the north. The land in this area was found to be very slightly limited principally by soil wetness. Soils here are characterised by a very slightly stony non-calcareous medium clay loam topsoil. This passes to either medium or heavy clay loam upper subsoils which are gleyed, moderately structured and either stoneless or very slightly stony. These overlie gleyed moderately structured permeable stoneless or very slightly stony clays, passing, between 60 and 95 cm, to a slowly permeable slightly to moderately stony clay, which was often impenetrable to the soil auger. At the pit observation (1P, see Appendix III), this horizon overlies a very stony sandy clay which extends to depth. As a result of the interaction of local climatic factors with soil characteristics, ie shallow gleying over deep slowly permeable horizons, Wetness Class II (See Appendix II) has been applied, which when the workability of the medium topsoils is taken into account leads to Grade 2 being appropriate. In addition profiles were found to contain variable proportion of stones which increase the possibility of drought stress in plants by slightly reducing available water in the

profile, such that in virtually all cases Grade 2 may also be applied on the basis of soil droughtiness.

Occasional borings were of a slightly better quality, but these were of insufficient quantity or distribution to justify separate mapping. Land of this quality could be expected to produce high yields of most crops, but there may be reduced flexibility, in the production of the more demanding crops such as vegetables.

Subgrade 3a

5.4 Land of good quality covers a small area across the centre of the site. It is primarily limited by soil droughtiness due to stones in the lower subsoil. The soil profiles are essentially similar to those described above (Para 5.3), medium clay loam topsoils over medium or heavy clay loam upper subsoils passing to clay which is initially permeable, but becomes slowly permeable at depth. However in the lower subsoil beyond about 80 cm, the clay is moderately stony thereby causing available water within the profile to be restricted. This causes an increased possibility of drought stress, which within the local climatic regime leads to Subgrade 3a being most appropriate. Land of this quality could be expected to produce moderate to high yields of a narrow range of arable crops especially cereals, or moderate yields of a wide range of crops such as grass, oilseed rape, potatoes, sugar beet and less demanding horticultural crops.

Subgrade 3b

5.5 The area of moderate quality land is situated towards the central southern part of the site. It is primarily limited by soil wetness due to the presence of groundwater close to the surface of the profile throughout much of the year affecting plant establishment and successful growth. It was considered that Wetness Class IV (see Appendix II) would be most appropriate in this area and given the workability status of the topsoil Subgrade 3b has been mapped. Land of this quality could be expected to produce moderate yields of a narrow range of crops, principally cereals and grass.

Grade 4

5.6 The area of poor quality land is situated towards the south of the site and is severely limited by soil wetness due to the presence of groundwater high in the profile, for much of the year. This affects successful plant establishment and growth. This part of the site was characterised by wetland flora in the form of tussocky reeds, indicating permanently waterlogged conditions such that Wetness Class V (see Appendix II) was considered appropriate. The combination of medium topsoil textures and wetness class leads to Grade 4 being applied. Land of this quality could be expected to produce variable yields of grass and occasional arable crops such as cereals and forage crops. Under wet conditions grass yields may be moderate to high but in this case there would be difficulties in utilisation.

5.7 Soil wetness adversely affects plant growth, partly by affecting seed germination and survival and/or reducing the soil temperature and/or causing anaerobic conditions. It also inhibits the development of a good root system and can eventually lead to plant

death. It can also affect the soil's sensitivity to structural damage, causing a limitation in the number of days when cultivation by machinery and livestock grazing is possible.

5.8 The area to the south west of the site is a small Water Board pumping station and associated grounds not used for agriculture. The area marked as not surveyed towards the south east of the site has recently been disturbed by pipe laying activities and as such was not surveyed.

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MAFF Ref: EL02/0297

Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

* British Geological Survey (1946), Sheet No. 268, Reading 1:63,360.

* 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 No 6, Soils of South East England, 1:250,000, and Accompanying Legend.

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, religous buildings, cemetries. 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.

APPENDIX II

FIELD ASSESSMENT OF SOIL WETNESS CLASS

Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging[1]
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years[2].
II	The soil profile is wet within 70 cm depth for 31-90 days in most years *or*, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but not wet within 40 cm depth for more than 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years *or*, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31 and 90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not within 40 cm depth for more than 210 days in most years *or*, if there is no slowly permeable layer within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

[1] The number of days specified is not necessarily a continuous period.

[2] 'In most years' is defined as more than 10 out of 20 years.

APPENDIX III

SOIL PIT AND SOIL BORING DESCRIPTIONS

Contents :

SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

Soil profile and pit information obtained during ALC surveys is held on a database. This has commonly used notations and abbreviations as set out below.

BORING HEADERS

1. GRID REF : National grid square followed by 8 figure grid reference.

2. USE : Land-use at the time of survey.
   The following abbreviations are used.

ARA - arable	PAS/PGR - permanent pasture
WHT - wheat	RGR - rough grazing
BAR - barley	LEY - ley grassland
CER - cereals	CFW - coniferous woodland
OAT - oats	DCW - deciduous woodland
MZE - maize	SCR - scrub
OSR - oilseed rape	HTH - heathland
BEN - field beans	BOG - bog or marsh
BRA - brassicae	FLW - fallow
POT - potatoes	PLO - ploughed
SBT - sugarbeet	SAS - set-aside
FDC - fodder crops	OTH - other
FRT - soft and top fruit	LIN - linseed
HOR/HRT - horticultural crops	

3. GRDNT : Gradient as measured by optical reading clinometer.

4. GLEY/SPL : Depth in centimetres (cm) to gleyed and/or slowly permeable horizons.

5. AP (WHEAT/POTS) : Crop-adjusted available water capacity. The amount of soil water (in millimetres) held in the soil profile that is available to a growing crop (wheat and potatoes are used as reference crops).

6. MB (WHEAT/POTS) : The moisture balance for wheat and potatoes obtained by subtracting the soil moisture deficit from the crop-adjusted available water capacity.

7. DRT: Grade according to soil droughtiness assessed against soil moisture balances.

8. M REL : Micro-relief)
   FLOOD : Flood risk)
   EROSN : Soil erosion)
   EXP : Exposure)
   FROST : Frost prone)
   DIST : Disturbed land)
   CHEM : Chemical limitation) If any of these factors are considered significant in terms of the assessment of agricultural land quality a 'y' will be entered in the relevant column.

9. LIMIT : Principal limitation to agricultural land quality.
The following abbreviations are used:

OC - overall climate
AE - aspect
EX - exposure
FR - frost
GR - gradient
MR - micro-relief
FL - flooding
TX - soil texture
DP - soil depth
CH - chemical limitations
WE - wetness
WK - workability
DR - drought
ER - erosion
WD - combined soil wetness/soil droughtiness
ST - topsoil stoniness

PROFILES & PITS

1. TEXTURE : Soil texture classes are denoted by the following abbreviations:

S - sand
LS - loamy sand
SL - sandy loam
SZL - sandy silt loam
ZL - silt loam
MZCL - medium silty clay loam
MCL - medium clay loam
SCL - sandy clay loam
HZCL - heavy silty clay loam
HCL - heavy clay loam
SC - sandy clay
ZC - silty clay
C - clay

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction may be indicated by the use of prefixes.

F - fine (more than ⅔ of the sand less than 0.2 mm)
C - coarse (more than ⅓ of sand greater than 0.6 mm)
M - medium (less than ⅔ fine sand and less than ⅓ coarse sand)

The sub-divisions of clay loam and silty clay loam classes according to clay content are indicated as follows:

M - medium (less than 27% clay)
H - heavy (27-35% clay)

Other possible texture classes include:

OL - organic loam
P - peat
SP - sandy peat
LP - loamy peat
PL - peaty loam
PS - peaty sand
MZ - marine light silts

2. MOTTLE COL : Mottle colour

3. MOTTLE ABUN : Mottle abundance

F - few - less than 2% of matrix or surface described
C - common - 2-20% of the matrix
M - many - 20-40% of the matrix
VM - very many - 40% + of the matrix

4. MOTTLE CONT : Mottle continuity

F - faint - indistinct mottles, evident only on close examination
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

6. STONE LITH : Stone lithology. One of the following is used.

HR - all hard rocks or stones
MSST - soft, medium or coarse grained sandstone
SI - soft weathered igneous or metamorphic
SLST - soft oolitic or dolomitic limestone
FSST - soft, fine grained sandstone
ZR - soft, argillaceous, or silty rocks
CH - chalk
GH - gravel with non-porous (hard) stones
GS - gravel with porous (soft) stones

Stone contents (>2cm, >6cm and total) are given in percentages (by volume).

7. 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 well developed

- ped size

F - fine
M - medium
C - coarse
VC - very coarse

- ped shape

S - single grain
M - massive
GR - granular
SB/SAB - sub-angular blocky
AB - angular blocky
PR - prismatic
PL - platy

8. CONSIST : Soil consistence is decribed using the following notation:

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

9. SUBS STR : Subsoil structural condition recorded for the purpose of calculating profile droughtiness.

G - good
M - moderate
P - poor

10. POR : Soil porosity. If a soil horizon has less than 0.5% biopores >0.5 mm, a `y' will appear in this column.

11. IMP : If the profile is impenetrable a `y' will appear in this column at the appropriate horizon.

12. SPL : Slowly permeable layer. If the soil horizon is slowly permeable a `y' will appear in this column.

13. CALC : If the soil horizon is calcareous, a 'y' will appear in this column.

14. 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

SOIL PIT DESCRIPTION

Site Name : NEWBURY LP SITE 36 Pit Number : 1P

Grid Reference: SU59786746 Average Annual Rainfall : 689 mm
Accumulated Temperature : 1463 degree days
Field Capacity Level : 147 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	MCL	10YR42 00	0	3		
25- 37	MCL	10YR53 00	0	5	F	MDCSAB
37- 63	MCL	10YR53 00	0	5	C	MDCSAB
63- 74	C	10YR53 00	0	0	C	MDCSAB
74- 90	C	10YR53 00	0	20	M	WKCSAB
90-120	SC	75YR46 56	0	60	C	

Wetness Grade : 2 Wetness Class : II
Gleying :037 cm
SPL :074 cm

Drought Grade : 2 APW : 126mm MBW : 15 mm
APP : 113mm MBP : 9 mm

FINAL ALC GRADE : 2
MAIN LIMITATION :

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SU59706760	PGR			025	085	2	2	130	19	115	11	2				WD	2	IMPST110 SEE1P
1P	SU59786746	PGR			037	074	2	2	126	15	113	9	2				WD	2	PIT 92 AUG 120
2	SU59706750	PGR			025	080	2	2	138	27	116	12	2				WD	2	GLEY 25 SPL 80
3	SU59806750	PGR			060	090	1	1	142	31	117	13	1					1	GLEY 60 SPL 90
4	SU59706740	PGR			030		2	2	104	-7	116	12	3A				WD	2	IMPST 75 SEE1P
5	SU59806740	SAS			0		4	3B	97	-14	86	-18	3A				WE	3B	WC IV MARSHY
6	SU59786744	PGR			022		2	2	92	-19	104	0	3A				DR	3A	IMPST 65 SEE1P
7	SU59636749	PGR			035		2	2	111	0	118	14	3A				WD	2	IMPST 82 SEE1P
8	SU59786758	PGR			035		2	2	130	19	118	14	2				WD	2	IMPST100 SEE1P

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
1	0-25	mcl	10YR42 00						0	0	HR	2						
	25-40	hcl	10YR41 51	10YR46 00	C			Y	0	0	HR	2		M				
	40-53	hcl	10YR52 00	10YR46 00	M			Y	0	0	HR	2		M				
	53-85	c	10YR52 00	10YR56 00	M			Y	0	0	HR	2		M				
	85-110	c	10YR52 53	10YR58 00	M		00MN00 00	Y	0	0	HR	10		M			Y	IMPST 110
1P	0-25	mcl	10YR42 00						0	0	HR	3						
	25-37	mcl	10YR53 00	10YR56 00	F				0	0	HR	5	MDCSAB	FR M				
	37-63	mcl	10YR53 00	10YR56 00	C			Y	0	0	HR	5	MDCSAB	FR M				
	63-74	c	10YR53 00	10YR56 00	C		75YR52 00	Y	0	0		0	MDCSAB	FR M	Y			
	74-90	c	10YR53 00	75YR56 00	M			Y	0	0	HR	20	WKCSAB	FR M	Y		Y	
	90-120	sc	75YR46 56	75YR52 00	C			Y	0	0	HR	60		M				
2	0-25	mcl	10YR42 00	10YR46 00	F				0	0	HR	2						
	25-45	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M				
	45-80	c	10YR53 00	10YR56 00	M			Y	0	0		0		M				
	80-120	c	10YR53 00	10YR56 00	M		00MN00 00	Y	0	0	HR	5		M			Y	
3	0-30	mcl	10YR42 00						0	0	HR	2						
	30-45	mcl	10YR54 00						0	0		0		M				
	45-60	hcl	10YR54 00	10YR52 00	F				0	0		0		M				
	60-90	c	10YR53 00	10YR56 00	C			Y	0	0		0		M				
	90-120	c	10YR53 00	10YR56 00	C			Y	0	0	HR	5		M			Y	
4	0-30	mcl	10YR42 00	10YR56 00	F				0	0	HR	3						
	30-45	mcl	10YR43 00	10YR56 00	C			Y	0	0		0		M				
	45-65	c	10YR53 00	10YR56 00	M			Y	0	0		0		M				
	65-70	c	10YR53 00	75YR56 58	M		00MN00 00	Y	0	0	HR	5		M				
	70-75	sc	10YR52 00	75YR46 00	M		00MN00 00	Y	0	0	HR	20		M				IMPST 75
5	0-25	mzcl	10YR42 00	10YR46 00	C			Y	0	0	HR	20						
	25-40	mcl	10YR52 00	10YR56 00	M			Y	0	0	HR	30		M				
	40-100	mcl	25Y 51 00					Y	0	0	HR	40		M				
6	0-22	mcl	10YR42 00						0	0	HR	5						
	22-35	mcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M				
	35-60	c	10YR53 00	75YR56 00	M			Y	0	0	HR	3		M				
	60-65	c	10YR53 00	75YR56 00	M			Y	0	0	HR	20		M				IMPST 65
7	0-35	mcl	10YR42 00						0	0	HR	2						
	35-55	mcl	10YR53 00	10YR56 00	C			Y	0	0		0		M				
	55-75	c	10YR53 00	10YR56 00	M			Y	0	0		0		M				
	75-82	c	75YR56 00					Y	0	0	HR	20		M				IMPST 82
8	0-35	mcl	10YR42 00	10YR56 00	F				0	0	HR	2						
	35-60	mcl	10YR53 00	10YR56 00	C			Y	0	0		0		M				
	60-75	hcl	10YR53 00	10YR56 00	M			Y	0	0		0		M				
	75-95	c	10YR53 00	75YR56 00	M			Y	0	0	HR	2		M				
	95-100	c	10YR53 00	75YR56 00	M			Y	0	0	HR	20		M				IMPST 100