3 2 0 1 3 0 6 1 0 P

DESIGN AND ACCESS STATEMENT

SITE: WITHGILL FARM, MITTON, WHALLEY, CLITHEROE

PROPOSAL: NEW SLURRY LAGOON

1 ASSESSMENT

1.1 Withgill Farm is situated in the open countryside between Clitheroe and Chaigley and is approached from the west via a short track. Land in the vicinity is undulating and primarily in agricultural use, and characterised by the hedges with mature trees that form the field boundaries. Historically the working farm was sold off from the farmhouse, which along with the traditional buildings that have been converted for residential use has been in separate ownership for many years. These buildings, known collectively as Withgill Fold, are located to the south east of the farm.

1.2 Withgill Farm now comprises a modern farmhouse occupied by the farm manager and a second farm dwelling occupied by the assistant manager, a group house occupied by foreign workers together with substantial ranges of portal framed agricultural buildings which house 2040 dairy cattle and associated needs arising. These buildings equate to the completion of phase III of the planned expansion of the herd, which added to the stocking levels. The phase II development also necessitated the construction of a substantial slurry lagoon, which is located on the west side of the complex and screened by earth banking.

1.3 Policies in the development plan are informed by the newly published National Planning Policy Framework which was issued in late March this year. This effectively supersedes previous government advice detailed in Planning Policy Guidance (PPG's) and Planning Policy Statements (PPS's). The development plan also

currently includes policies saved from the Ribble Valley Districtwide Local Plan. Saved policies of relevance include ENV2 which seeks to ensure that development protects, conserves and wherever possible enhances the landscape and character of the areas adjacent to the AONB, G1 which sets out a number of development control criteria and G5 which limits development outside the settlement boundaries to specific uses including that necessary for the purposes of agriculture.

2 INVOLVEMENT

2.1 On behalf of the client we have been engaged in informal pre application discussions with Colin Sharpe a Senior Planning Officer at the local authority in respect of the emerging need for improved slurry storage facilities at the farm, which has been necessitated following a prolonged wet period in the latter half of 2011 and throughout 2012. Equally a meeting was held some months ago at the council's offices at the request the authority with representatives of the environment agency present to discuss the circumstances surrounding the excavation of the lagoon extension which is now the subject of this latest application.

3 EVALUATION

3.1 The implementation of phase III of the expansion plans at Withgill Farm were completed eighteen months ago and additional cows were purchased to expand the herd to the new capacity and this also coincided with the prolonged wet period leading up to the end of 2012 and throughout 2013. As a consequence the existing slurry storage facilities were put under extreme pressure and reached capacity because of the inability to continue spreading operations due to adverse ground conditions.

3.2 Over the past 24 months trials have been undertaken with different types of bedding materials in order to improve animal welfare and reduce the incidence of mastitis and these trials have now resulted in the adoption of a lime ash bedding as the ongoing preferred solution. As a consequence of the more recent use of lime ash bedding over the original matting system then inevitably quantities of this material find their

way into the slurry lagoon and settle at the base of the lagoon effectively reducing its total capacity. This factor together with the increased annual rainfall and the adverse weather conditions in the latter half of 2012 and throughout 2013 all contributed to the need to find a more appropriate long term solution in terms of slurry storage at the unit to ensure that matters are future proof. The aim of creating a second and third lagoon whilst increasing the overall capacity means that it provides the opportunity in summer months when spreading is likely to be less of an issue that the lagoons could, in rotation, be emptied on a bi-annual basis allowing the lime ash to be excavated from the base of each lagoon to maintain optimum capacity. Equally at the present time there is only a requirement to provide four months winter storage although if the farm went back into an NVZ zone then there would be a need to extend the storage capacity to six months and this additional facility would be able to cope with this situation if in fact this situation did arise in the future.

4 DESIGN

4.1 The new lagoon is an earth bank construction which is now nearing completion as there was a necessity to progress works in advance of obtaining formal consent in order to avoid the real potential for a pollution scenario with the present lagoons being at maximum capacity for a considerable number of months.

4.2 The siting of the new lagoon is to be north of the main farm complex adjacent to the newly completed phase III building and second phase lagoon. Land in the vicinity rises in a northward direction and therefore the height of the bund at this northern extremity is lesser than the southern extremity of the lagoon which is closest to the existing farm complex. This in itself assists in assimilating the new slurry lagoon into the landscape when viewed from more distant vantage points. The lagoon has a capacity of 30,205.38 cubic litres and the scheme is accompanied by a revised manure management plan prepared and submitted by Graeme Surtees Associates Ltd. This revised manure management plan should be read as an integral part of the submission.

4.3 The lagoon has been designed with an access road encircling the top of the embankment providing access for tractors and tankers and the whole of the lagoon area will be appropriately fenced off for site safety reasons particularly in view of the relatively close proximity to the public footpath. The scheme also incorporates a comprehensive landscape scheme which it is proposed will be implemented in the next planting season.

5 ACCESS

5.1 This application raises no issues in respect of access to the site

May 2013

BS1377 : Part 6 : Clause 6 :1990

Determination of Permeability in a Triaxial Cell

Sample ID:	RAC5781-3	Description: Firm dark grey slightly sandy CLAY with rare fine to medium gravel

SPECIMEN DETAILS

Depth within original sample	15mm from top
Orientation within original	Vertical
Specimen preparation	Undisturbed 3 2 0 1 3 0 6 1 0 P

TEST DETAILS

Cell Preparation — Performed in accordance with Clause 3.5

		INITIAL	FINAL
Diameter	mm	99.0	98.5
Height	mm	101.1	100.6
Moisture Content	%	28	28
Bulk Density	Mg/m³	1.99	2.02
Dry Density	Mg/m³	1.56	1.58

SATURATION STAGE

Saturation initially by constant moisture content, followed by back-pressure assistance using 5-10 kPa differential

'B' value	0.90	0.98

CONSOLIDATION STAGE

Effective pressure	kPa	50
Volume change	mL	11.8

PERMEABILITY STAGE

Pressure difference across specimen		30
Hydraulic gradient		30.4
Mean effective stress	kPa	35

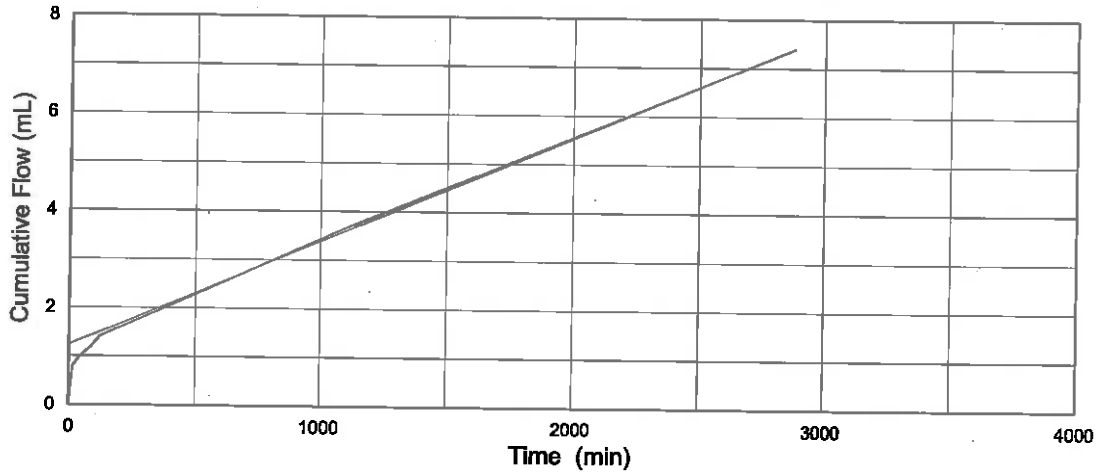
TEST DURATIONS

Saturation	days	5
Consolidation	days	2
Flow	days	2

RESULT

Coefficient of Permeability

kv at 20°C = 1.5×10^{-10} m/s



Checked and Approved	Project Number:	
Initials: RJP	Project Name:	GEO / 19212
Date: 19/02/13		SLURRY LAGOON LINER
		Project Reference RAC5781

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Authorised Signatories: [ ] P A Brennan (Qual Mgr) [ ] C F Wallace (Tech Mgr) [ ] P T Heritage (Ops Mgr) [ ] J M M Powell (Tech Dir) [x] R Platt (Lead Tech)
Client: Reading Agricultural Consultants, Gate House, Beechwood Court, Long Toll, Woodcote, Berkshire RG8 0RR

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Determination of Permeability in a Triaxial Cell

Sample ID:	RAC5781-1	Description: Firm dark grey slightly sandy CLAY with rare fine to medium gravel

SPECIMEN DETAILS	
Depth within original sample	20mm from top
Orientation within original	Vertical
Specimen preparation	Undisturbed

3 2 0 1 3 0 6 1 0 P

TEST DETAILS			
Cell Preparation		Performed in accordance with Clause 3.5	
		INITIAL	FINAL
Diameter	*mm*	100.4	99.8
Height	*mm*	95.1	94.5
Moisture Content	*%*	27	27
Bulk Density	*Mg/m³*	2.01	2.04
Dry Density	*Mg/m³*	1.59	1.61

SATURATION STAGE		
Saturation initially by constant moisture content, followed by back-pressure assistance using 5-10 kPa differential		
'B' value	0.69	0.96

CONSOLIDATION STAGE		
Effective pressure	*kPa*	50
Volume change	*mL*	12.7

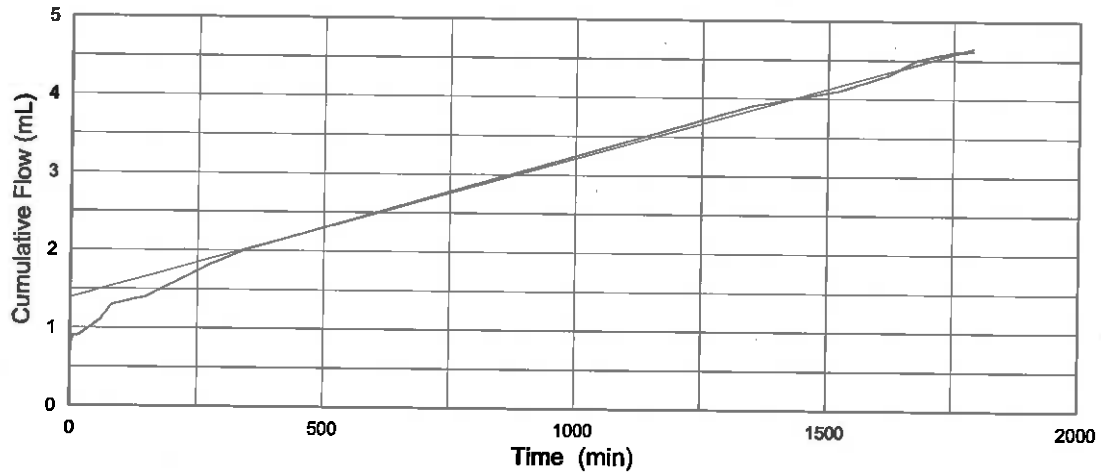
PERMEABILITY STAGE		
Pressure difference across specimen		30
Hydraulic gradient		32.4
Mean effective stress	*kPa*	35

TEST DURATIONS		
Saturation	*days*	4
Consolidation	*days*	3
Flow	*days*	2

RESULT

Coefficient of Permeability

kv at 20°C = 1.2×10^{-10} m/s



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UKAS TESTING 1582

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Determination of Permeability in a Triaxial Cell

Sample ID:	RAC 5781-2	Description: Firm dark grey slightly sandy CLAY with rare fine to medium gravel

SPECIMEN DETAILS	
Depth within original sample	10mm from top
Orientation within original	Vertical
Specimen preparation	Undisturbed

3 2 0 1 3 0 6 1 0 P

TEST DETAILS			
Cell Preparation		Performed in accordance with Clause 3.5	
		INITIAL	FINAL
Diameter	*mm*	99.5	99.2
Height	*mm*	100.4	100.1
Moisture Content	*%*	24	23
Bulk Density	*Mg/m³*	2.08	2.09
Dry Density	*Mg/m³*	1.68	1.70

SATURATION STAGE		
Saturation initially by constant moisture content, followed by back-pressure assistance using 5-10 kPa differential		
'B' value	1.00	1.00

CONSOLIDATION STAGE		
Effective pressure	*kPa*	50
Volume change	*mL*	5.9

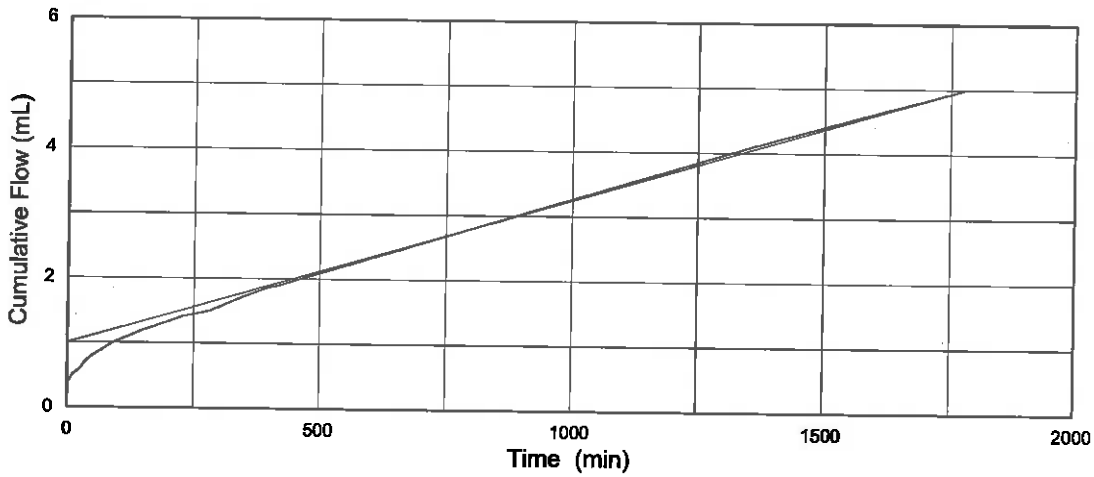
PERMEABILITY STAGE		
Pressure difference across specimen		30
Hydraulic gradient		30.6
Mean effective stress	*kPa*	35

TEST DURATIONS		
Saturation	*days*	2
Consolidation	*days*	1
Flow	*days*	1

RESULT

Coefficient of Permeability

kv at 20°C = 1.6×10^{-10} m/s



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Dirty Yards	M2
Main yard	1242
Silo	1135
In front of silo	575
Left of silo	900
Walkway	455
Between Buildings	1876
Back Passage	840
Calf Yard	837
Between 5 and 6	210
Total	8070

	Measurement	Volume	
Slurry Lagoon PF	51.25 x 74 x 5	15,170	
Slurry Lagoon WG	80 x 80 x 3.5	-	** full of lime ash*
New Lagoon	52 x 108 x 3.5	17,372	
		32,542	Litres cubed
		7.23	Million Gallon