



6 July 2026

✉ 54 Common Lane
Titchfield, Hants,
PO14 4BU

Michael Blacker Partnership
No1 Mark Street
Reigate
Surrey
RH2 0BL

☎ 07717 759149
🌐 www.aquacallidus.co.uk

FAO: Gary Chandler

Ref: 24188

Barn Conversion at Gibbeshaven Farm, Furnace Farm Road, Felbridge

Dear Sirs

Three cycles of BRE365 permeability testing were undertaken at the the location of the proposed soakaway. The test results are attached. The design permeability from the results is 1.26×10^{-5} m/sec.

The soakaway size has been recalculated using UKSUDS FEH2025 design tool (attached) which confirms a required size of 6.0m x 4.0m x 1.2m deep for the soakaway with a half drain time of 20.6 hours and a critical storm duration of 18 hours. Calculations attached.

We have updated the site drainage age drawing ACC24188-01-B (attached) to reflect this.

Yours Sincerely,

Aqua Callidus Consulting Ltd

Andy Traves

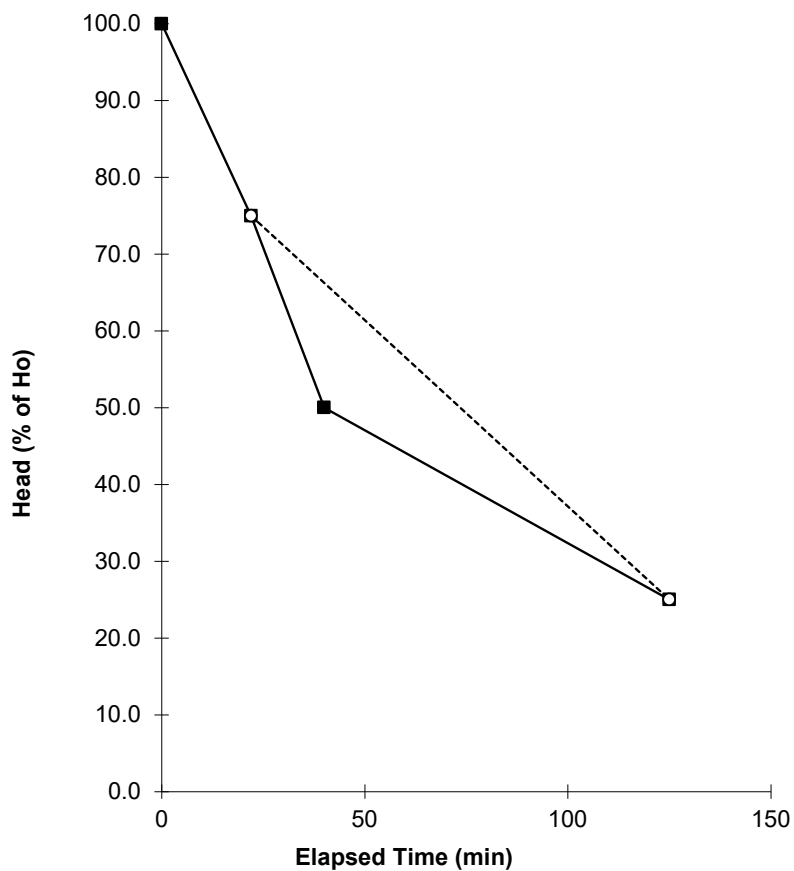
Enc. Permeability test results
ACC241888-01-B
Soakaway calculations

BRE365 Field Permeability Test

Site Ref Gibbeshaven farm **project** 24188
Hole Reference TH01
Test Number 1
Test Date 03 July 2026

Depth of Pit	1.80	m			
Width of Pit	0.30	m	A_p50	1.860	m ²
Length of Pit	1.00	m	V_p75-25	0.180	m ³
Depth of Pit Soaked	1.20	m	water used	0.360	m ³

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.600	0	100.0	1.200
0.900	22	75.0	0.900
1.200	40	50.0	0.600
1.500	125	25.0	0.300



T75	22.00	75.0	%
T25	125.0	25.0	%
T75-25	103.0	Derived from Best Fit	
Infiltration rate (f)			1.57E-05 m/sec.

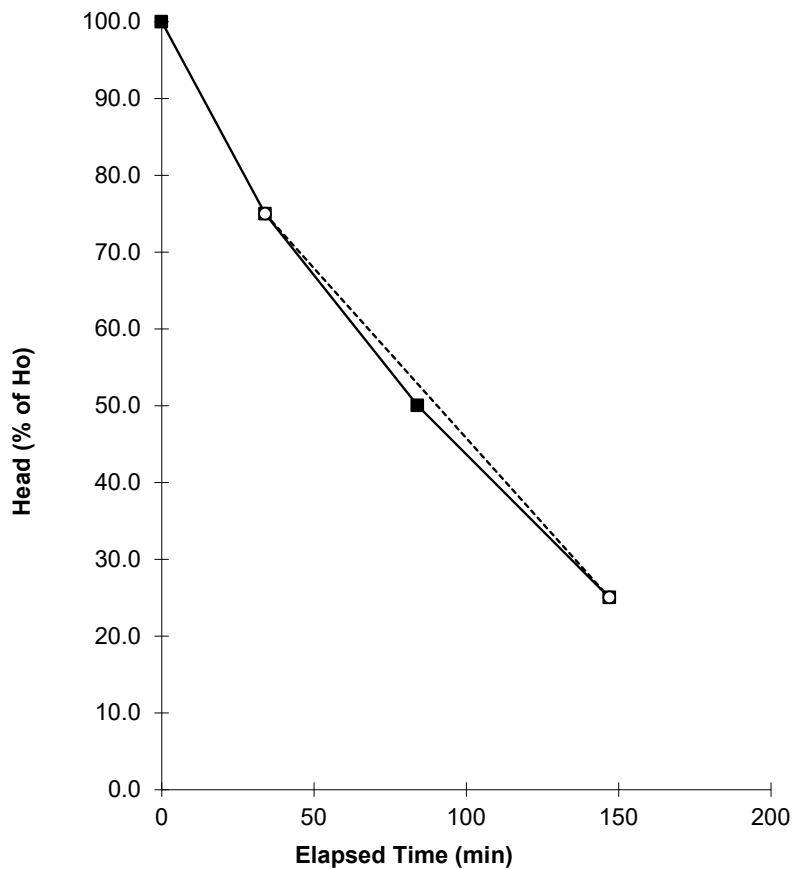
Comments

BRE365 Field Permeability Test

Site Ref Gibbeshaven farm **project** 24188
Hole Reference TH01
Test Number 2
Test Date 03 July 2026

Depth of Pit	1.80	m			
Width of Pit	0.30	m	$A_p 50$	1.860	m ²
Length of Pit	1.00	m	$V_p 75-25$	0.180	m ³
Depth of Pit Soaked	1.20	m	water used	0.360	m ³

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.600	0	100.0	1.200
0.900	34	75.0	0.900
1.200	84	50.0	0.600
1.500	147	25.0	0.300



T75	34.00	75.0	%
T25	147.0	25.0	%
T75-25	113.0	Derived from Best Fit	
Infiltration rate (f)			1.43E-05 m/sec.

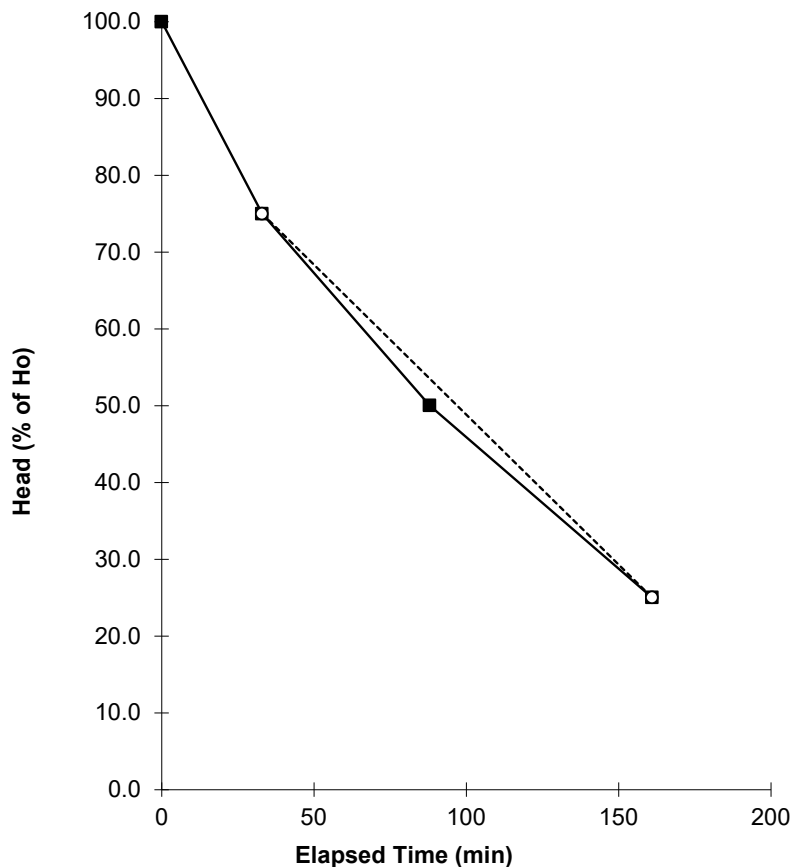
Comments

BRE365 Field Permeability Test

Site Ref Gibbeshaven farm **project** 24188
Hole Reference TH01
Test Number 2
Test Date 03 July 2026

Depth of Pit	1.80	m			
Width of Pit	0.30	m	$A_p 50$	1.860	m ²
Length of Pit	1.00	m	$V_p 75-25$	0.180	m ³
Depth of Pit Soaked	1.20	m	water used	0.360	m ³

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.600	0	100.0	1.200
0.900	33	75.0	0.900
1.200	88	50.0	0.600
1.500	161	25.0	0.300



T75	33.00	75.0	%	
T25	161.0	25.0	%	
T75-25	128.0	Derived from Best Fit		

Infiltration rate (f) **1.26E-05** m/sec.

Comments

This is an estimation of the infiltration volumes and drain-down time to half empty the infiltration system in line with the on CIRIA infiltration drainage R156 guidance (1996) and CIRIA SuDS manual (C753, 2015). This information may be used as the basis for designing an infiltration system for the drainage of surface water runoff from sites.

Project details

Date	06/07/2026
Calculated by	A Traves
Reference	24188-SA1
Model version	2.2.3

Site details

Site name	Gibbeshaven farm
Site location	Felbridge

Infiltration system

Infiltration system	Soakaway
Type	Rectangular soakaway with infiltration from sides and base

Geometry, porosity and infiltration

Width (m)	6	m
Length (m)	4	m
Infiltration coefficient (m/s)	0.0000126	m/s
Porosity of fill material	95% eg. High void structure / geocellular structure	

Area to be drained

Total area (m ²)	260	m ²
Factor of safety	3	

Rainfall

Rainfall input type

FEH22 CSV file

24188 FEH_Point_Rainfall_FEH22_AM_535622_139211.csv

Return period (years)

100

Climate change allowance factor

145%

Results

Soakaway minimum height (m)

1.1

m

Time for half-emptying (hours)

20.6

hours

Critical duration (hours)

18.0

hours

Please note storage volume estimation are subject to uncertainty. Infiltration system height and base area are reported to the nearest 1m or 1m² value when the height or base area are greater than 10m or 10m²; and reported to the nearest to 0.1m or 0.1m² value when the height or base area are less than 10m or 10m².

Disclaimer

This report was produced using the infiltration volume design tool (2.2.3) developed by HR Wallingford and available at [uksuds.com](https://www.uksuds.com) (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at [uksuds.com/terms-conditions](https://www.uksuds.com/terms-conditions) (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate infiltration volumes and drain-down times. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

HR Wallingford are not responsible for any rainfall data shared that is subject to licensing terms imposed by UK Centre for Ecology & Hydrology's Flood Estimation Handbook web service (<https://fehweb.ceh.ac.uk/Home/Terms> (<https://fehweb.ceh.ac.uk/Home/Terms>)).