

Mr David Abernethie
Mostyn Gospel Hall Trust
30 Lindridge Lane
Desford
Leicestershire
LE9 9GN

Dear David,

Re: Swedish Cottage, Earl Shilton – Percolation Testing To Assist With Soakaway Design

The following report presents the findings of site works undertaken on 16th April 2026 and details the results of the percolation testing. Site location and exploratory hole location plans are provided in **Appendix A**.

Three soakaway test pits (SA01–SA03) were excavated in locations designated by the Client as potentially suitable for soakaway infrastructure.

Ground conditions encountered within all exploratory holes comprised made ground, up to 1.20m thick, overlying natural cohesive deposits consisting of reddish brown mottled light grey slightly sandy clay and yellowish brown sandy clay. The base of the cohesive deposits was not encountered in any of the exploratory holes.

Groundwater was not encountered during excavation of the test pits.

Soakaway testing targeting the natural cohesive deposits was undertaken in SA01 and SA03. Testing within made ground was undertaken in SA02.

The results of the soakaway testing are summarised in Table 1.1 below.

Table 1.1 Soakaway Test Results

Pit Reference	Infiltration Rate (m/s)
	Test 1
SA01	N/A
SA02	8.90×10^{-6}
SA03	N/A

In summary, insufficient infiltration was recorded within the natural cohesive deposits, and these are therefore not considered suitable for soakaway drainage. While infiltration was recorded within the made ground (SA02), the rate is low, and soakaway construction within made ground is generally not recommended due to potential variability and the risk of mobilising contaminants.

Full soakaway calculations are provided in **Appendix B**.

It should be noted that groundwater levels may be subject to seasonal variation.

During the course of the investigation, an existing surface water drainage chamber associated with the bungalow was identified. This appeared to connect to an existing drainage pipe. At the Client's

request, the chamber was filled and tested. Based on the observed results, an indicative drainage rate of **$9.50 \times 10^{-5} \text{m/s}$** has been calculated for the existing drainage system. This value reflects the performance of the existing system only and is not representative of the surrounding ground conditions. The size, extent, and construction of the existing drainage system are unknown.

Based on the above findings, soakaway drainage is not considered to be a viable solution for the site. It is therefore recommended that alternative drainage strategies are explored.

We trust that this letter report meets your requirements. However, should you have any queries, please do not hesitate to contact us.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'P. Devitt'.

Phil Devitt, BSc MSc MRICS
Director

Encl.

Appendix A – Site Figures

Appendix B – Soakaway Test Results

Appendix A

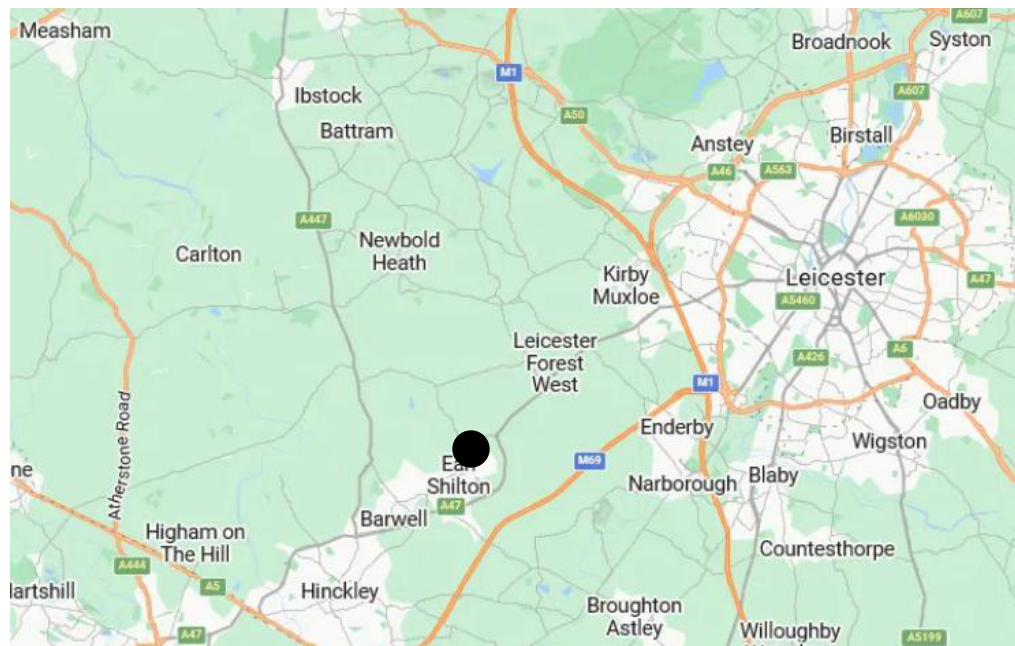




KEY:

● Approximate Site Location

DO NOT SCALE



TITLE:

Site Location Plan

PROJECT:

Swedish Cottage, Earl Shilton

PROJECT No:

EAL.485.25

DATE:

04/2026

SCALE:

NTS

DRAWN:

PD

DWG No:

Figure 1



KEY:



Site Boundary



DO NOT SCALE



TITLE:

Site Layout

PROJECT:

Swedish Cottage, Earl Shilton

PROJECT No:

EAL.485.25

DATE:

04/2026

SCALE :

NTS

DRAWN :

PD

DWG No:

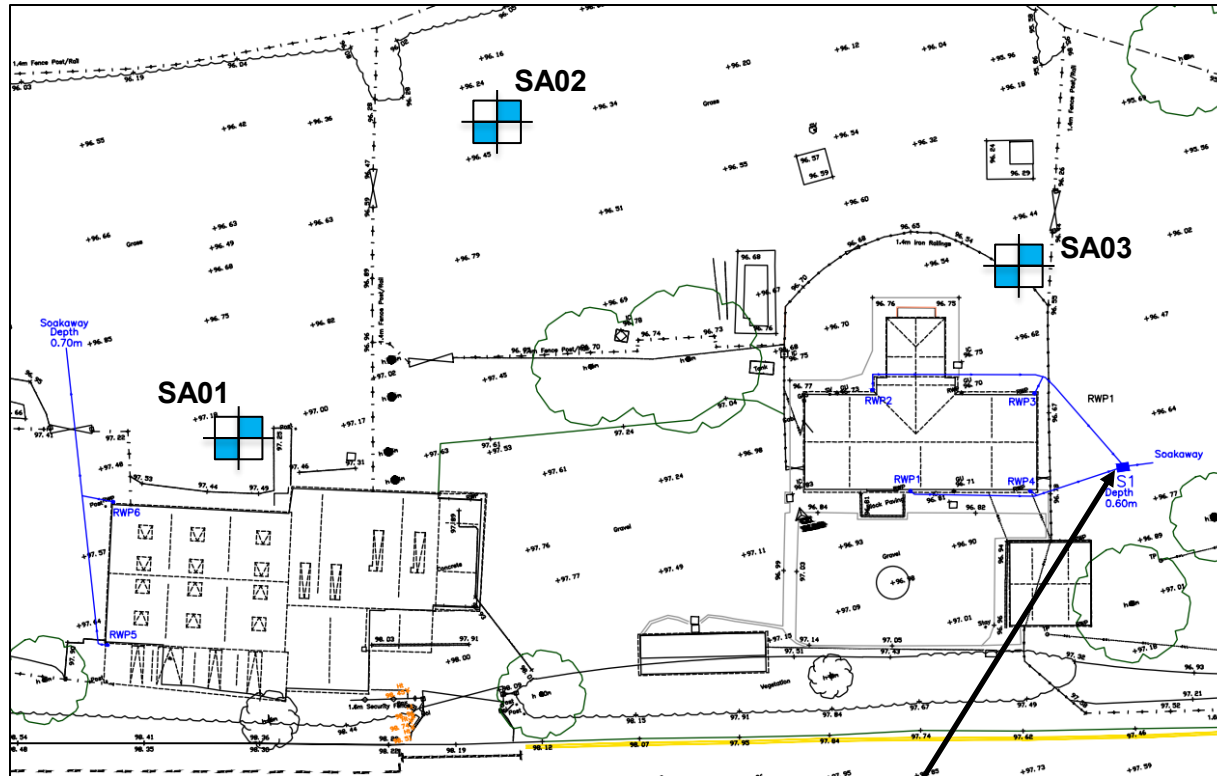
Figure 2



KEY:



Soakaway



Existing drainage
chamber that was
tested.

DO NOT SCALE



TITLE:

Test Location Plan

PROJECT:

Swedish Cottage, Earl Shilton

PROJECT No:

EAL.485.25

DATE:

04/2026

SCALE:

NTS

DRAWN:

PD

DWG No:

Figure 3

Appendix B



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INSITU SOAKAWAY TEST RESULTS

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Trial Pit No.: SA02

Soil Profile:

Depth (m)	Description
From:	To:
0.00	0.90
Made ground.	

Sketch plan of test zone

Not to scale

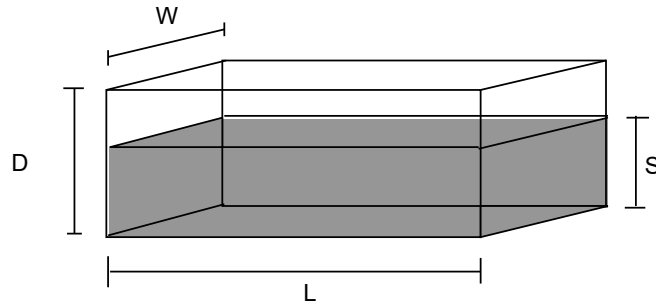
All dimensions in metres.

D = Depth of test pit =

W = Width of test pit =

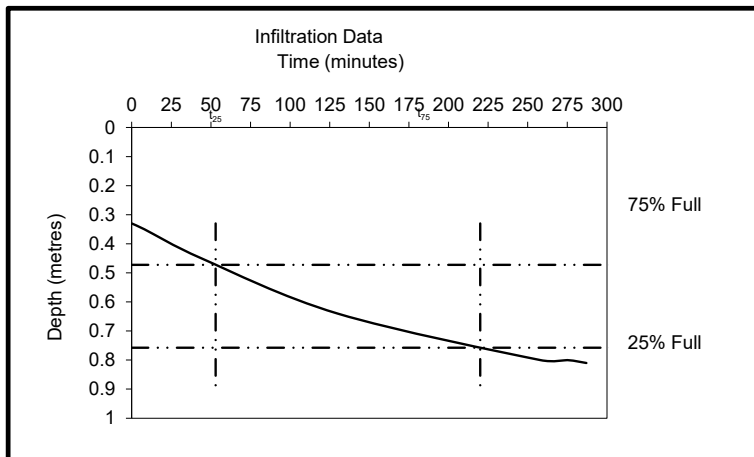
L = Length of test pit =

S = Storage depth (of water) =



Soakaway Test Run 1

Test Date: 16.04.2026



Time (minutes)	Depth (m)
0	0.33
8	0.35
44	0.45
130	0.64
258	0.80
275	0.80
287	0.81

Notes:

Therefore:

$$S = 0.57 \text{ n} \quad a_{p50} = 1.19 \text{ m}^2 \quad V_{p75-25} = 0.1066 \text{ m}^3$$

From the above graph,

$$t_{p25} = 53 \text{ (min)} \quad t_{p75} = 220 \text{ (min)}$$

$$\text{Soil Infiltration Rate: } i = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}} = 8.90\text{E-}06 \quad f_{\text{run1}} = \frac{8.90 \times 10^{-6}}{\text{m/s}}$$
$$\text{or } = 3.21\text{E-}02 \quad \text{or } \frac{3.21 \times 10^{-2}}{\text{m/hr}}$$

Test and analysis carried out in general accordance with BRE Digest 365 : 2007

Job No.: EAL.485.25

Site: Swedish Cottage, Earl Shilton

Client: Mostyn Gospel Hall Trust



INSITU SOAKAWAY TEST RESULTS

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Trial Pit No.: SA03

Soil Profile:

Depth (m)	Description
From: To:	
0.00 1.00	Made ground.
1.00 1.30	Light yellowish brown sandy clay.
1.30 1.50	Reddish brown mottled grey slightly gravelly sandy clay.

Sketch plan of test zone

Not to scale

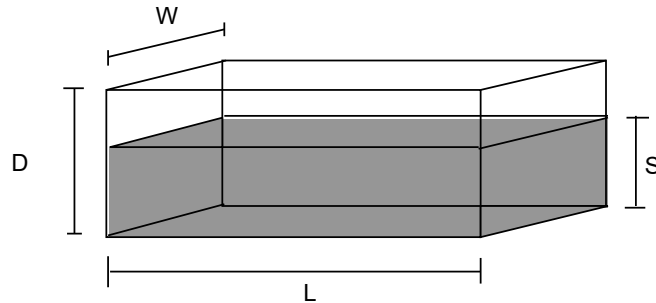
All dimensions in metres.

D = Depth of test pit =

W = Width of test pit =

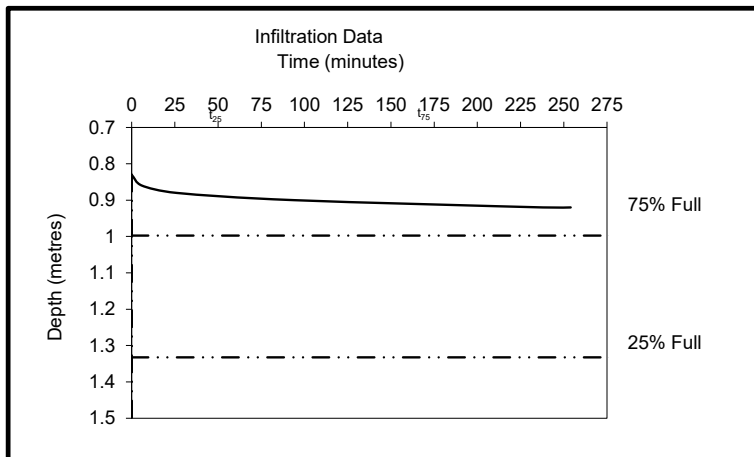
L = Length of test pit =

S = Storage depth (of water) =



Soakaway Test Run 1

Test Date: 16.04.2026



Time (minutes)	Depth (m)
0	0.83
6	0.86
26	0.88
94	0.90
238	0.92
254	0.92

Notes:

Water did not sufficiently dissipate during test period. Therefore the soils at this locality are not considered to be suitable for soakaway drainage.

Test and analysis carried out in general accordance with BRE Digest 365 : 2007

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