

ROGERS **GEOTECHNICAL SERVICES LTD**

The **Ground Investigation Specialists**



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Our Ref J2702/14/E  
19<sup>th</sup> March 2014

Alan Wood and Partners,  
AMP Technology Centre,  
Advanced Manufacturing Park,  
Brunel Way,  
Sheffield,  
S60 5WG.

**For the attention of Mr Andy Borthwick,**

Dear Sir,

Ref: Limestone Road, Burniston, Scarborough, YO13 0DG.

We thank you for your request to undertake soakaway testing at the above mentioned site and take pleasure in enclosing the results of this work. The investigation was undertaken on the 14<sup>th</sup> March 2014 in accordance with your instruction to proceed and under your site supervision. This letter describes the work undertaken, presents the data obtained and discusses the results of the tests.

### **Fieldworks**

A total of two trialpits were excavated using a JCB 3CX excavator in order to undertake soakaway testing at positions specified and recorded by yourselves. The soakage tests were undertaken at the base of the pits at depths agreed on site and the results are attached to this letter.

### **Soakaway Tests**

On reaching the elected soakaway test depth, the trial pits were squared and cleaned of debris using careful operation of the excavator bucket, and a soakaway test was undertaken in the base of each trial pit. The results obtained from the soakaway tests are appended to this letter and are summarised below:

**Table 1: Soakaway Test Results**

Location	Soakage Area Dimensions (average) (m)	Test Depth (m)	Infiltration Rate (m/sec)	Drainage Characteristics
TP1	2.2 x 0.60	1.70	-	Practically Impermeable
TP2	2.2 x 0.60	1.95	-	Practically Impermeable

It should be appreciated that the test did not achieve a fall from 75% to 25% effective depth of water during the test. Therefore the soakage stratum in this instance should be considered practically impermeable. Moreover it cannot be recommended that soakaways be constructed within the area tested.

### **References**

- Building Research Establishment (BRE) Digest 365, *Soakaway Design*, September 1991.

We trust that this information is of interest and should you have any other requirements do not hesitate to contact us.

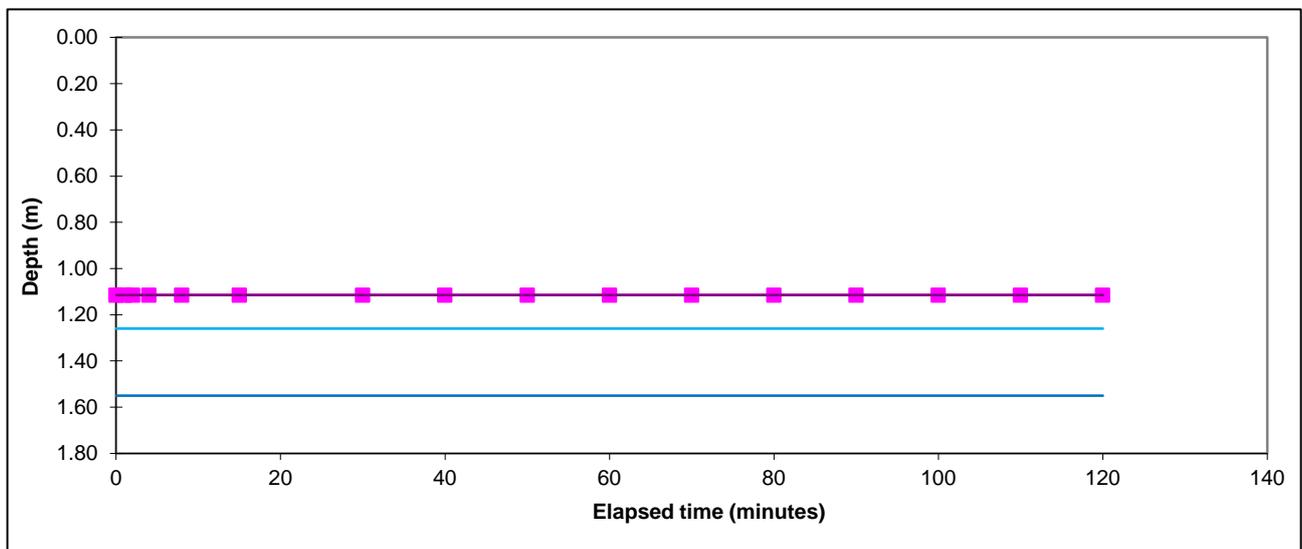
For and on behalf of  
Rogers Geotechnical Services Ltd,

Emma Rogers LLB  
Managing Director

# Rogers Geotechnical Services Ltd

## Soakaway Test

Trial Pit No:	TP1	Test No:	1	Date:	14/03/2014
Length (m):	2.200	Datum Height:	0.00	m agl	
Width (m):	0.60	Granular infill:	None		
Depth (m):	1.70	Porosity of infill:	1	(assumed)	
	Elapsed time (minutes)	Water Depth (m below datum)	Elapsed time (minutes)	Water Depth (m below datum)	
	0	1.115	110	1.115	
	1	1.115	120	1.115	
	2	1.115			
	4	1.115			
	8	1.115			
	15	1.115			
	30	1.115			
	40	1.115			
	50	1.115			
	60	1.115			
	70	1.115			
	80	1.115			
	90	1.115			
	100	1.115			



Start water depth for analysis (mbgl):	1.12	Elapsed time (mins):	#N/A
75% effective depth (mbgl):	1.26	Elapsed time (mins):	#N/A
50% effective depth (mbgl):	1.41	Elapsed time (mins):	#N/A
25% effective depth (mbgl):	1.55	Elapsed time (mins):	#N/A
Base of soakage zone (mbgl):	1.70		
Volume outflow between 75% and 25% effective depth (m <sup>3</sup> ):			
Mean surface area of outflow (m <sup>2</sup> ):			2.94
(side area at 50% effective depth + base area)			
Time for outflow between 75% and 25% effective depth (mins):			

<b>Soil infiltration rate (m/s):</b>	<b>Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate.</b>
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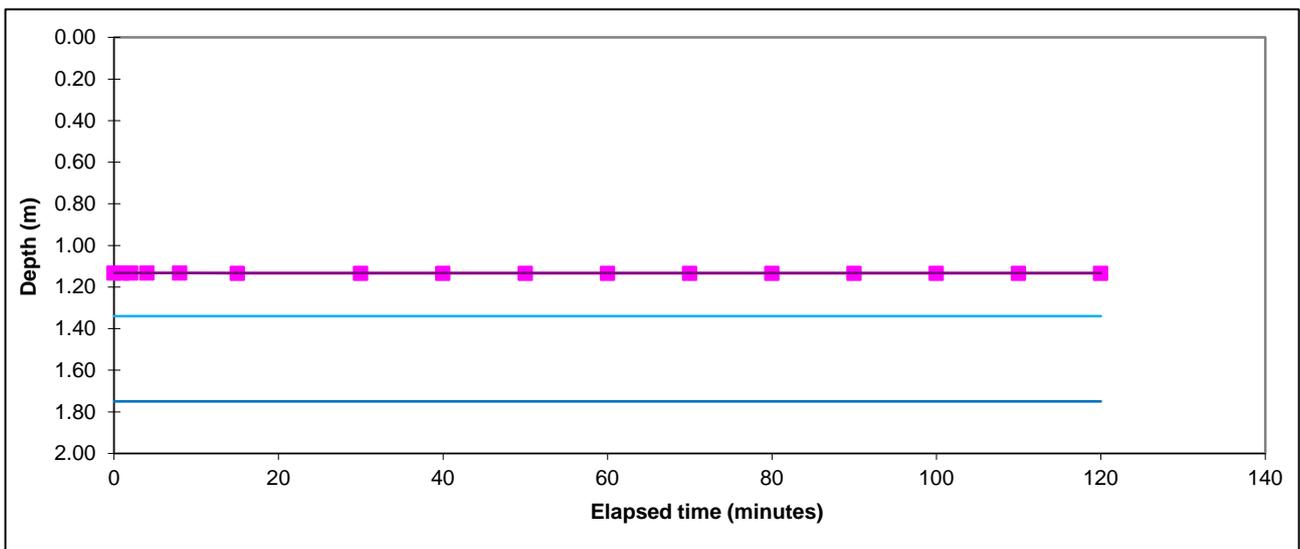
<b>Remarks</b>	Results processed following BRE 365 (2007). No change in water level observed, therefore soil considered to be impermeable.
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<b>Client:</b>	Alan Wood and Partners	<b>TP1</b>
<b>Site:</b>	J2702/14/E Limestone Road, Scarborough, YO13 0DG	

# Rogers Geotechnical Services Ltd

## Soakaway Test

Trial Pit No:	TP1	Test No:	1	Date:	14/03/2014
Length (m):	2.200	Datum Height:	0.00	m agl	
Width (m):	0.60	Granular infill:	None		
Depth (m):	1.95	Porosity of infill:	1	(assumed)	
Elapsed time (minutes)	Water Depth (m below datum)	Elapsed time (minutes)	Water Depth (m below datum)		
0	1.132	110	1.134		
1	1.132	120	1.134		
2	1.132				
4	1.132				
8	1.132				
15	1.134				
30	1.134				
40	1.134				
50	1.134				
60	1.134				
70	1.134				
80	1.134				
90	1.134				
100	1.134				



Start water depth for analysis (mbgl):	1.13	Elapsed time (mins):	#N/A
75% effective depth (mbgl):	1.34	Elapsed time (mins):	#N/A
50% effective depth (mbgl):	1.54	Elapsed time (mins):	#N/A
25% effective depth (mbgl):	1.75	Elapsed time (mins):	#N/A
Base of soakage zone (mbgl):	1.95		
Volume outflow between 75% and 25% effective depth (m <sup>3</sup> ):			
Mean surface area of outflow (m <sup>2</sup> ):		3.62	
(side area at 50% effective depth + base area)			
Time for outflow between 75% and 25% effective depth (mins):			

<b>Soil infiltration rate (m/s):</b>	<b>Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate.</b>
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<b>Remarks</b>	Results processed following BRE 365 (2007). No change in water level observed, therefore soil considered to be impermeable.
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<b>Client:</b>	Alan Wood and Partners	<b>TP2</b>
<b>Site:</b>	J2702/14/E Limestone Road, Scarborough, YO13 0DG	