

[REDACTED]

From: Matthew Utting [REDACTED]

Sent: 05 September 2019 17:46

To: Anita Gardner <Anita.Gardner@arun.gov.uk>

Cc: Laura Gibbons <Laura.Gibbons@arun.gov.uk>; 'Kazys Narbutas Consulting' [REDACTED]; 'Kevin Wawman' [REDACTED]; 'Paul Spratt' [REDACTED]; 'Ian Sellar' [REDACTED]

Subject: RE: Mayflower Way, Angmering: Planning Consultation A/46/19/PL; Drainage Submission

Importance: High

Anita,

Further to Kazys' emails below, please find attached the information to which he refers in his email dated 2 September 2019 to Laura. Please regard this information as forming part of the planning application before you.

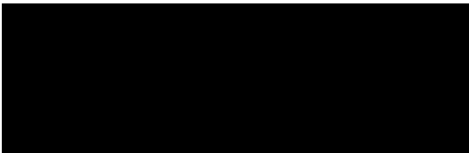
Kazys will liaise further with Laura (I believe he has put through a call to her, as a follow up to his email dated 2 September 2019) and we will keep you updated. In the meantime, please contact me if you need to discuss any other matter.

Regards,

Matthew Utting BSc (Hons) DipTP MRTPI
Director



7 Siskin Gate
Bracknell
Berkshire
RG12 8BF



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Registered Office: Lexham House Forest Road Binfield Berkshire RG42 4HP

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Try not to leave old messages attached unless they are relevant.*

From: Kazys Narbutas Consulting [REDACTED]
Sent: 05 September 2019 16:41
To: Anita Gardner <Anita.Gardner@arun.gov.uk>
Cc: 'Laura Gibbons' <Laura.Gibbons@arun.gov.uk>; Matthew Utting [REDACTED] 'Kevin Wawman' [REDACTED]; Paul Spratt [REDACTED]; Ian Sellar <[REDACTED]>
Subject: FW: Mayflower Way, Angmering: Planning Consultation A/46/19/PL; Drainage Submission

Anita

Matthew Utting asked me to forward my recent e-mail regarding the submission of drainage information I recently sent to Laura Gibbons so you will be aware of it.

Regards

Kazys

Kazys Narbutas

K A Z Y S · N A R B U T A S · C O N S U L T I N G

Civil Engineering Consultant

Roughton
A2 Omega Park
Electron Way
Chandlers Ford
Hampshire
SO53 4SE

From: Kazys Narbutas Consulting

Sent: 05 September 2019 15:57

To: 'Matthew Utting' <[REDACTED]>

Cc: 'Kevin Wawman' <[REDACTED]>; 'Paul Spratt' <[REDACTED]> 'Ian Sellar' <[REDACTED]>

Subject: Mayflower Way, Angmering: Planning Consultation A/46/19/PL; Drainage Submission

Matt

Following on from our conversation and the update.

Regarding Laura's comments I have used them as the basis for my submission, and you will have seen from my e-mail to her that there are certain areas that need to be discussed and which I have highlighted to her.

I have tried contacting her for the last few days, but she hasn't responded to me, which is most unlike her, to discuss my submission. I will continue to try and make contact and advise you and the rest of the team on her reaction.

Regards

Kazys

Kazys Narbutas

K A Z Y S · N A R B U T A S · C O N S U L T I N G

Civil Engineering Consultant

Roughton
A2 Omega Park
Electron Way
Chandlers Ford
Hampshire
SO53 4SE

From: kazys <[REDACTED]>

Sent: 02 September 2019 02:00

To: 'Laura Gibbons' <Laura.Gibbons@arun.gov.uk>

Cc: 'Kevin Wawman' <[REDACTED]>; Matthew Utting <[REDACTED]> 'Paul Spratt' <[REDACTED]>

<[REDACTED]> Ian Sellar <[REDACTED]> mandy I <[REDACTED]>

Subject: Mayflower Way, Angmering: Planning Consultation A/46/19/PL

Laura

Crayfern have passed over your drainage planning comments, dated 22nd July, for the above site, apologies for the delay in responding.

I am attaching further information that should hopefully enable you to advise your planning colleague that the works and information required have been submitted to you and it will not be necessary to apply the conditions you suggested.

I believe you are in receipt of the groundwater monitoring results that showed water was only present in two readings at a depth of 3.84 in one well. I therefore believe that groundwater is not an issue on this site. For your information I attach a copy of these results

In order to assess the suitability of infiltration methods as the means of surface water disposal, tests to BRE365 were undertaken on 4th March this year at depths that it was proposed to construct the domestic soakaways and utilise sub-base construction for draining drives and access roads. Attached are the results of the tests as undertaken by Soils Ltd. The results have been transposed to the attached drawing ES1539-500-00 and the site divided as shown in order to assist with the design of the infiltration proposals.

I have produced a detailed drainage strategy and this information can be seen on the attached drawing ES1539-502- Using the figures obtained for the shallow infiltration tests we were unable to achieve a satisfactory design for the domestic drives and access road, using a FoS of 5, 24hour half drain times were not achievable. This could only be achieved

with a FoS of 3 on the Shallow Zone 2 (SZ2) areas. Unless you are willing to accept a FoS of 3 on the drives in SZ2, (these are Plots 1-7 & 23-24) I feel that the drives will have to drain to domestic soakaways in the rear gardens. Unfortunately I cannot see an alternative solution to draining Ch0-30 of the access road to that which I have proposed.

This area has been designed with a FoS of 3 and is just slightly above the 24hours half drain time.

Shallow Zone 1 (SZ1) has a lower infiltration rate than SZ2 and a half drain time was not achievable even with a Fos of 1. I feel the only option for drives and the sections of access road in this zone is to drain them to domestic soakaways In the rear gardens of Plots 8,9 &10.

The low infiltration rate achieved on the eastern side of the site has necessitated a long narrow soakaway to serve the roof drainage for Plots 18-24. Things to note here are that the soakaway extends slightly deeper than the trial pit tests, although I feel the slope of the site should be regarded as a mitigating factor. I could only achieve a FoS of 2 in this location and that was in conjunction with including the soakaway base in calculations.

Utilising these results we have prepared MicrDrainage calculations substantiating the proposed design and a full set of these calculations are included with this submission. To help your assessment I have produced a tabulation on the drainage drawing that gives all the information on the soakaways.

I have also attached a *SuDS Operations and Maintenance Manual* for the site together with a *Water Quality Management Manual*.

Hopefully you will find the proposed designs to be acceptable given the limitations we are faced with, please give me a call

To discuss the proposals or if necessary I will arrange a meeting with you to discuss the proposals.

Many thanks.

Regards

Kazys

Kazys Narbutas

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Civil & Structural Consulting Engineers

Roughton
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Hampshire
SO53 4SE

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Mr Peter Taylor

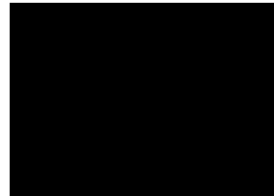
By email only: [REDACTED]

Our Ref: 15306/GWLR

25th May 2016

Dear Peter,

Thomas Telford House
Sun Valley Business Park
Winnall Close
Winchester SO23 0LB



RE: Groundwater Monitoring at Land North of Mayflower Way, off Roundstone Lane, Angmering,

We are writing in regards to the intrusive investigation undertaken by Soils Limited at the above named site on the 19th November 2015 and the subsequent groundwater monitoring programme which was undertaken between 30th November 2015 and 12th April 2016.

1.1 Brief

The brief was set out in Soils Limited Quotation Q17034, dated 10th October 2015, and comprised the drilling of three windowless sampler boreholes to depths of 5.00m bgl, and six dynamic probes to depths of 5.00m bgl at locations specified by Soils Limited. Groundwater monitoring wells were to be installed in three of the boreholes to facilitate a programme of groundwater monitoring. Groundwater monitoring was to be undertaken over a six-month period with measurements taken on a monthly basis.

It was understood that the proposed redevelopment of the site was to comprise 31 residential buildings, made up of semi-detached and terraced houses. The groundwater monitoring was intended to inform the design of the drainage strategy for the residential development.

1.2 General

The site was located at Land North of Mayflower Way, off Roundstone Lane, Angmering, and had an approximate OS Land Ranger Grid Reference of TQ 072033. At the time of the investigation the site comprised of open land used for the storage of building materials and equipment and stockpiles of aggregate and crushed material.

A site location plan is presented in Figure 1.

1.3 Ground Conditions

The site works were undertaken on the period 22nd November 2015 and comprised:

- 3No. 4.00 to 5.00m Windowless sampler boreholes;

- 6No. 5.00m Dynamic probes;
- 3No. 4.00 - 5.00m Groundwater monitoring wells.

Trial hole locations and depths were selected by Soils Limited and are presented within Figure 2.

The ground conditions encountered in the site investigation have been summarised below:

**Made Ground
River Terrace Deposits
Pit Chalk Formation**

Table 1 - Summary of Ground Conditions

Strata	Depth Encountered (m bgl)		Typical Description
	Top	Base	
Made Ground	0.00	0.40 -0.90	Very soft dark grey sandy silty CLAY and very gravelly SAND. Gravel comprised of fine to coarse, angular to sub angular brick, concrete, tarmacadam, glass and tile
River Terrace Deposits (Cohesive)	0.40 – 0.90	3.00 – 4.00	Soft brown slightly silty sandy occasionally gravelly CLAY. Sand was coarse. Gravel was fine to coarse angular to sub-angular flint. Occasional fine roots and rootlets.
River Terrace Deposits (Granular)	3.00 – 4.00	4.00 – 5.00 ¹	Light brown clayey gravelly SAND and light brown clayey sandy GRAVEL. Gravel comprised of fine to medium angular flint.
Pit Chalk Formation			Not encountered during the site investigation
Notes: ¹ encountered to base of trial hole			

Complete borehole logs including details of the well installations are provided in Appendix A.

1.4 Groundwater Strikes

No standing groundwater was encountered during the sinking of the exploratory holes.

1.5 Groundwater and Soil-Gas Monitoring

Groundwater monitoring was undertaken by Soils Limited comprising six visits over a six-month period between November 2015 and April 2016. Monitoring was undertaken by means of manual dipping of the wells. Dipping was undertaken at a monthly frequency. The results of the groundwater and soil-gas monitoring have been presented in Table 2.

Table 2 - Summary of Groundwater and Soil-Gas Monitoring

Date of visit	Trial Hole	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	H ₂ S (ppm)	CO (ppm)	LEL (%)	aP (mb)	Flow (l/h)	Dp	H ₂ O (m bgl)	VOC (ppm)
30/11/2015	WS1	0.0	4.0	16.7	0	0	0.0	1014	0.0	0	Dry	0
	WS2	0.0	2.3	18.3	0	0	0.0	1014	0.0	0	Dry	0
	WS3	0.0	4.6	15.5	0	0	0.0	1014	0.0	0	Dry	0
17/12/2016	WS1	0.0	6.2	12.5	0	0	0.0	1016	0.01	0	3.84	0
	WS2	0.0	2.4	17.5	0	0	0.0	1016	0.81	2	Dry	0
	WS3	0.0	6.3	11.6	0	0	0.0	1016	1.21	2	Dry	0
08/01/2016	WS1	0.0	0.2	19.7	0	0	0.0	996	0.4	0	3.85	0
	WS2	0.0	0.2	20.0	0	0	0.0	996	0.4	0	Dry	0
	WS3	0.0	0.2	20.1	0	0	0.0	996	0.3	0	Dry	0
12/02/2016	WS1	0.0	7.2	11.2	0.0	0	0.0	989	0.0	0	Dry	0
	WS2	0.0	0.6	20.2	0.0	0	0.0	989	0.0	0	Dry	0
	WS3	0.0	1.6	18.3	0.0	0	0.0	989	0.0	0	Dry	0
14/03/2016	WS1	0.0	7.9	9.9	0	0	0.0	1035	0.0	0	Dry	0
	WS2	0.0	0.0	21.4	0	0	0.0	1035	0.0	0	Dry	0
	WS3	0.0	2.6	16.3	0	0	0.0	1035	0.0	0	Dry	0
12/04/2016	WS1	0.0	4.5	13.9	0.0	0.0	0.0	1009	0.01	0.0	Dry	0
	WS2	0.0	0.0	20.9	0.0	0.0	0.0	1009	0.01	0.0	Dry	0
	WS3	0.0	4.1	15.0	0.0	0.0	0.0	1009	0.01	0.0	Dry	0

1.6 Groundwater Monitoring

Groundwater was recorded in the shallowest monitoring well, WS1 on two occasions 17th December 2015 and 8th January 2016 during the monitoring period. No groundwater was recorded in the deeper monitoring wells situated in WS2 or WS3 during the monitoring period.

1.7 Soil-Gas Monitoring

The elevated concentrations of carbon dioxide (CO₂), greater than 5.0% v/v were recorded within WS1 and WS3 on 17th December 2015 (WS1:6.2% v/v and WS3:6.3% v/v), and within WS1 on 12th February 2016 (7.2% v/v) and 14/03/2016 (7.9% v/v). No methane was recorded during the monitoring period. A maximum flow rate of 1.21 l/h.

A full Soil-Gas Risk Assessment can be provided as part of the Phase II Ground Investigation report, which is to be undertaken at a later date.

1.8 Conclusions

Over the monitoring period, which included the winter months where rainfall and subsequently groundwater levels are typically highest, the groundwater levels have been shown to be at depths greater than 3.85m bgl in the area of WS1 and greater than 5.00m bgl in the areas of WS2 and WS3. The difference in groundwater levels may be accounted for by a change in ground elevation, with the area of WS3 being situated at a lower elevation relative to WS1 and WS2. It is recommended that the hole locations are levelled to give groundwater levels relative to a datum beneath the site.

The results of the groundwater monitoring programme show that groundwater should not present a problem for the construction of conventional shallow footings or other shallow trenches such as service runs etc providing no significant reduction in site levels are proposed as part of the development.

In line with Environment Agency guidance any soakaway drainage system considered for the proposed development must ensure that the base of such soakaways are a minimum of 1.00m above the highest annual groundwater level.

The following attachments make up the remainder of this letter report.

Figure 1. Site Location Plan

Figure 2. Trial Hole Location Plan

Appendix A. Field Data

Should you have any further questions please do not hesitate to contact the undersigned.

Yours Sincerely



J. Hucklesby MSci. FGS.

Geo-Environmental Engineer



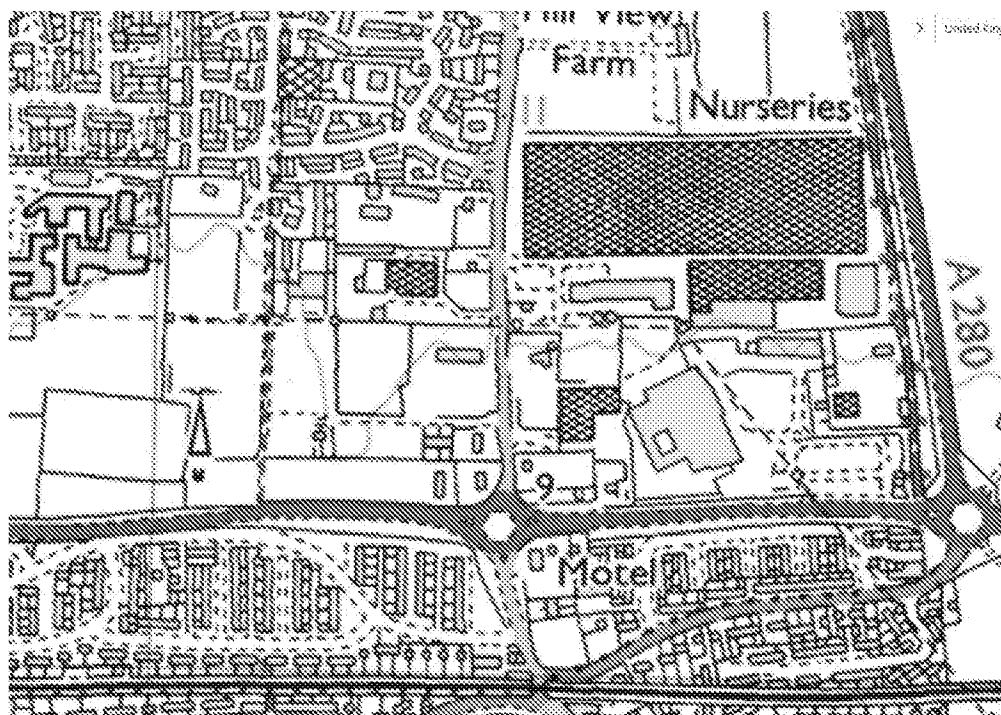


Figure 1 - Site Location Plan

Project

Land North of Mayflower Way

Date

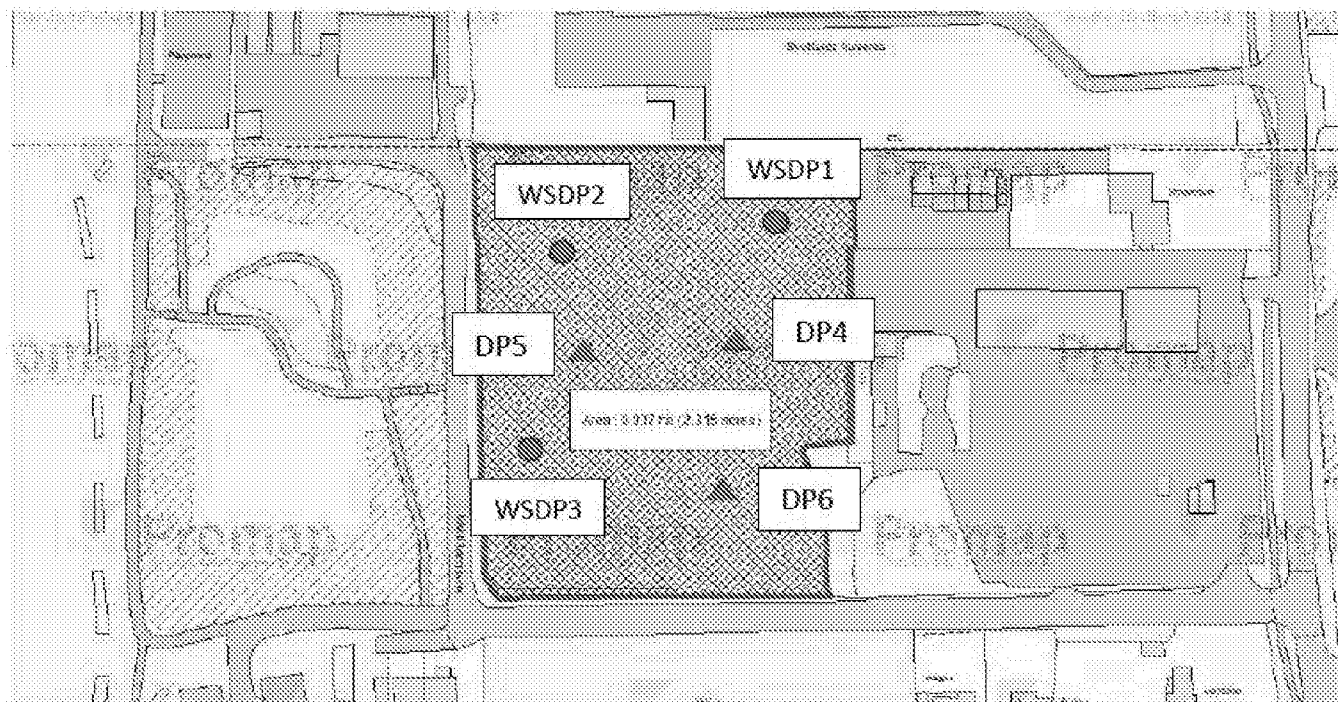
May 2016

Client

Mr Peter Taylor

Reference

I5306



**Figure 2 – Tial Hole
Locations**

Project
Land North of Mayflower Way

Client
Mr Peter Taylor

Date
May 2016

Job Number
Job_No

Appendix A – Field Data



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site investigation

Job Reference:

Site Address:

Client:

15306

Mayflower Way, Angmering

Soils Limited

Probe No:

DP1

Probe Type

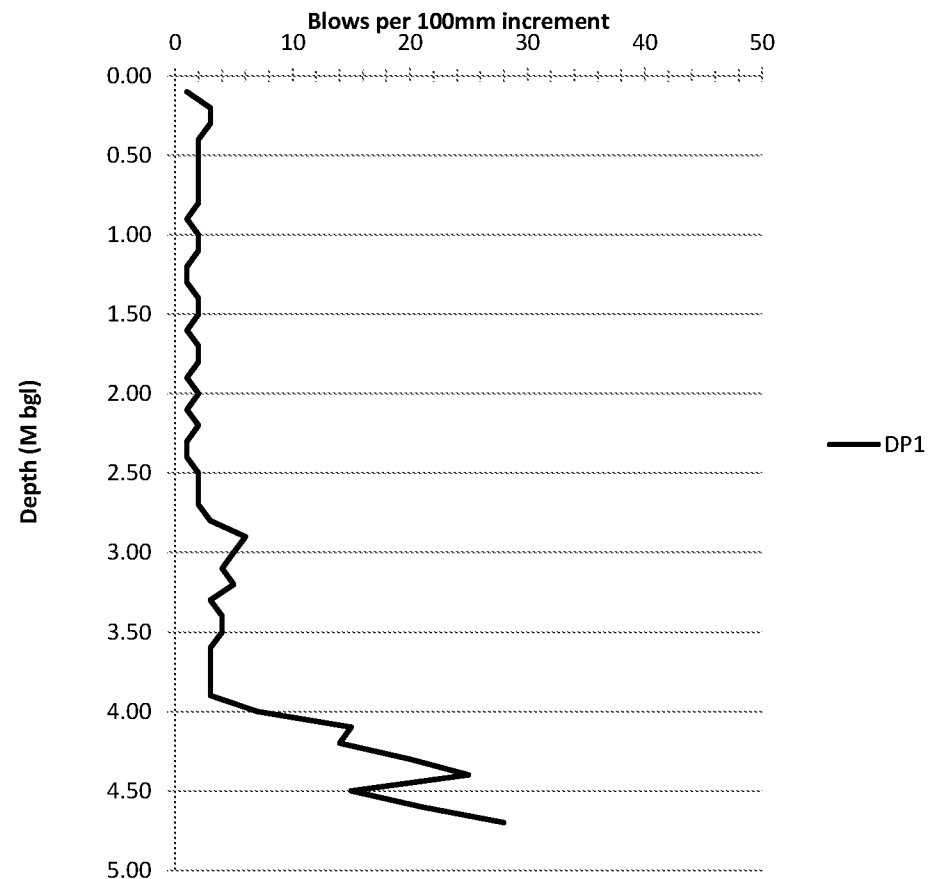
DPSH

Operator

JN

DP1

	+0.1	+0.2	+0.3	+0.4	+0.5	+0.6	+0.7	+0.8	+0.9	+1.0	Torque
0 - 1m	1	3	3	2	2	2	2	2	1	2	
1 - 2m	2	1	1	2	2	1	2	2	1	2	
2 - 3m	1	2	1	1	2	2	2	3	6	5	
3 - 4m	4	5	3	4	4	3	3	3	3	7	
4 - 5m	15	14	20	25	15	21	28				
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OAKLAND
site investigation

Job Reference:

Site Address:

Client:

15306

Mayflower Way, Angmering

Soils Limited

Probe No:

DP2

Probe Type

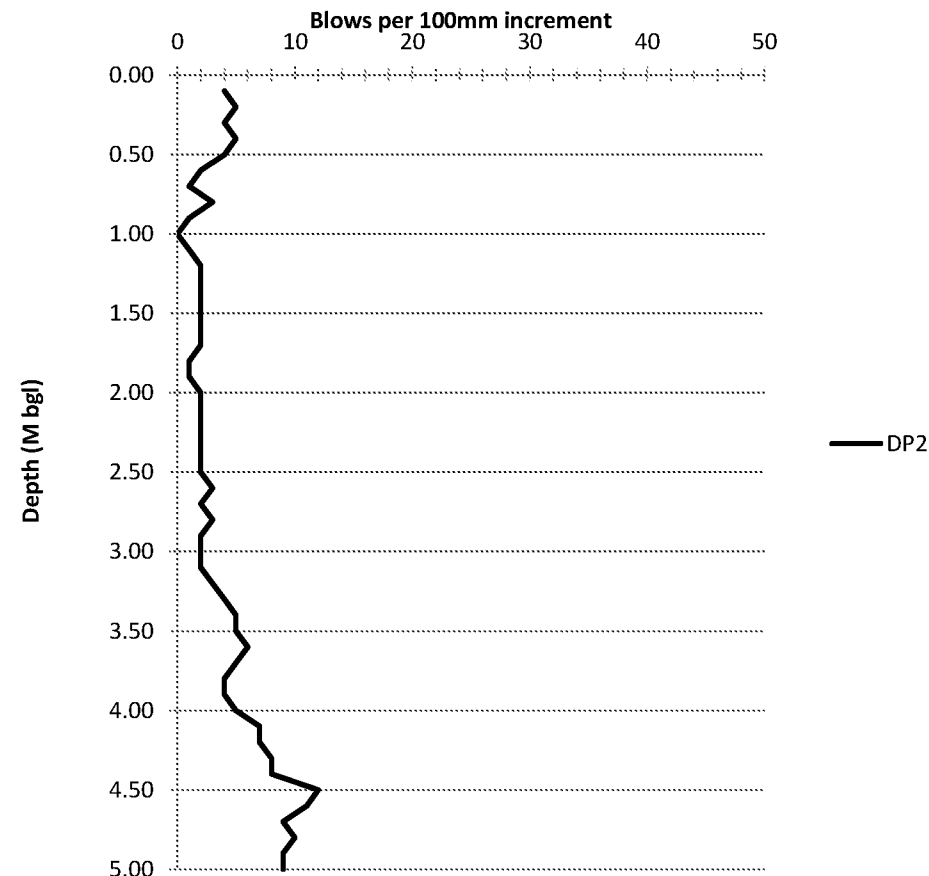
DPSH

Operator

JN

DP2

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3 - 4m	2	3	4	5	5	6	5	4	4	5	
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Job Reference:

Site Address:

Client:

15306

Mayflower Way, Angmering

Soils Limited

Probe No:

DP3

Probe Type

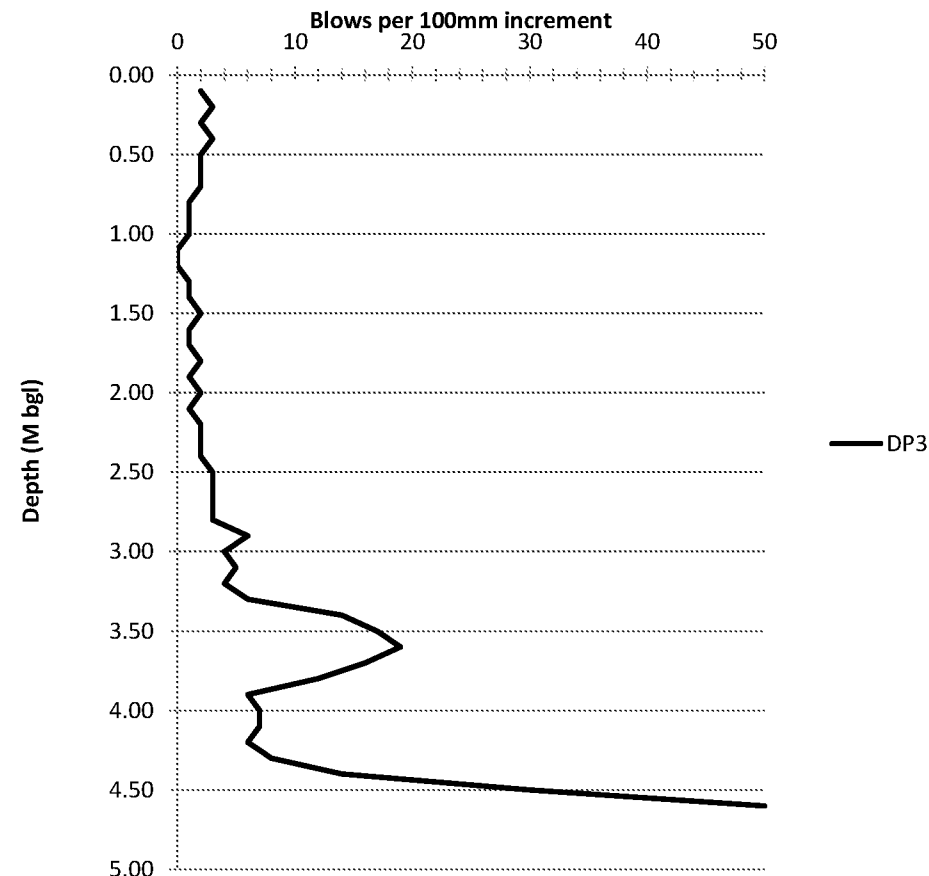
DPSH

Operator

JN

DP3

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3 - 4m	5	4	6	14	17	19	16	12	6	7	
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Job Reference:

Site Address:

Client:

15306

Mayflower Way, Angmering

Soils Limited

Probe No:

DP4

Probe Type

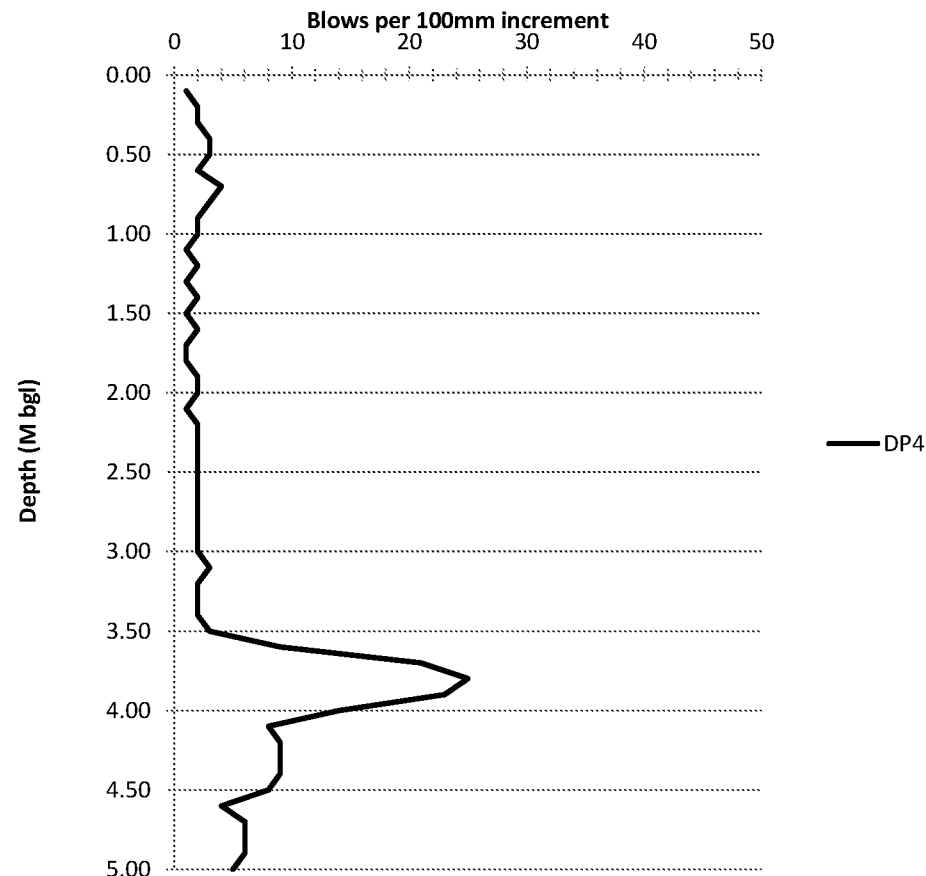
DPSH

Operator

JN

DP4

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3 - 4m	3	2	2	2	3	9	21	25	23	14	
4 - 5m	8	9	9	9	8	4	6	6	6	5	
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Job Reference:

Site Address:

Client:

15306

Mayflower Way, Angmering

Soils Limited

Probe No:

DP5

Probe Type

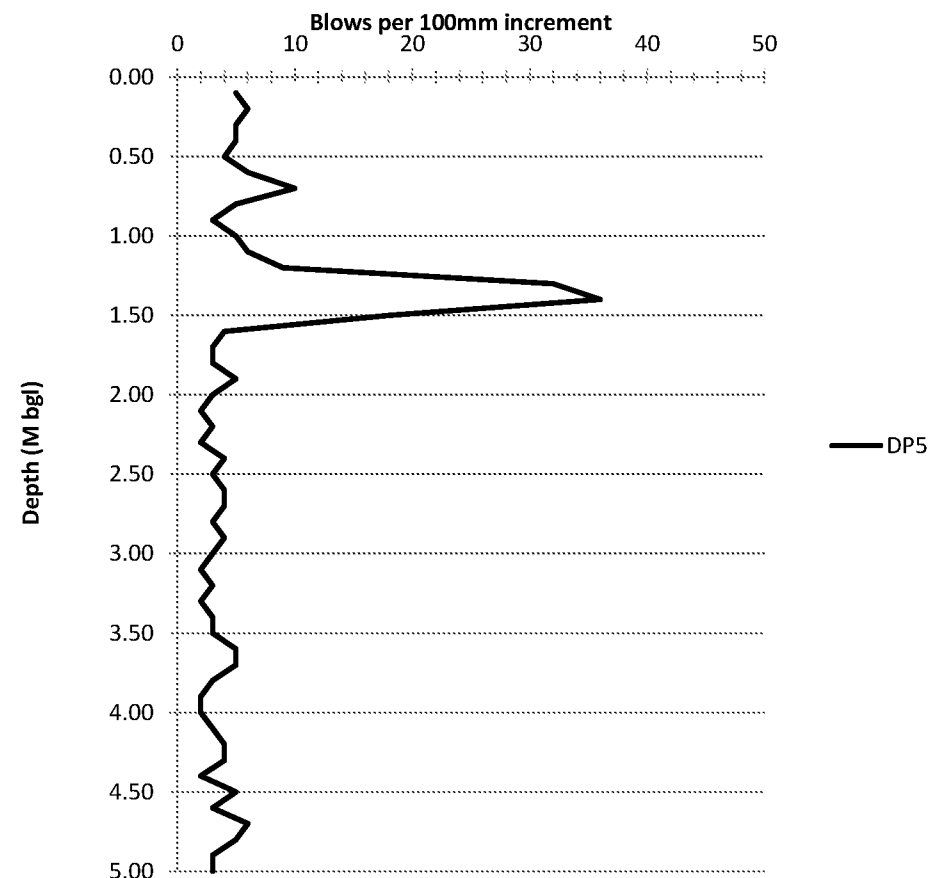
DPSH

Operator

JN

DP5

	+0.1	+0.2	+0.3	+0.4	+0.5	+0.6	+0.7	+0.8	+0.9	+1.0	Torque
0 - 1m	5	6	5	5	4	6	10	5	3	5	
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OAKLAND
site investigation

Job Reference:

Site Address:

Client:

15306

Mayflower Way, Angmering

Soils Limited

Probe No:

DP6

Probe Type

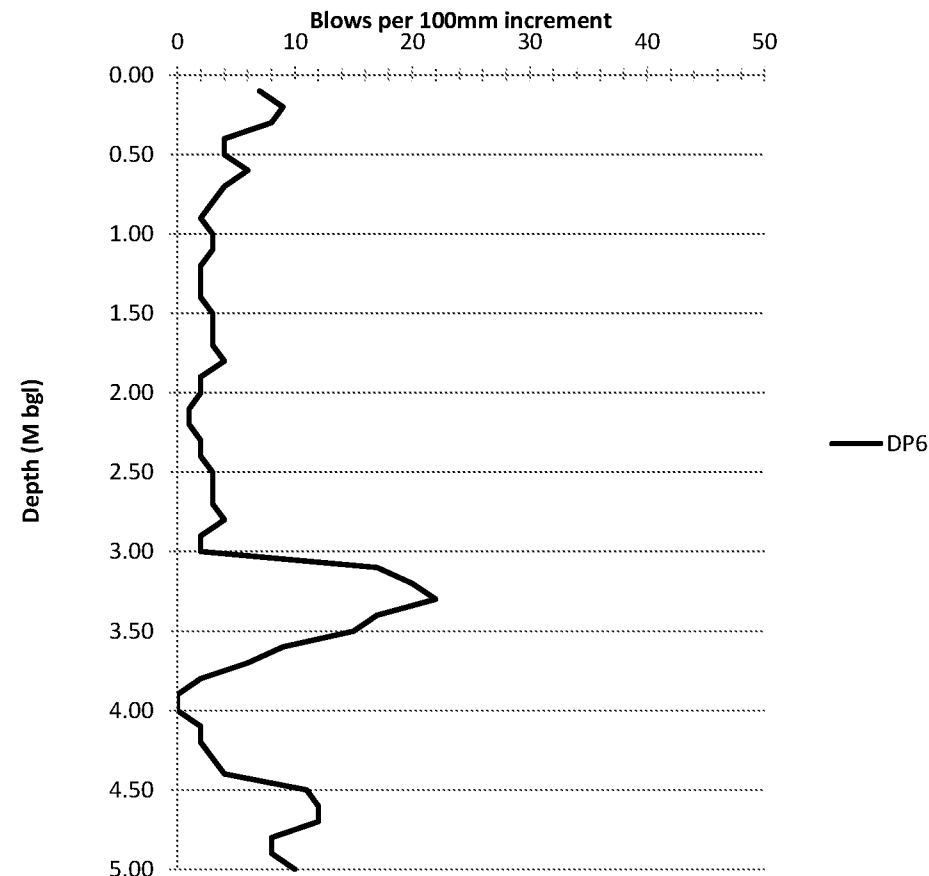
DPSH

Operator

JN

DP6

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3 - 4m	17	20	22	17	15	9	6	2	0	0	
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Project Name:	Land North of Mayflower Way, off Roundstone Lane, Angmering,	Project No.:	15306	Co-ords:		Hole Type	WS
Location:	Land North of Mayflower Way, off Roundstone Lane, Angmering	Level:				Scale	1:50
Client:		Dates:	05/01/2016			Logged By	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40			Very soft dark grey sandy silty CLAY. Sand is fine to medium. Occasional fine to medium sub-angular flint gravels. Occasional fine to medium brick tile and glass fragments. Occasional carbonated material. MADE GROUND.	
								Saturated sample	
								Soft brown slightly sandy silty CLAY becoming light brown at 3.0 to 4.0. Sand is fine. Occasional fine to medium sub-angular flint gravels becoming rare fine at 0.4 to 0.80. A fine piece of plastic wire at 0.60.	1
								~70% recovery	
								~60% recovery	2
					3.00			Light brown clayey sandy fine to coarse sub-angular flint GRAVEL. Sand is fine to coarse.	3
								~20% recovery	
					4.00				4
								End of Borehole at 4.00m	
									5
									6
									7
									8
									9
									10

General Remarks:	Borehole Type	Sample Types
Fine roots and rootlets to 1.0.	CP: Cable Percussive WS: Windowless Sampler RC: Rotary Cored	D: Disturbed B: Bulk J: Jar W: Water U: Undisturbed
Groundwater Remarks:	In-Situ Testing	
	SPT: Split spoon - Standard Penetration Test CPT: Cone - Standard Penetration Test	

Project Name:	Land North of Mayflower Way, off Roundstone Lane, Angmering,	Project No.:	15306	Co-ords:		Hole Type	WS
Location:	Land North of Mayflower Way, off Roundstone Lane, Angmering	Level:				Scale	1:50
Client:		Dates:	05/01/2016			Logged By	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.90			Multicoloured very gravelly fine to coarse SAND. Gravel is fine to cobble sized flint brick concrete and tarmac. Frequent sharp sand. Occasional fine roots and rootlets. MADE GROUND. <u>Saturated sample</u>	
					2.00			Soft brown slightly sandy silty CLAY. Sand is fine. Occasional fine to medium sub-angular flint gravels. A pocket of grey gravelly fine to coarse SAND at 1.5 to 1.8. Sand is fine to coarse. Gravel is fine to coarse sub-angular flint brick and concrete. A grey possible hydrocarbon staining at 1 to 1.30. Rare fine roots and rootlets. MADE GROUND. <u>Hydrocarbon type odour</u>	1
					3.00			Soft light brown slightly sandy silty CLAY. Sand is fine. <u>70% recovery</u>	2
					4.00			Light brown clayey fine SAND. Occasional fine to medium angular flint gravels. <u>70% recovery</u>	3
					5.00			Light brown clayey gravelly fine SAND. Gravel is fine to medium angular flint.	4
								End of Borehole at 5.00m	5
									6
									7
									8
									9
									10

General Remarks:	Borehole Type	Sample Types
Fine roots and rootlets to 2.0.	CP: Cable Percussive WS: Windowless Sampler RC: Rotary Cored	D: Disturbed B: Bulk J: Jar W: Water U: Undisturbed
Groundwater Remarks:	In-Situ Testing	
	SPT: Split spoon - Standard Penetration Test CPT: Cone - Standard Penetration Test	

Project Name:	Land North of Mayflower Way, off Roundstone Lane, Angmering,	Project No.:	15306	Co-ords:		Hole Type	WS
Location:	Land North of Mayflower Way, off Roundstone Lane, Angmering	Level:				Scale	1:50
Client:		Dates:	05/01/2016			Logged By	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.60			Very soft grey and dark grey mixed gravelly sandy silty CLAY. Sand is fine to medium. Gravel is fine to coarse sub-angular flint brick and concrete. Occasional carbonated material. Occasional fine roots and rootlets. MADE GROUND. <u>Saturated sample</u>	
								Soft light brown slightly sandy silty CLAY. Sand is fine. Occasional black staining. A grey possible hydrocarbon staining at 1.0 to 1.30. MADE GROUND. <u>Hydrocarbon type odour</u> <u>~70% recovery</u>	1
					3.00			Stiff light brown slightly sandy silty CLAY. Sand is fine. Rare fine to medium angular flint gravels. A pocket of fine to medium angular flint gravels at 2.90 to 3.0. Occasional black staining. <u>No sample received</u>	3
					4.00			Light brown clayey fine SAND.	4
					5.00			End of Borehole at 5.00m	5
									6
									7
									8
									9
									10

General Remarks:	Borehole Type CP: Cable Percussive WS: Windowless Sampler RC: Rotary Cored	Sample Types D: Disturbed B: Bulk J: Jar W: Water U: Undisturbed
Fine roots and rootlets to 1.0.	In-Situ Testing SPT: Split spoon - Standard Penetration Test CPT: Cone - Standard Penetration Test	
Groundwater Remarks:		

From: Laura Gibbons
Sent: 22 July 2019 08:34
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Simon Davis <Simon.Davis@arun.gov.uk>
Subject: RE: Planning Consultation on: AL/51/19/PL

Engineers Comments Regarding Surface Water Drainage

Groundwater is expected to be very high here, with the potential for springs to be present. The application is within the Lidsey catchment, and therefore surface water drainage design must be carefully considered to ensure no ingress to the foul sewer network.

There is an ordinary watercourse along the northern boundary, all houses and fences/ walls must be kept 3m from the top of bank of this watercourse.

No consideration has been given to surface water drainage, prior to determination please can the applicant submit a strategy for surface water drainage to demonstrate that the development will be able to drain with the proposed layout. This strategy should acknowledge that infiltration will be investigated and that winter groundwater monitoring and winter infiltration testing will be completed. However, a worst case scenario drainage strategy should be submitted to show how the site could be drained, this could assume ground water at surface and no infiltration. Please note ground raising and pumping are not sustainable solutions and will not be supported.

If you are minded to approve this application please apply the following conditions:

PCENG02

"Development shall not commence, other than works of site survey and investigation, until full details of the proposed surface water drainage scheme have been submitted to and approved in writing by the Local Planning Authority. The design should follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations, and the recommendations of the SuDS Manual produced by CIRIA. Winter groundwater monitoring to establish highest annual ground water levels and winter Percolation testing to BRE 365, or similar approved, will be required to support the design of any infiltration drainage. No building / No part of the extended building shall be occupied until the complete surface water drainage system serving the property has been implemented in accordance with the agreed details and the details so agreed shall be maintained in good working order in perpetuity."

Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies W SP1, W DM1, W DM2 and W DM3 of the Arun Local Plan. This is required to be a pre-commencement condition because it is necessary to implement the surface water drainage system prior to commencing any building works.

PCENG03

"The development shall not proceed until details have been submitted to and approved in writing by the Local Planning Authority for any proposals: to discharge flows to watercourses; or for the culverting, diversion, infilling or obstruction of any watercourse on or adjacent to the site. Any discharge to a watercourse must be at a rate no greater than the pre-development run-off values. No construction is permitted, which will restrict current and future land owners from undertaking their riparian maintenance responsibilities in respect to any watercourse or culvert on or adjacent to the site."

Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies W DM1, W DM2 and W DM3 of the Arun Local Plan. And to ensure that the duties and responsibilities, as required under the Land Drainage Act 1991, and amended by the Flood and Water Management Act 2010, can be fulfilled without additional impediment following the development completion. It is considered necessary for this to be a pre-commencement condition to protect existing watercourses prior to the construction commencing.

PCENG04

"Development shall not commence until full details of the maintenance and management of the surface water drainage system is set out in a site-specific maintenance manual and submitted to, and approved in writing, by the Local Planning Authority. The manual is to include details of financial management and arrangements for the replacement of major components at the end of the manufacturer's recommended design life. Upon completed construction of the surface water drainage system, the owner or management company shall strictly adhere to and implement the recommendations contained within the manual."

Reason: To ensure that the proposed development is satisfactorily drained in accordance with policies W DM1, W DM2 and W DM3 of the Arun Local Plan. It is considered necessary for this to be a pre-commencement condition to ensure that the future maintenance and funding arrangements for the surface water disposal scheme are agreed before construction commences.

ENG01

"Immediately following implementation of the approved surface water drainage system and prior to occupation of any part of the development, the developer/applicant shall provide the local planning authority with as-built drawings of the implemented scheme together with a completion report prepared by an independent engineer that confirms that the scheme was built in accordance with the approved drawing/s and is fit for purpose. The scheme shall thereafter be maintained in perpetuity."

Reason : To ensure that the proposed development is satisfactorily drained in accordance with policies W SP1, W DM1, W DM2 and W DM3 of the Arun Local Plan.

And the accompanying informatives:

INFORM0

"Infiltration rates for soakage structures are to be based on percolation tests undertaken in the winter period and at the location and depth of the proposed structures. The percolation tests must be carried out in accordance with BRE365, CIRIA R156 or a similar approved method and cater for the 1 in 10 year storm between the invert of the entry pipe to the soakaway, and the base of the structure. It must also have provision to ensure that there is capacity in the system to contain below ground level the 1 in 100 year event plus 40% on stored volumes, as an allowance for climate change. Adequate freeboard must be provided between the base of the soakaway structure and the highest recorded annual groundwater level identified in that location. Any SuDS or soakaway design must include adequate groundwater monitoring data to determine the highest winter groundwater table in support of the design. The applicant is advised to discuss the extent of groundwater monitoring with the Council's Engineers.

Supplementary guidance notes regarding surface water drainage are located here

<https://www.arun.gov.uk/surfacewater> on Arun District Councils website. A surface water drainage checklist is available here <https://www.arun.gov.uk/drainagechecklist> on Arun District Councils website, this should be submitted with a Discharge of Conditions Application."

INFORM02

Under Section 23 of the Land Drainage Act 1991 Land Drainage Consent must be sought from the Lead Local Flood Authority (West Sussex County Council), or its agent (Arun District Council land.drainage@arun.gov.uk), prior to

starting any works (temporary or permanent) that affect the flow of water in an ordinary watercourse. Such works may include culverting, channel diversion, discharge of flows, connections, headwalls and the installation of trash screens.

The development layout must take account of any existing watercourses (open or culverted) to ensure that future access for maintenance is not restricted. No development is permitted within 3m of the bank of an ordinary watercourse, or 3m of a culverted ordinary watercourse.

Regards,

Laura Gibbons, MEng, GMICE
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

Internal: 37818 | External: +44 (0) 1903 737818 | Fax: +44 (0) 1903 716018 | E-mail: laura.gibbons@arun.gov.uk

Arun is Working in Partnership with Chichester District Council

Visit Arun's web site at <http://www.arun.gov.uk/> and www.chichester.gov.uk



Save the environment - think before you print.

From: planning.responses@arun.gov.uk <planning.responses@arun.gov.uk>

Sent: 01 July 2019 10:36

To: Land Drainage <Land.Drainage@arun.gov.uk>

Subject: Planning Consultation on: AL/51/19/PL

To: Engineers (Drainage)

NOTIFICATION FROM ARUN DISTRICT COUNCIL

Town & Country Planning Act 1990 (as amended)

Town and Country Planning (Development Management Procedure) (England) Order 2015

Planning Permission

APPLICATION NO: AL/51/19/PL

Registered: 27th June
2019

Site Address: Springfield and land to rear Hook Lane Aldingbourne PO20 3TE

Grid Reference: 493396 104821

Description of Works: Demolition of the existing dwelling & erection of 3 No 2-bed, 3 No 3-bed & 4 No 4-bed dwellings, access, landscaping & associated works.

The Council have received the above application. I shall be pleased to receive any observations you may wish to make.

[Click here to view the application details](#)

Should you have any comments to make, these should be sent by [replying to this email](#) by 01-AUG-19.

You can also monitor the progress of this application through the Council web site:
www.arun.gov.uk/planning

Please be aware that any comments you may make will be available on our website so please do not insert personal details or signatures on your reply.

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

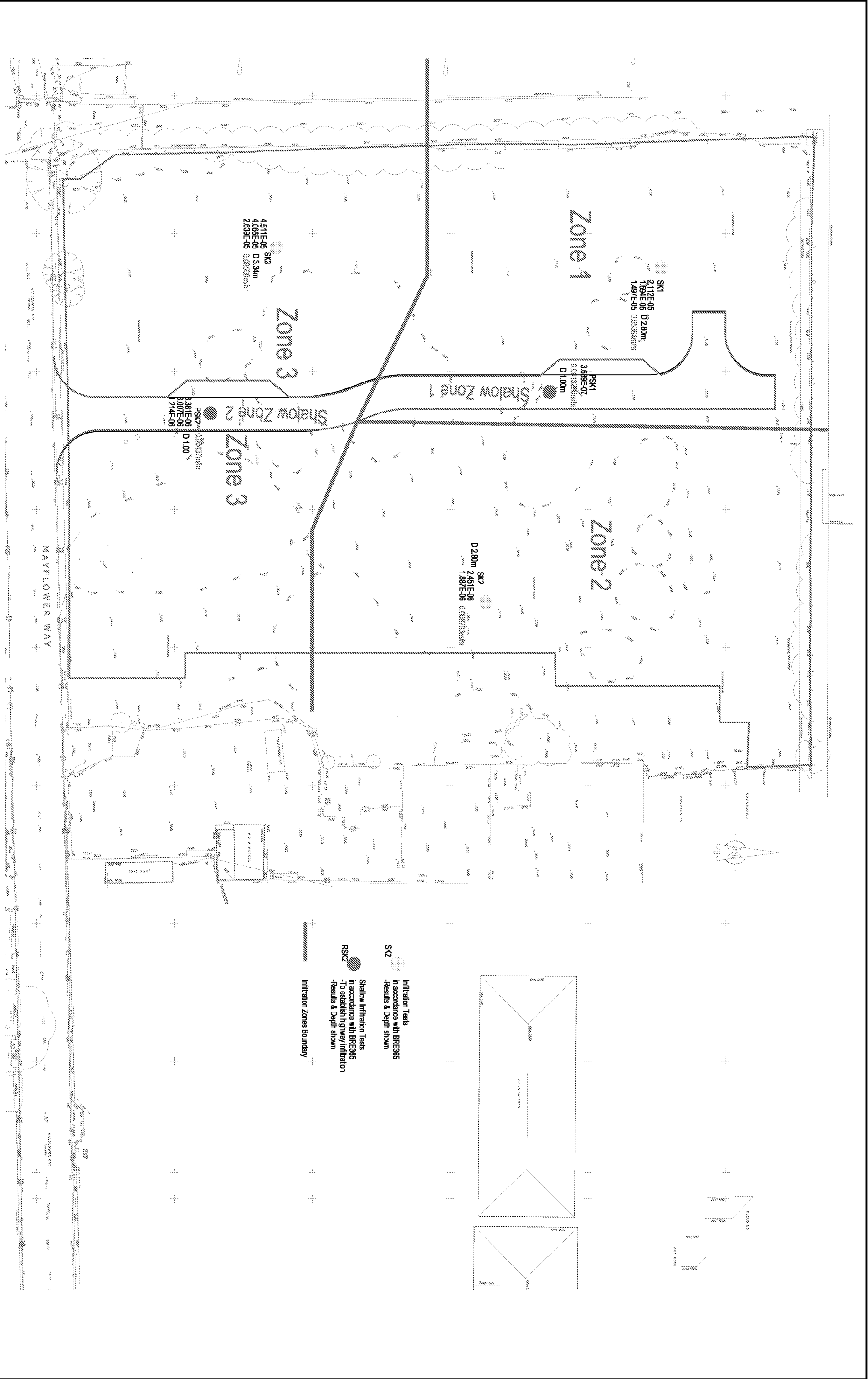
The application will be determined having regard to the development plan policies (if any are relevant) and other material considerations. The development plan can be accessed via the website as can the leaflet which deals with material planning considerations.

Should the application go to appeal the Planning Inspectorate will publish any comments made to the Council on their website: www.planningportal.gov.uk/planning/appeals/ but they will protect personal details.

The officer dealing with this application is Mr S Davis who can be contacted on telephone number 01903 737874.

Regards
Planning Officer

consultee_email



Civil & Structural Consulting Engineers
Bonghron, 23 Chichester Road, Brighton BN1 3SD

Project
MAYFLOWER WAY, ANGMERING
Drawing Title
Infiltration Tests (2019)

Drawing Status
For Information
Client



Rev.	Date	Details	Initials	Job No.	Drawing No.	Rev
B	26.02.19	Eastern boundary amended, Zones added	KN	ES1539		
A	14.01.19	First issue	KN			
					500-00	B



Section Through Flexible Carriageway

Construction: Road Type 1 Scale 1:25



Section Through Flexible Carriageway with Permeable

Sub Base Construction: Road Type 2 Scale 1:25



ACO Drainage Channel/Garage Threshold Detail

Scale 1:25



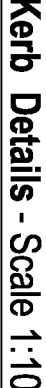
ACO Drainage Channel at Access Road Entrance Detail:

Scale 1:25



Formation Baffle Details:

Scale 1:25



Kerb Details - Scale 1:10



Section Through Permeable Block Paved Drive:

Road Type 3 Scale 1:25



existing carriageway



(Marking Highway Boundary)



Section Through Impermeable Block Paved Drive:

Road Type 4 Scale 1:25

PRELIMINARY - FOR PLANNING

PRELIMINARY - FOR PLANNING

ANGMERING

ANGMERING

Client:

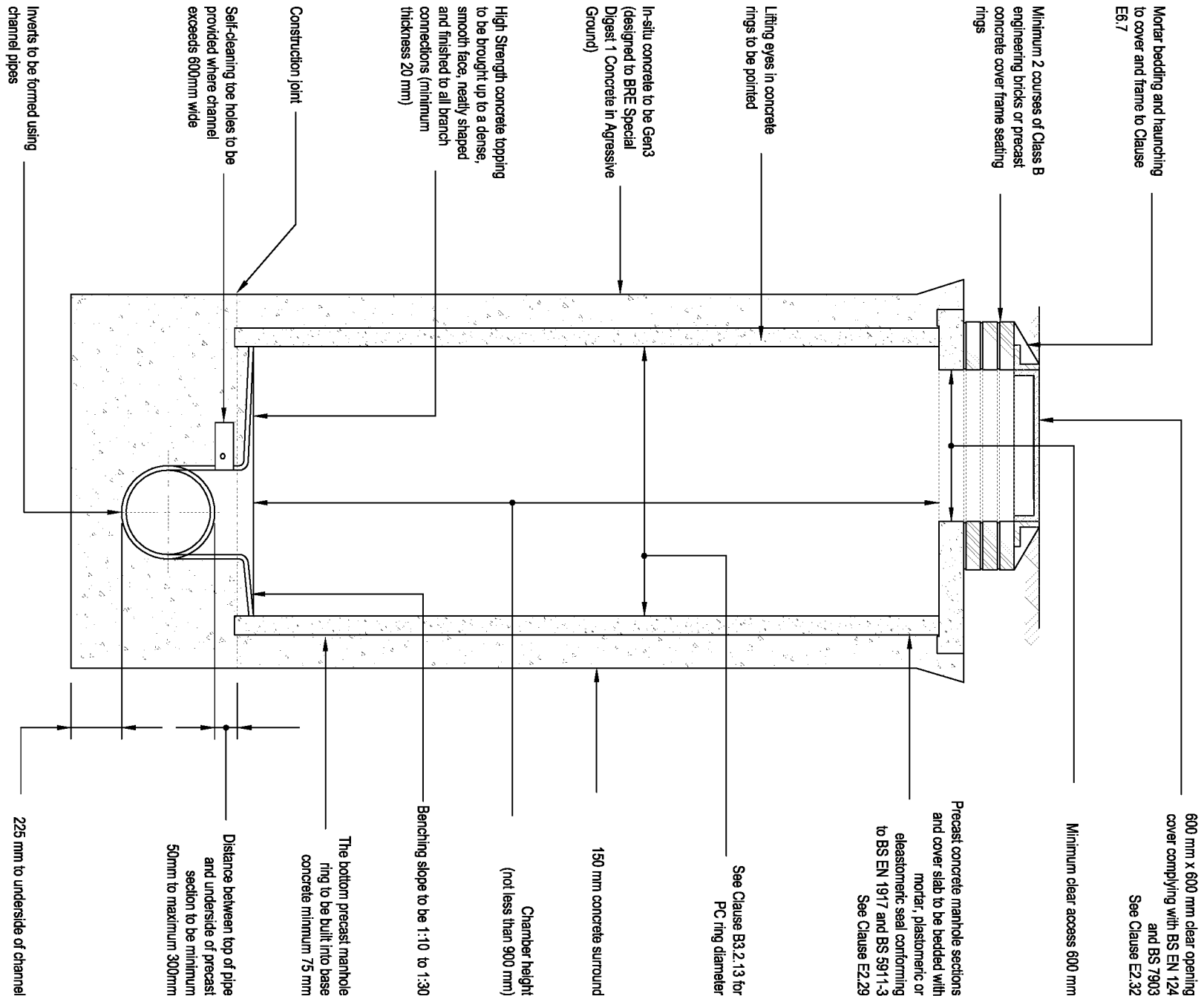


JOSEPH E. KIRK • S.E. • V.P. • E.T. • M.A. • P.E.
Chief & Structural Consulting Engineers
Kirkgroup, 42 Orange Park, Houston 77057, Telephone 803-4828

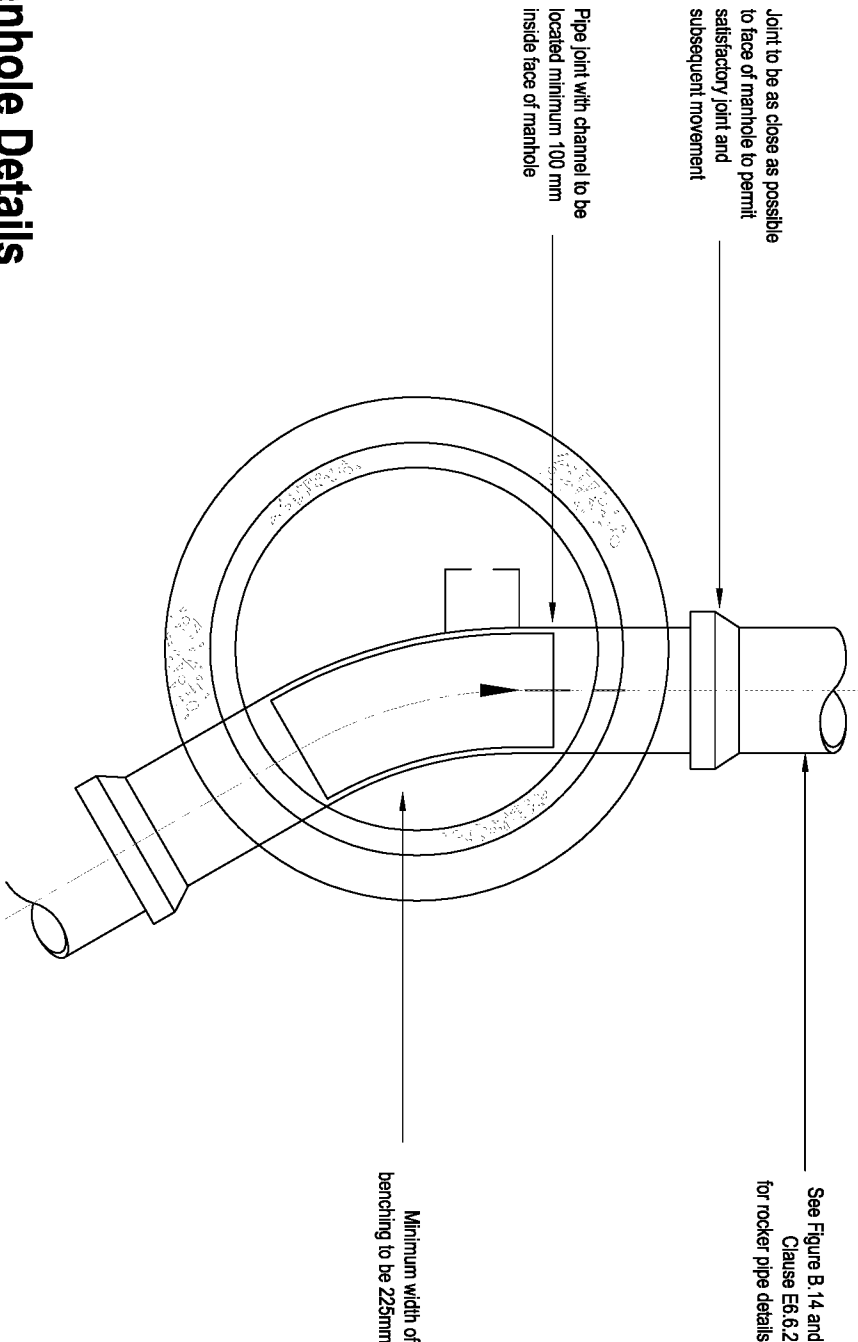
Drawing Title		Engineering Details		Standard Construction Details	
Drawn	Checked	Scale	Sheet Size	Date	
KN		1:25	A1	08.15	
Job No.	Drawing No.		Revision		
SS1539	501-01		B		

TYPICAL MANHOLE DETAIL - TYPE 2

Maximum depth from cover level to soffit of pipe 3.0 m



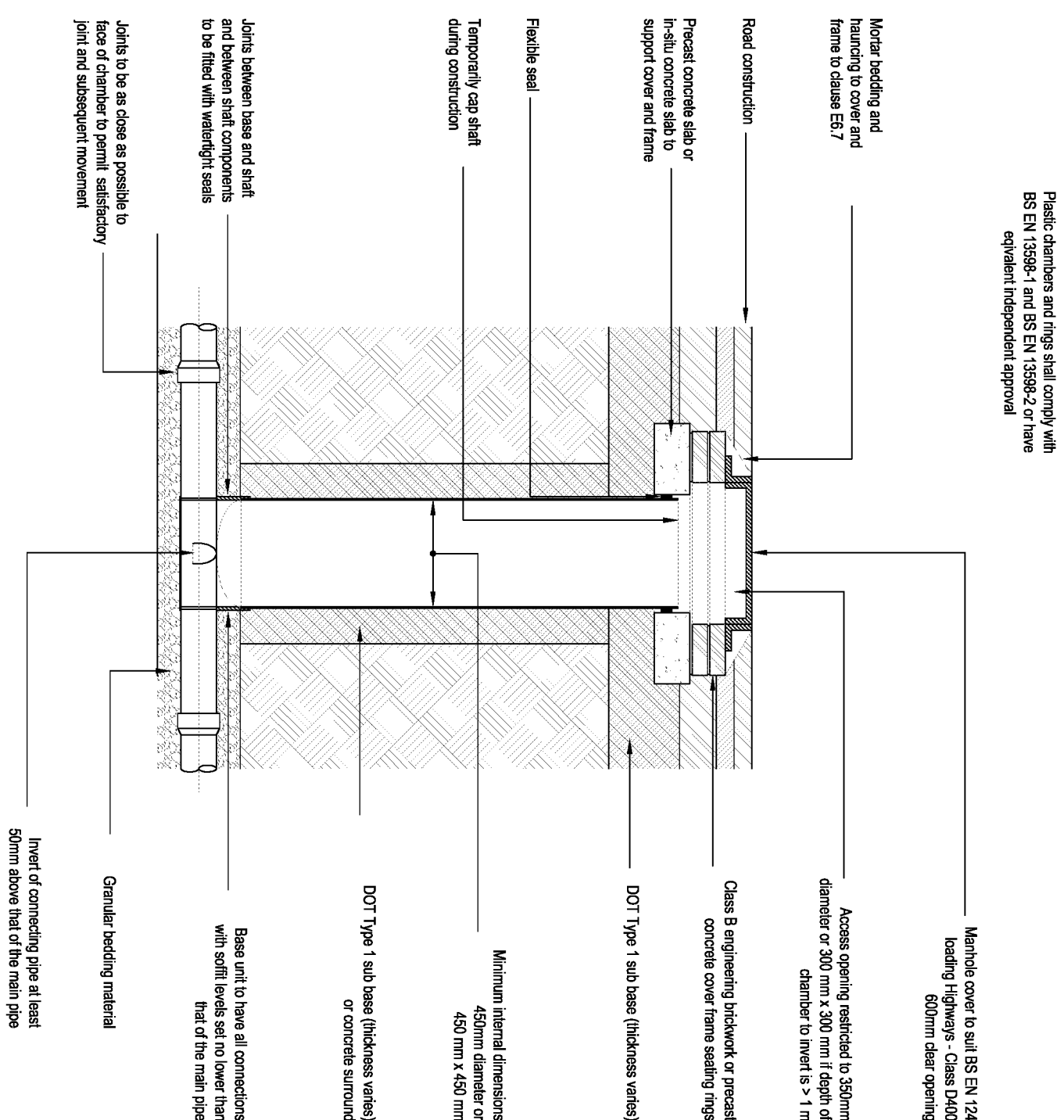
Manhole Details



TYPICAL OSMA INSPECTION CHAMBER DETAIL - TYPE 3

(Flexible material detail)

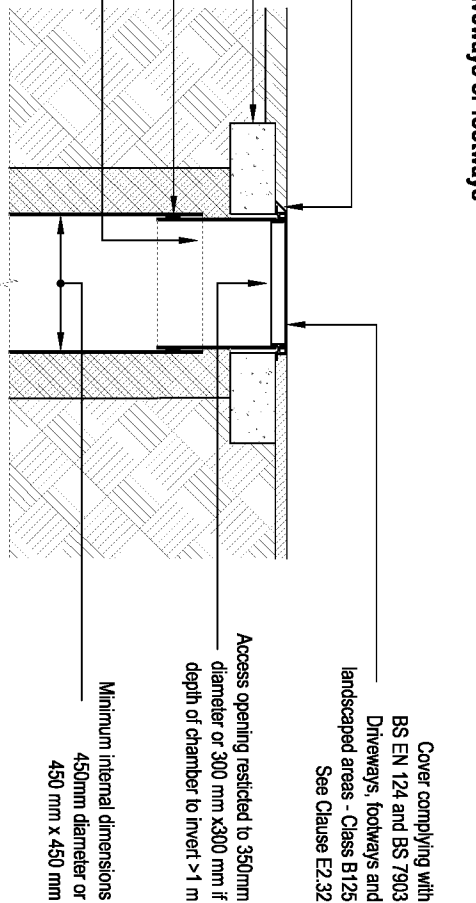
Maximum depth from cover to soffit level of pipe in areas subject to vehicle loading 3 m, non-entry



Inspection Chamber Details

ALTERNATIVE TOP DETAILS FOR LIGHT VEHICLE LOADING AND LANDSCAPED AREAS - TYPE 3

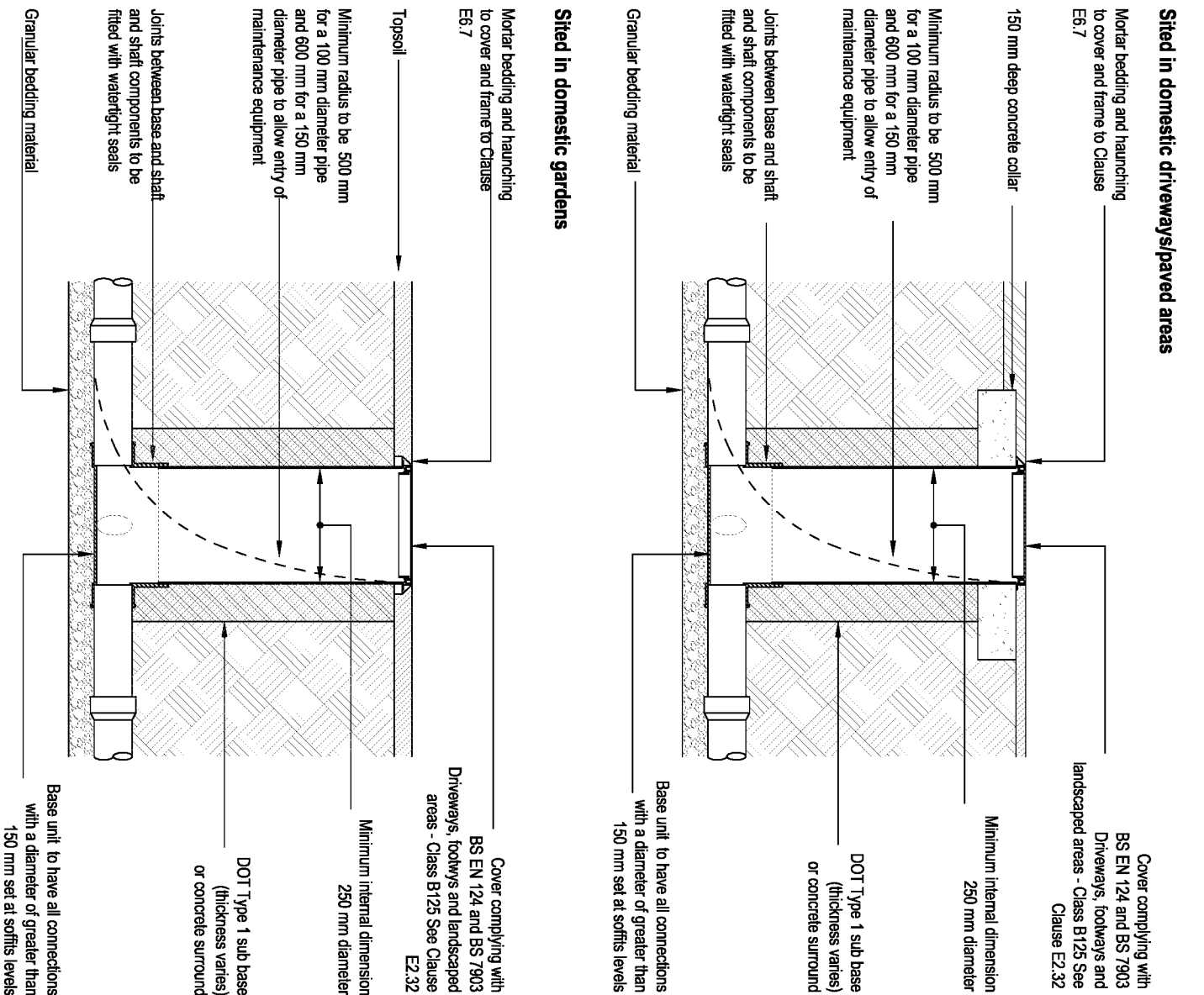
Plastic chambers and rings shall comply with BS EN 13596-1 and BS EN 13596-2 or have equivalent independent approval



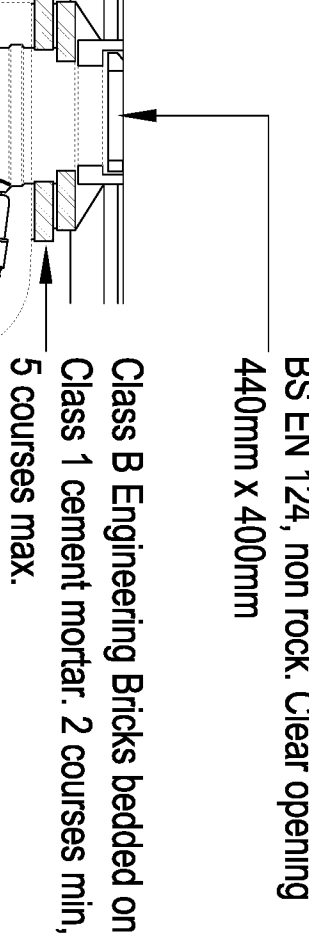
TYPICAL OSMA INSPECTION CHAMBER DETAIL - TYPE 4

(Flexible material construction)

Maximum depth from cover level to soffit of pipe 2 m, non-entry

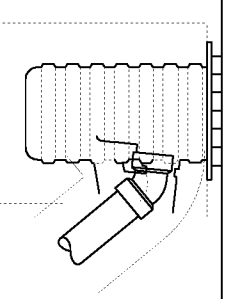


Gully grating & frame Class D400 to BS EN 124, non rock. Clear opening 440mm x 400mm

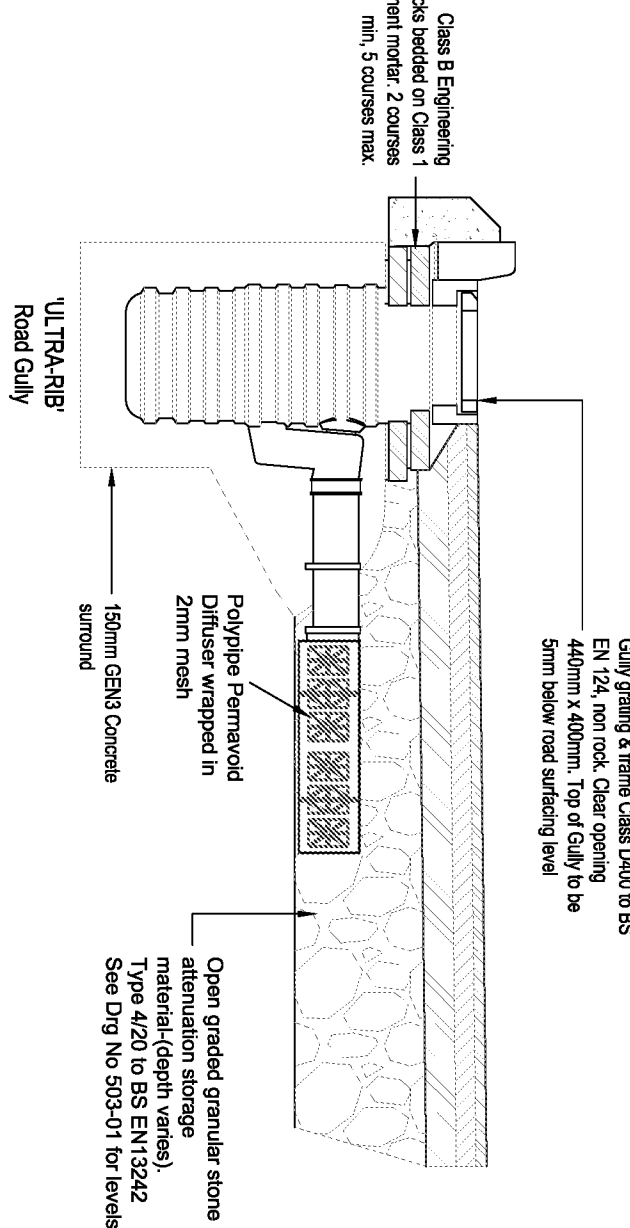


300mm dia x 600mm deep polypropylene trapped yard gully with grade B 300mm x 300mm cast iron hinged grating and frame to BS EN124 and 150mm thickness grade GEN3 concrete surround as shown.

'ULTRA-RIB' Road Gully (Type 2)

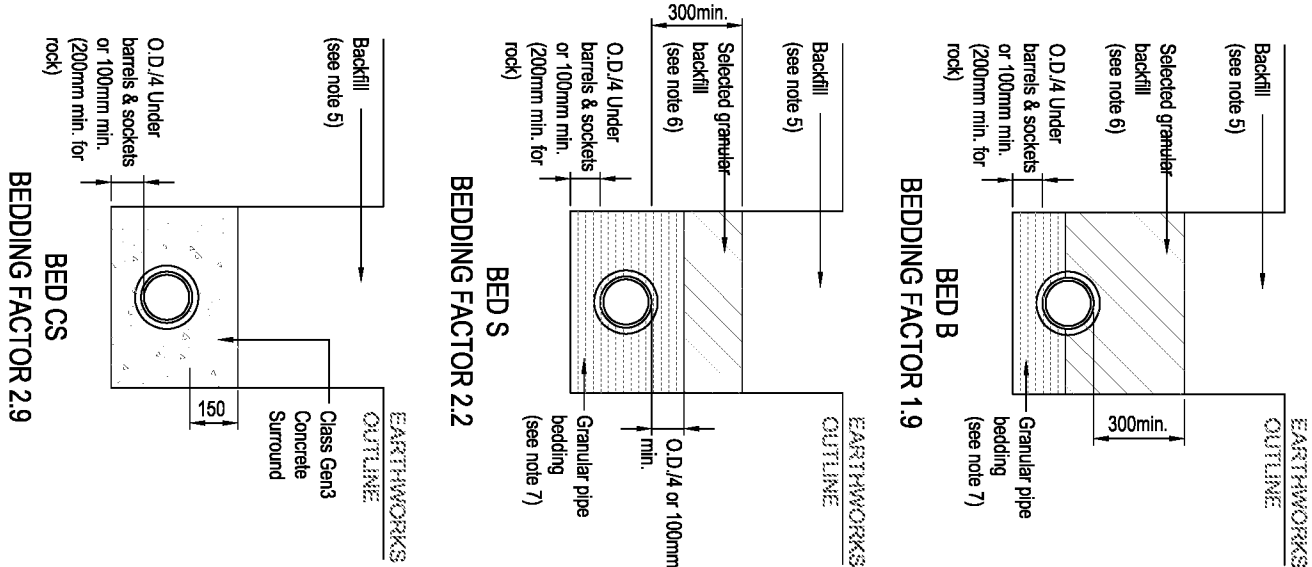


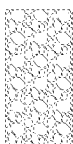
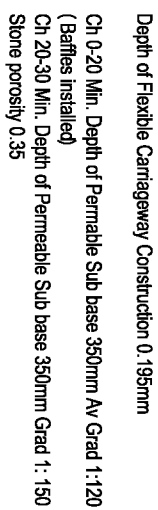
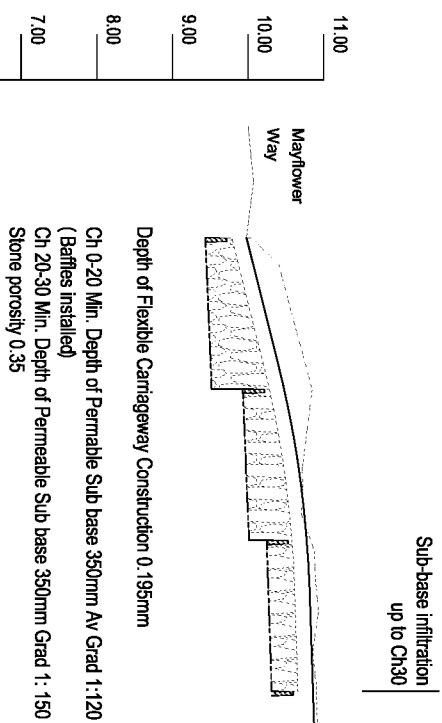
'ULTRA-RIB' Road Gully (Type 2)



Gully Details

BEDDING NOTES

[illegible]



DATUM 5.00m AOD									
CHAINAGE				0.000		8.108		10.000	
EXISTING GROUND LEVEL	10.000			9.980		10.058		10.842	
	10.070								
ALIGNMENT LEVEL	9.980			10.386		10.778		10.854	
				10.475		10.810		10.886	
								10.990	
BASE ATTENUATION LEVEL	9.435			9.502		10.013		10.312	
				9.518		10.233			
				9.930					
BASE ATTENUATION GRADIENT				G=0.833%		G=0.867%			
VERTICAL ALIGNMENT	Straight G=5.0%			Curve G1=5.0% G2=0.667%		Straight G=0.667%		Straight G=0.667%	
	L=8.108m			Curve L=15.0m				L=81.679m	
HORIZONTAL ALIGNMENT				R=20.867		R=17.633			



**Mayflower Way
Angmering**

Infiltration Calculations

Prepared by:

Escher Silverman

Roughton, A2 Omega Park,
Electron Way, Chandlers Ford,
Hampshire. SO53 4SE



ES1539/SUDS

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MAYFLOWER WAY, ANGMERING

DOMESTIC SOAKAWAY DETAILS-Trench Soakaways

Soakaway Ref	Area Draining m ²	Width m	Length m	Soakaway Depth from Ground Level m	Infiltration Zone	10 yr		100 yr+40%		Soakaway Base
						FoS	Half Drain Time (min)	FoS	Half Drain Time (min)	
SA1	67	1.0	5.0	3.20	3	10	707	10	703	NO
SA2/SA3	134	0.5	8.0	3.20	3	10	400	10	409	NO
SA4	67	1.0	5.0	3.20	3	10	707	10	703	NO
SA5-SA7	87	1.0	6.5	3.20	3	10	739	3	735	NO
SA8+ Ch 30-53	320	1.2	10.0	3.50	3	5	433	1	100	NO
SA9+Ch 53-63	210	1.2	7.0	3.50	3	5	433	1	160	NO
SA10+Ch 63-74	220	1.2	8.0	3.50	1	9	1402	1	160	NO
SA11	92	1.0	8.0	3.00	1	10	1178	10	1177	NO
SA12	92	1.0	8.0	3.00	1	10	1178	10	1177	NO
SA13	92	1.0	8.0	3.00	1	10	1178	10	1177	NO
SA14-SA17	340	1.0	52.0	2.80	2	2	1014	2	1290	YES
SA18-SA24	420	0.6	46.0	3.40	2	2	1191	2	1399	YES
SA18A	60	0.6	7.0	2.80	2	2	1130	2	1797	YES
SH1	480	1.0	26.0	3.20	2	10	1441	2	293	NO
SH2	85	1.0	24.0	3.10	1	10	1436	3	438	NO

ACCESS ROAD & DOMESTIC DRIVES (Based on in-situ tests)

Driveways Plots	Depth of Open Graded sub-base m	Shallow Test Zone	100 yr+40%	
			FoS	Time (min)
Plots 1-5	303	2	3	1475
Access Ch 0-20	285	2	3	1454
Access Ch 20-30	270	2	3	1472

Infiltration Rates

Infiltration Zone	Soakage Rate (m/s)	Soakage Rate (m/hr)	Test Depth (m)
1	1.497 E-05	0.05364	2.80
2	1.887 E-06	0.006793	2.80
3	2.639 E-05	0.09500	3.34
Shallow Zone 1	3.689 E-07	0.0013280	1.00
Shallow Zone 2	5.0 E-06	0.01800	1.00

Infiltration rates have been
confirmed by in-situ tests.

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	Soakaways Plots 1 & 4	
Date July 2019	Designed By KN	
File Domestic Soakaway SA1&SA4 10y...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 707 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	8.0722	0.4722	0.9	O K
30 Summer	0.0	0.0	8.2188	0.6188	1.2	O K
60 Summer	0.0	0.0	8.3738	0.7738	1.5	O K
120 Summer	0.0	0.0	8.5318	0.9318	1.9	O K
180 Summer	0.0	0.0	8.6188	1.0188	2.0	O K
240 Summer	0.0	0.0	8.6733	1.0733	2.1	O K
360 Summer	0.0	0.0	8.7348	1.1348	2.3	O K
480 Summer	0.0	0.0	8.7638	1.1638	2.3	O K
600 Summer	0.0	0.0	8.7853	1.1853	2.4	O K
720 Summer	0.0	0.0	8.8013	1.2013	2.4	O K
960 Summer	0.0	0.0	8.8228	1.2228	2.4	O K
1440 Summer	0.0	0.0	8.8358	1.2358	2.5	O K
2160 Summer	0.0	0.0	8.8188	1.2188	2.4	O K
2880 Summer	0.0	0.0	8.7843	1.1843	2.4	O K
15 Winter	0.0	0.0	8.0722	0.4722	0.9	O K
30 Winter	0.0	0.0	8.2188	0.6188	1.2	O K
60 Winter	0.0	0.0	8.3743	0.7743	1.5	O K
120 Winter	0.0	0.0	8.5333	0.9333	1.9	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	38
60 Summer	22.79	68
120 Summer	14.11	126
180 Summer	10.57	186
240 Summer	8.59	246
360 Summer	6.40	364
480 Summer	5.19	442
600 Summer	4.41	496
720 Summer	3.85	558
960 Summer	3.12	686
1440 Summer	2.31	956
2160 Summer	1.72	1368
2880 Summer	1.39	1764
15 Winter	54.44	23
30 Winter	35.92	37
60 Winter	22.79	66
120 Winter	14.11	124

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 1 & 4	
Date July 2019	Designed By KN	
File Domestic Soakaway SA1&SA4 10y...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	0.0	0.0	8.6213	1.0213	2.0	0 K
240 Winter	0.0	0.0	8.6773	1.0773	2.2	0 K
360 Winter	0.0	0.0	8.7418	1.1418	2.3	0 K
480 Winter	0.0	0.0	8.7738	1.1738	2.3	0 K
600 Winter	0.0	0.0	8.7878	1.1878	2.4	0 K
720 Winter	0.0	0.0	8.8018	1.2018	2.4	0 K
960 Winter	0.0	0.0	8.8163	1.2163	2.4	0 K
1440 Winter	0.0	0.0	8.8098	1.2098	2.4	0 K
2160 Winter	0.0	0.0	8.7653	1.1653	2.3	0 K
2880 Winter	0.0	0.0	8.7088	1.1088	2.2	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	10.57	182
240 Winter	8.59	240
360 Winter	6.40	352
480 Winter	5.19	458
600 Winter	4.41	548
720 Winter	3.85	572
960 Winter	3.12	726
1440 Winter	2.31	1028
2160 Winter	1.72	1472
2880 Winter	1.39	1880

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 1 & 4	
Date July 2019	Designed By KN	
File Domestic Soakaway SA1&SA4 10y...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.007

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.007

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 1 & 4	
Date July 2019	Designed By KN	
File Domestic Soakaway SA1&SA4 10y...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	5.0
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.600
Safety Factor	10.0	Cover Level (m)	9.200
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 1 & 4	
Date July 2019	Designed By KN	
File Domestic Soakaway SA1&SA4 10...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 703 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	8.6808	1.0808	2.2	OK
30 Summer	0.0	0.0	9.0427	1.4427	2.9	OK
60 Summer	0.1	0.1	9.4262	1.8262	3.7	OK
120 Summer	0.1	0.1	9.8017	2.2017	4.4	OK
180 Summer	0.1	0.1	9.9927	2.3927	4.8	OK
240 Summer	0.1	0.1	10.0997	2.4996	5.0	OK
360 Summer	0.1	0.1	10.2081	2.6081	5.2	OK
480 Summer	0.1	0.1	10.2511	2.6511	5.3	OK
600 Summer	0.1	0.1	10.2806	2.6806	5.4	OK
720 Summer	0.1	0.1	10.3006	2.7006	5.4	OK
960 Summer	0.1	0.1	10.3206	2.7206	5.4	OK
1440 Summer	0.1	0.1	10.3071	2.7071	5.4	OK
2160 Summer	0.1	0.1	10.2251	2.6251	5.3	OK
2880 Summer	0.1	0.1	10.1186	2.5186	5.0	OK
15 Winter	0.0	0.0	8.6808	1.0808	2.2	OK
30 Winter	0.0	0.0	9.0432	1.4432	2.9	OK
60 Winter	0.1	0.1	9.4272	1.8272	3.7	OK
120 Winter	0.1	0.1	9.8052	2.2052	4.4	OK

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	38
60 Summer	53.78	68
120 Summer	33.34	126
180 Summer	24.83	186
240 Summer	20.01	246
360 Summer	14.71	364
480 Summer	11.82	442
600 Summer	9.97	496
720 Summer	8.67	558
960 Summer	6.94	686
1440 Summer	5.07	956
2160 Summer	3.70	1368
2880 Summer	2.95	1764
15 Winter	124.63	23
30 Winter	83.79	37
60 Winter	53.78	66
120 Winter	33.34	124

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 1 & 4	
Date July 2019	Designed By KN	
File Domestic Soakaway SA1&SA4 10...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	0.1	0.1	9.9982	2.3982	4.8	0 K
240 Winter	0.1	0.1	10.1082	2.5081	5.0	0 K
360 Winter	0.1	0.1	10.2246	2.6246	5.2	0 K
480 Winter	0.1	0.1	10.2736	2.6736	5.3	0 K
600 Winter	0.1	0.1	10.2871	2.6871	5.4	0 K
720 Winter	0.1	0.1	10.3016	2.7016	5.4	0 K
960 Winter	0.1	0.1	10.3066	2.7066	5.4	0 K
1440 Winter	0.1	0.1	10.2511	2.6511	5.3	0 K
2160 Winter	0.1	0.1	10.1096	2.5096	5.0	0 K
2880 Winter	0.1	0.1	9.9577	2.3577	4.7	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	24.83	182
240 Winter	20.01	240
360 Winter	14.71	352
480 Winter	11.82	458
600 Winter	9.97	548
720 Winter	8.67	572
960 Winter	6.94	726
1440 Winter	5.07	1028
2160 Winter	3.70	1472
2880 Winter	2.95	1880

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 1 & 4	
Date July 2019	Designed By KN	
File Domestic Soakaway SA1&SA4 10...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.007

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.007

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 1 & 4	
Date July 2019	Designed By KN	
File Domestic Soakaway SA1&SA4 10...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	5.0
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.600
Safety Factor	10.0	Cover Level (m)	10.800
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	Soakaways Plots 2 & 3	
Date July 2019	Designed By KN	
File Domestic Soakaway SA2-SA3 10yr...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 400 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	8.1857	0.5857	0.9	O K
30 Summer	0.0	0.0	8.3638	0.7638	1.2	O K
60 Summer	0.0	0.0	8.5453	0.9453	1.5	O K
120 Summer	0.1	0.1	8.7153	1.1153	1.8	O K
180 Summer	0.1	0.1	8.7938	1.1938	1.9	O K
240 Summer	0.1	0.1	8.8323	1.2323	2.0	O K
360 Summer	0.1	0.1	8.8758	1.2757	2.0	O K
480 Summer	0.1	0.1	8.9032	1.3032	2.1	O K
600 Summer	0.1	0.1	8.9192	1.3192	2.1	O K
720 Summer	0.1	0.1	8.9267	1.3267	2.1	O K
960 Summer	0.1	0.1	8.9257	1.3257	2.1	O K
1440 Summer	0.1	0.1	8.8933	1.2932	2.1	O K
2160 Summer	0.1	0.1	8.8208	1.2208	2.0	O K
2880 Summer	0.1	0.1	8.7458	1.1458	1.8	O K
15 Winter	0.0	0.0	8.1857	0.5857	0.9	O K
30 Winter	0.0	0.0	8.3643	0.7643	1.2	O K
60 Winter	0.0	0.0	8.5473	0.9473	1.5	O K
120 Winter	0.1	0.1	8.7188	1.1188	1.8	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	37
60 Summer	22.79	66
120 Summer	14.11	126
180 Summer	10.57	184
240 Summer	8.59	240
360 Summer	6.40	292
480 Summer	5.19	354
600 Summer	4.41	420
720 Summer	3.85	490
960 Summer	3.12	628
1440 Summer	2.31	898
2160 Summer	1.72	1300
2880 Summer	1.39	1680
15 Winter	54.44	23
30 Winter	35.92	37
60 Winter	22.79	66
120 Winter	14.11	124

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 2 & 3	
Date July 2019	Designed By KN	
File Domestic Soakaway SA2-SA3 10yr...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
180 Winter	0.1	0.1	8.8003	1.2003	1.9	0 K
240 Winter	0.1	0.1	8.8428	1.2428	2.0	0 K
360 Winter	0.1	0.1	8.8777	1.2778	2.0	0 K
480 Winter	0.1	0.1	8.9002	1.3002	2.1	0 K
600 Winter	0.1	0.1	8.9082	1.3082	2.1	0 K
720 Winter	0.1	0.1	8.9062	1.3062	2.1	0 K
960 Winter	0.1	0.1	8.8868	1.2868	2.1	0 K
1440 Winter	0.1	0.1	8.8218	1.2218	2.0	0 K
2160 Winter	0.1	0.1	8.7148	1.1148	1.8	0 K
2880 Winter	0.0	0.0	8.6183	1.0183	1.6	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	10.57	180
240 Winter	8.59	234
360 Winter	6.40	300
480 Winter	5.19	372
600 Winter	4.41	450
720 Winter	3.85	524
960 Winter	3.12	676
1440 Winter	2.31	958
2160 Winter	1.72	1368
2880 Winter	1.39	1764

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 2 & 3	
Date July 2019	Designed By KN	
File Domestic Soakaway SA2-SA3 10yr...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.007

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.007

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 2 & 3	
Date July 2019	Designed By KN	
File Domestic Soakaway SA2-SA3 10yr...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	8.0
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.600
Safety Factor	10.0	Cover Level (m)	9.000
Porosity	0.40	Slope (1:x)	0.0
Width (m)	0.5		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	Soakaways Plots 2 & 3	
Date July 2019	Designed By KN	
File Domestic Soakaway SA2-SA3 100...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 409 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.1	0.1	8.9417	1.3417	2.1	O K
30 Summer	0.1	0.1	9.3817	1.7817	2.9	O K
60 Summer	0.1	0.1	9.8312	2.2312	3.6	O K
120 Summer	0.1	0.1	10.2351	2.6351	4.2	O K
180 Summer	0.1	0.1	10.4036	2.8036	4.5	O K
240 Summer	0.1	0.1	10.4701	2.8701	4.6	O K
360 Summer	0.1	0.1	10.5331	2.9331	4.7	O K
480 Summer	0.1	0.1	10.5691	2.9691	4.8	O K
600 Summer	0.1	0.1	10.5836	2.9836	4.8	O K
720 Summer	0.1	0.1	10.5821	2.9821	4.8	O K
960 Summer	0.1	0.1	10.5501	2.9501	4.7	O K
1440 Summer	0.1	0.1	10.4336	2.8336	4.5	O K
2160 Summer	0.1	0.1	10.2291	2.6291	4.2	O K
2880 Summer	0.1	0.1	10.0372	2.4372	3.9	O K
15 Winter	0.1	0.1	8.9417	1.3417	2.1	O K
30 Winter	0.1	0.1	9.3832	1.7832	2.9	O K
60 Winter	0.1	0.1	9.8347	2.2347	3.6	O K
120 Winter	0.1	0.1	10.2426	2.6426	4.2	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	37
60 Summer	53.78	66
120 Summer	33.34	126
180 Summer	24.83	184
240 Summer	20.01	240
360 Summer	14.71	292
480 Summer	11.82	354
600 Summer	9.97	420
720 Summer	8.67	490
960 Summer	6.94	628
1440 Summer	5.07	898
2160 Summer	3.70	1300
2880 Summer	2.95	1680
15 Winter	124.63	23
30 Winter	83.79	37
60 Winter	53.78	66
120 Winter	33.34	124

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 2 & 3	
Date July 2019	Designed By KN	
File Domestic Soakaway SA2-SA3 100...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	0.1	0.1	10.4191	2.8191	4.5	O K
240 Winter	0.1	0.1	10.4941	2.8941	4.6	O K
360 Winter	0.1	0.1	10.5366	2.9366	4.7	O K
480 Winter	0.1	0.1	10.5626	2.9626	4.7	O K
600 Winter	0.1	0.1	10.5586	2.9586	4.7	O K
720 Winter	0.1	0.1	10.5366	2.9366	4.7	O K
960 Winter	0.1	0.1	10.4631	2.8631	4.6	O K
1440 Winter	0.1	0.1	10.2771	2.6771	4.3	O K
2160 Winter	0.1	0.1	10.0017	2.4017	3.8	O K
2880 Winter	0.1	0.1	9.7652	2.1652	3.5	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	24.83	180
240 Winter	20.01	234
360 Winter	14.71	300
480 Winter	11.82	372
600 Winter	9.97	450
720 Winter	8.67	524
960 Winter	6.94	676
1440 Winter	5.07	958
2160 Winter	3.70	1368
2880 Winter	2.95	1764

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 2 & 3	
Date July 2019	Designed By KN	
File Domestic Soakaway SA2-SA3 100...	Checked By	
Micro Drainage		Source Control W.11.2

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.007

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.007

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 2 & 3	
Date July 2019	Designed By KN	
File Domestic Soakaway SA2-SA3 100...	Checked By	
Micro Drainage		Source Control W.11.2

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	8.0
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.600
Safety Factor	10.0	Cover Level (m)	10.800
Porosity	0.40	Slope (1:x)	0.0
Width (m)	0.5		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	Soakaways Plots 5-7	
Date July 2019	Designed By KN	
File Domestic Soakaway SA5-SA7 10yr...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 739 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	8.0672	0.4672	1.2	O K
30 Summer	0.0	0.0	8.2123	0.6123	1.6	O K
60 Summer	0.0	0.0	8.3663	0.7663	2.0	O K
120 Summer	0.0	0.0	8.5238	0.9238	2.4	O K
180 Summer	0.0	0.0	8.6108	1.0108	2.6	O K
240 Summer	0.0	0.0	8.6663	1.0663	2.8	O K
360 Summer	0.0	0.0	8.7293	1.1293	2.9	O K
480 Summer	0.0	0.0	8.7593	1.1593	3.0	O K
600 Summer	0.0	0.0	8.7808	1.1808	3.1	O K
720 Summer	0.0	0.0	8.7973	1.1973	3.1	O K
960 Summer	0.0	0.0	8.8198	1.2198	3.2	O K
1440 Summer	0.0	0.0	8.8348	1.2348	3.2	O K
2160 Summer	0.0	0.0	8.8208	1.2208	3.2	O K
2880 Summer	0.0	0.0	8.7888	1.1888	3.1	O K
15 Winter	0.0	0.0	8.0672	0.4672	1.2	O K
30 Winter	0.0	0.0	8.2123	0.6123	1.6	O K
60 Winter	0.0	0.0	8.3668	0.7668	2.0	O K
120 Winter	0.0	0.0	8.5248	0.9248	2.4	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	38
60 Summer	22.79	68
120 Summer	14.11	126
180 Summer	10.57	186
240 Summer	8.59	246
360 Summer	6.40	364
480 Summer	5.19	452
600 Summer	4.41	504
720 Summer	3.85	562
960 Summer	3.12	688
1440 Summer	2.31	958
2160 Summer	1.72	1368
2880 Summer	1.39	1788
15 Winter	54.44	23
30 Winter	35.92	37
60 Winter	22.79	66
120 Winter	14.11	124

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 5-7	
Date July 2019	Designed By KN	
File Domestic Soakaway SA5-SA7 10yr...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	0.0	0.0	8.6133	1.0133	2.6	0 K
240 Winter	0.0	0.0	8.6698	1.0698	2.8	0 K
360 Winter	0.0	0.0	8.7358	1.1358	3.0	0 K
480 Winter	0.0	0.0	8.7693	1.1693	3.0	0 K
600 Winter	0.0	0.0	8.7853	1.1853	3.1	0 K
720 Winter	0.0	0.0	8.7983	1.1983	3.1	0 K
960 Winter	0.0	0.0	8.8143	1.2143	3.2	0 K
1440 Winter	0.0	0.0	8.8113	1.2113	3.1	0 K
2160 Winter	0.0	0.0	8.7703	1.1703	3.0	0 K
2880 Winter	0.0	0.0	8.7163	1.1163	2.9	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	10.57	182
240 Winter	8.59	240
360 Winter	6.40	352
480 Winter	5.19	460
600 Winter	4.41	556
720 Winter	3.85	576
960 Winter	3.12	726
1440 Winter	2.31	1030
2160 Winter	1.72	1476
2880 Winter	1.39	1904

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 5-7	
Date July 2019	Designed By KN	
File Domestic Soakaway SA5-SA7 10yr...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.009

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.009

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 5-7	
Date July 2019	Designed By KN	
File Domestic Soakaway SA5-SA7 10yr...	Checked By	
Micro Drainage		Source Control W.11.2

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	6.5
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.600
Safety Factor	10.0	Cover Level (m)	9.600
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	Soakaways Plots 5-7	
Date July 2019	Designed By KN	
File Domestic Soakaway SA5-SA7 100...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 735 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	8.6693	1.0693	2.8	OK
30 Summer	0.1	0.1	9.0277	1.4277	3.7	OK
60 Summer	0.1	0.1	9.4082	1.8082	4.7	OK
120 Summer	0.1	0.1	9.7822	2.1822	5.7	OK
180 Summer	0.1	0.1	9.9742	2.3742	6.2	OK
240 Summer	0.1	0.1	10.0827	2.4827	6.5	OK
360 Summer	0.1	0.1	10.1956	2.5956	6.7	OK
480 Summer	0.1	0.1	10.2411	2.6411	6.9	OK
600 Summer	0.1	0.1	10.2711	2.6711	6.9	OK
720 Summer	0.1	0.1	10.2916	2.6916	7.0	OK
960 Summer	0.1	0.1	10.3136	2.7136	7.1	OK
1440 Summer	0.1	0.1	10.3046	2.7046	7.0	OK
2160 Summer	0.1	0.1	10.2296	2.6296	6.8	OK
2880 Summer	0.1	0.1	10.1286	2.5286	6.6	OK
15 Winter	0.0	0.0	8.6693	1.0693	2.8	OK
30 Winter	0.1	0.1	9.0282	1.4282	3.7	OK
60 Winter	0.1	0.1	9.4092	1.8092	4.7	OK
120 Winter	0.1	0.1	9.7852	2.1852	5.7	OK

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	38
60 Summer	53.78	68
120 Summer	33.34	126
180 Summer	24.83	186
240 Summer	20.01	246
360 Summer	14.71	364
480 Summer	11.82	452
600 Summer	9.97	504
720 Summer	8.67	562
960 Summer	6.94	688
1440 Summer	5.07	958
2160 Summer	3.70	1368
2880 Summer	2.95	1788
15 Winter	124.63	23
30 Winter	83.79	37
60 Winter	53.78	66
120 Winter	33.34	124

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 5-7	
Date July 2019	Designed By KN	
File Domestic Soakaway SA5-SA7 100...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	0.1	0.1	9.9792	2.3792	6.2	0 K
240 Winter	0.1	0.1	10.0907	2.4907	6.5	0 K
360 Winter	0.1	0.1	10.2111	2.6111	6.8	0 K
480 Winter	0.1	0.1	10.2646	2.6646	6.9	0 K
600 Winter	0.1	0.1	10.2811	2.6811	7.0	0 K
720 Winter	0.1	0.1	10.2936	2.6936	7.0	0 K
960 Winter	0.1	0.1	10.3021	2.7021	7.0	0 K
1440 Winter	0.1	0.1	10.2536	2.6536	6.9	0 K
2160 Winter	0.1	0.1	10.1206	2.5206	6.6	0 K
2880 Winter	0.1	0.1	9.9742	2.3742	6.2	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	24.83	182
240 Winter	20.01	240
360 Winter	14.71	352
480 Winter	11.82	460
600 Winter	9.97	556
720 Winter	8.67	576
960 Winter	6.94	726
1440 Winter	5.07	1030
2160 Winter	3.70	1476
2880 Winter	2.95	1904

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 5-7	
Date July 2019	Designed By KN	
File Domestic Soakaway SA5-SA7 100...	Checked By	
Micro Drainage		Source Control W.11.2

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.009

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.009

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 5-7	
Date July 2019	Designed By KN	
File Domestic Soakaway SA5-SA7 100...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	6.5
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.600
Safety Factor	10.0	Cover Level (m)	10.800
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	SA8 Plot 8 & Ch 30-53	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 95 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.5	0.5	9.1103	1.2103	4.1	0 K
30 Summer	0.7	0.7	9.4152	1.5152	5.1	0 K
60 Summer	0.8	0.8	9.6332	1.7332	5.8	0 K
120 Summer	0.8	0.8	9.7732	1.8732	6.3	0 K
180 Summer	0.8	0.8	9.8107	1.9107	6.4	0 K
240 Summer	0.8	0.8	9.8047	1.9047	6.4	0 K
360 Summer	0.8	0.8	9.7457	1.8457	6.2	0 K
480 Summer	0.8	0.8	9.6677	1.7677	5.9	0 K
600 Summer	0.7	0.7	9.5877	1.6877	5.7	0 K
720 Summer	0.7	0.7	9.5117	1.6117	5.4	0 K
960 Summer	0.6	0.6	9.3777	1.4777	5.0	0 K
1440 Summer	0.6	0.6	9.1713	1.2713	4.3	0 K
2160 Summer	0.5	0.5	8.9593	1.0593	3.6	0 K
2880 Summer	0.4	0.4	8.8158	0.9158	3.1	0 K
15 Winter	0.5	0.5	9.1118	1.2118	4.1	0 K
30 Winter	0.7	0.7	9.4217	1.5217	5.1	0 K
60 Winter	0.8	0.8	9.6462	1.7462	5.9	0 K
120 Winter	0.8	0.8	9.7627	1.8627	6.3	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	22
30 Summer	35.92	36
60 Summer	22.79	60
120 Summer	14.11	90
180 Summer	10.57	124
240 Summer	8.59	160
360 Summer	6.40	226
480 Summer	5.19	292
600 Summer	4.41	358
720 Summer	3.85	422
960 Summer	3.12	546
1440 Summer	2.31	798
2160 Summer	1.72	1156
2880 Summer	1.39	1532
15 Winter	54.44	22
30 Winter	35.92	35
60 Winter	22.79	62
120 Winter	14.11	96

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering SA8 Plot 8 & Ch 30-53	
Date May 2019 File Highway & Domestic Soakaway S...	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	0.8	0.8	9.7697	1.8697	6.3	0 K
240 Winter	0.8	0.8	9.7337	1.8337	6.2	0 K
360 Winter	0.7	0.7	9.6257	1.7257	5.8	0 K
480 Winter	0.7	0.7	9.5117	1.6117	5.4	0 K
600 Winter	0.7	0.7	9.4062	1.5062	5.1	0 K
720 Winter	0.6	0.6	9.3112	1.4112	4.7	0 K
960 Winter	0.5	0.5	9.1523	1.2523	4.2	0 K
1440 Winter	0.4	0.4	8.9243	1.0243	3.4	0 K
2160 Winter	0.4	0.4	8.7113	0.8113	2.7	0 K
2880 Winter	0.3	0.3	8.5768	0.6768	2.3	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	10.57	134
240 Winter	8.59	170
360 Winter	6.40	240
480 Winter	5.19	310
600 Winter	4.41	376
720 Winter	3.85	440
960 Winter	3.12	572
1440 Winter	2.31	824
2160 Winter	1.72	1192
2880 Winter	1.39	1560

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA8 Plot 8 & Ch 30-53	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.032

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.032

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA8 Plot 8 & Ch 30-53	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	7.0
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.900
Safety Factor	1.0	Cover Level (m)	10.000
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.2		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering SA8 Plot 8 & Ch 30-53	
Date May 2019 File Highway & Domestic Soakaway S...	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 100 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	1.1	1.1	9.8452	1.9452	9.3	O K
30 Summer	1.5	1.5	10.3867	2.4867	11.9	O K
60 Summer	1.7	1.7	10.7871	2.8871	13.9	O K
120 Summer	1.8	1.8	11.0281	3.1281	15.0	O K
180 Summer	1.9	1.9	11.0781	3.1781	15.3	O K
240 Summer	1.9	1.9	11.0486	3.1486	15.1	O K
360 Summer	1.8	1.8	10.9221	3.0221	14.5	O K
480 Summer	1.7	1.7	10.7771	2.8771	13.8	O K
600 Summer	1.6	1.6	10.6326	2.7326	13.1	O K
720 Summer	1.5	1.5	10.4982	2.5981	12.5	O K
960 Summer	1.4	1.4	10.2632	2.3632	11.3	O K
1440 Summer	1.2	1.2	9.9097	2.0097	9.6	O K
2160 Summer	1.0	1.0	9.5517	1.6517	7.9	O K
2880 Summer	0.8	0.8	9.3132	1.4132	6.8	O K
15 Winter	1.2	1.2	9.8472	1.9472	9.3	O K
30 Winter	1.5	1.5	10.3962	2.4962	12.0	O K
60 Winter	1.7	1.7	10.8096	2.9096	14.0	O K
120 Winter	1.8	1.8	11.0141	3.1141	14.9	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	22
30 Summer	83.79	36
60 Summer	53.78	62
120 Summer	33.34	92
180 Summer	24.83	126
240 Summer	20.01	160
360 Summer	14.71	228
480 Summer	11.82	294
600 Summer	9.97	360
720 Summer	8.67	424
960 Summer	6.94	550
1440 Summer	5.07	798
2160 Summer	3.70	1168
2880 Summer	2.95	1532
15 Winter	124.63	22
30 Winter	83.79	35
60 Winter	53.78	62
120 Winter	33.34	96

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering SA8 Plot 8 & Ch 30-53	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
180 Winter	1.8	1.8	11.0166	3.1166	15.0	0 K
240 Winter	1.8	1.8	10.9391	3.0391	14.6	0 K
360 Winter	1.7	1.7	10.7356	2.8356	13.6	0 K
480 Winter	1.6	1.6	10.5336	2.6336	12.6	0 K
600 Winter	1.4	1.4	10.3497	2.4497	11.8	0 K
720 Winter	1.4	1.4	10.1857	2.2857	11.0	0 K
960 Winter	1.2	1.2	9.9137	2.0137	9.7	0 K
1440 Winter	1.0	1.0	9.5277	1.6277	7.8	0 K
2160 Winter	0.8	0.8	9.1718	1.2718	6.1	0 K
2880 Winter	0.6	0.6	8.9493	1.0493	5.0	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	24.83	134
240 Winter	20.01	172
360 Winter	14.71	242
480 Winter	11.82	310
600 Winter	9.97	378
720 Winter	8.67	444
960 Winter	6.94	572
1440 Winter	5.07	826
2160 Winter	3.70	1192
2880 Winter	2.95	1560

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA8 Plot 8 & Ch 30-53	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.032

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.032

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA8 Plot 8 & Ch 30-53	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage		Source Control W.11.2

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	10.0
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.900
Safety Factor	1.0	Cover Level (m)	11.200
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.2		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	SA9 Plot 9 & Ch 53-63	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 433 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.1	0.1	8.8183	0.9183	3.1	O K
30 Summer	0.1	0.1	9.0978	1.1978	4.0	O K
60 Summer	0.1	0.1	9.3852	1.4852	5.0	O K
120 Summer	0.2	0.2	9.6592	1.7592	5.9	O K
180 Summer	0.2	0.2	9.7902	1.8902	6.4	O K
240 Summer	0.2	0.2	9.8587	1.9587	6.6	O K
360 Summer	0.2	0.2	9.9287	2.0287	6.8	O K
480 Summer	0.2	0.2	9.9742	2.0742	7.0	O K
600 Summer	0.2	0.2	10.0027	2.1027	7.1	O K
720 Summer	0.2	0.2	10.0187	2.1187	7.1	O K
960 Summer	0.2	0.2	10.0247	2.1247	7.1	O K
1440 Summer	0.2	0.2	9.9852	2.0852	7.0	O K
2160 Summer	0.2	0.2	9.8822	1.9822	6.7	O K
2880 Summer	0.2	0.2	9.7707	1.8707	6.3	O K
4320 Summer	0.1	0.1	9.5732	1.6732	5.6	O K
15 Winter	0.1	0.1	8.8183	0.9183	3.1	O K
30 Winter	0.1	0.1	9.0988	1.1988	4.0	O K
60 Winter	0.1	0.1	9.3877	1.4877	5.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	37
60 Summer	22.79	66
120 Summer	14.11	126
180 Summer	10.57	186
240 Summer	8.59	244
360 Summer	6.40	304
480 Summer	5.19	364
600 Summer	4.41	428
720 Summer	3.85	496
960 Summer	3.12	632
1440 Summer	2.31	910
2160 Summer	1.72	1304
2880 Summer	1.39	1704
4320 Summer	1.03	2468
15 Winter	54.44	23
30 Winter	35.92	37
60 Winter	22.79	66

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA9 Plot 9 & Ch 53-63	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
120 Winter	0.2	0.2	9.6637	1.7637	5.9	0 K
180 Winter	0.2	0.2	9.7997	1.8997	6.4	0 K
240 Winter	0.2	0.2	9.8732	1.9732	6.6	0 K
360 Winter	0.2	0.2	9.9352	2.0352	6.8	0 K
480 Winter	0.2	0.2	9.9727	2.0727	7.0	0 K
600 Winter	0.2	0.2	9.9907	2.0907	7.0	0 K
720 Winter	0.2	0.2	9.9932	2.0932	7.0	0 K
960 Winter	0.2	0.2	9.9717	2.0717	7.0	0 K
1440 Winter	0.2	0.2	9.8827	1.9827	6.7	0 K
2160 Winter	0.2	0.2	9.7242	1.8242	6.1	0 K
2880 Winter	0.1	0.1	9.5762	1.6762	5.6	0 K
4320 Winter	0.1	0.1	9.3352	1.4352	4.8	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
120 Winter	14.11	124
180 Winter	10.57	180
240 Winter	8.59	236
360 Winter	6.40	334
480 Winter	5.19	378
600 Winter	4.41	454
720 Winter	3.85	530
960 Winter	3.12	678
1440 Winter	2.31	970
2160 Winter	1.72	1388
2880 Winter	1.39	1792
4320 Winter	1.03	2556

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA9 Plot 9 & Ch 53-63	
Date May 2019 File Highway & Domestic Soakaway S...	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	4320		

Time / Area Diagram

Total Area (ha) = 0.023

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.023

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA9 Plot 9 & Ch 53-63	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	7.0
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.900
Safety Factor	5.0	Cover Level (m)	10.200
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.2		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	SA10 Plot 10 & Ch 53-63	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 95 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.9	0.9	9.8917	1.9917	6.7	O K
30 Summer	1.1	1.1	10.4407	2.5407	8.5	O K
60 Summer	1.3	1.3	10.8396	2.9396	9.9	O K
120 Summer	1.4	1.4	11.0811	3.1811	10.7	O K
180 Summer	1.4	1.4	11.1246	3.2246	10.8	O K
240 Summer	1.4	1.4	11.0881	3.1881	10.7	O K
360 Summer	1.3	1.3	10.9496	3.0496	10.2	O K
480 Summer	1.3	1.3	10.7951	2.8951	9.7	O K
600 Summer	1.2	1.2	10.6441	2.7441	9.2	O K
720 Summer	1.1	1.1	10.5047	2.6046	8.8	O K
960 Summer	1.0	1.0	10.2632	2.3632	7.9	O K
1440 Summer	0.9	0.9	9.9017	2.0017	6.7	O K
2160 Summer	0.7	0.7	9.5402	1.6402	5.5	O K
2880 Summer	0.6	0.6	9.2997	1.3997	4.7	O K
15 Winter	0.9	0.9	9.8937	1.9937	6.7	O K
30 Winter	1.1	1.1	10.4507	2.5507	8.6	O K
60 Winter	1.3	1.3	10.8616	2.9616	10.0	O K
120 Winter	1.4	1.4	11.0626	3.1626	10.6	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	22
30 Summer	83.79	36
60 Summer	53.78	60
120 Summer	33.34	90
180 Summer	24.83	124
240 Summer	20.01	160
360 Summer	14.71	226
480 Summer	11.82	292
600 Summer	9.97	358
720 Summer	8.67	422
960 Summer	6.94	546
1440 Summer	5.07	798
2160 Summer	3.70	1156
2880 Summer	2.95	1532
15 Winter	124.63	22
30 Winter	83.79	35
60 Winter	53.78	62
120 Winter	33.34	96

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering SA10 Plot 10 & Ch 53-63	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	1.4	1.4	11.0556	3.1556	10.6	0 K
240 Winter	1.3	1.3	10.9691	3.0691	10.3	0 K
360 Winter	1.2	1.2	10.7511	2.8511	9.6	0 K
480 Winter	1.1	1.1	10.5396	2.6396	8.9	0 K
600 Winter	1.1	1.1	10.3487	2.4487	8.2	0 K
720 Winter	1.0	1.0	10.1802	2.2802	7.7	0 K
960 Winter	0.9	0.9	9.9027	2.0027	6.7	0 K
1440 Winter	0.7	0.7	9.5127	1.6127	5.4	0 K
2160 Winter	0.5	0.5	9.1558	1.2558	4.2	0 K
2880 Winter	0.4	0.4	8.9343	1.0343	3.5	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	24.83	134
240 Winter	20.01	170
360 Winter	14.71	240
480 Winter	11.82	310
600 Winter	9.97	376
720 Winter	8.67	440
960 Winter	6.94	572
1440 Winter	5.07	824
2160 Winter	3.70	1192
2880 Winter	2.95	1560

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Micro Drainage		Source Control W.11.2

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.023

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.023

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA10 Plot 10 & Ch 53-63	
Date May 2019	Designed By KN	
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Micro Drainage		Source Control W.11.2

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	7.0
Infil Coef - Sides (m/hr)	0.095000	Invert Level (m)	7.900
Safety Factor	1.0	Cover Level (m)	11.200
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.2		

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Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	SA10 Plot 10 & Ch 63-74	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 1402 minutes

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
15 Summer	0.0	0.0	7.9113	0.8113	3.1	O K
30 Summer	0.0	0.0	8.1673	1.0673	4.1	O K
60 Summer	0.0	0.0	8.4447	1.3447	5.2	O K
120 Summer	0.0	0.0	8.7412	1.6412	6.3	O K
180 Summer	0.1	0.1	8.9192	1.8192	7.0	O K
240 Summer	0.1	0.1	9.0432	1.9432	7.5	O K
360 Summer	0.1	0.1	9.2107	2.1107	8.1	O K
480 Summer	0.1	0.1	9.3187	2.2187	8.5	O K
600 Summer	0.1	0.1	9.3906	2.2906	8.8	O K
720 Summer	0.1	0.1	9.4391	2.3391	9.0	O K
960 Summer	0.1	0.1	9.4951	2.3951	9.2	O K
1440 Summer	0.1	0.1	9.5686	2.4686	9.5	O K
2160 Summer	0.1	0.1	9.6221	2.5221	9.7	O K
2880 Summer	0.1	0.1	9.6331	2.5331	9.7	O K
4320 Summer	0.1	0.1	9.5951	2.4951	9.6	O K
5760 Summer	0.1	0.1	9.5227	2.4227	9.3	O K
7200 Summer	0.1	0.1	9.4412	2.3412	9.0	O K
8640 Summer	0.1	0.1	9.3582	2.2582	8.7	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	38
60 Summer	22.79	68
120 Summer	14.11	128
180 Summer	10.57	186
240 Summer	8.59	246
360 Summer	6.40	366
480 Summer	5.19	486
600 Summer	4.41	604
720 Summer	3.85	724
960 Summer	3.12	880
1440 Summer	2.31	1112
2160 Summer	1.72	1496
2880 Summer	1.39	1908
4320 Summer	1.03	2728
5760 Summer	0.83	3520
7200 Summer	0.70	4328
8640 Summer	0.61	5104

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering SA10 Plot 10 & Ch 63-74	
Date May 2019 File Highway & Domestic Soakaway S...	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
10080 Summer	0.1	0.1	9.2782	2.1782	8.4	0 K
15 Winter	0.0	0.0	7.9113	0.8113	3.1	0 K
30 Winter	0.0	0.0	8.1673	1.0673	4.1	0 K
60 Winter	0.0	0.0	8.4447	1.3447	5.2	0 K
120 Winter	0.0	0.0	8.7422	1.6422	6.3	0 K
180 Winter	0.1	0.1	8.9212	1.8212	7.0	0 K
240 Winter	0.1	0.1	9.0457	1.9457	7.5	0 K
360 Winter	0.1	0.1	9.2152	2.1152	8.1	0 K
480 Winter	0.1	0.1	9.3257	2.2257	8.5	0 K
600 Winter	0.1	0.1	9.4012	2.3012	8.8	0 K
720 Winter	0.1	0.1	9.4541	2.3541	9.0	0 K
960 Winter	0.1	0.1	9.5156	2.4156	9.3	0 K
1440 Winter	0.1	0.1	9.5696	2.4696	9.5	0 K
2160 Winter	0.1	0.1	9.5991	2.4991	9.6	0 K
2880 Winter	0.1	0.1	9.5801	2.4801	9.5	0 K
4320 Winter	0.1	0.1	9.4846	2.3846	9.2	0 K
5760 Winter	0.1	0.1	9.3672	2.2672	8.7	0 K
7200 Winter	0.1	0.1	9.2497	2.1497	8.3	0 K
8640 Winter	0.1	0.1	9.1387	2.0387	7.8	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
10080 Summer	0.55	5856
15 Winter	54.44	23
30 Winter	35.92	38
60 Winter	22.79	68
120 Winter	14.11	126
180 Winter	10.57	184
240 Winter	8.59	242
360 Winter	6.40	360
480 Winter	5.19	474
600 Winter	4.41	588
720 Winter	3.85	698
960 Winter	3.12	910
1440 Winter	2.31	1140
2160 Winter	1.72	1600
2880 Winter	1.39	2052
4320 Winter	1.03	2940
5760 Winter	0.83	3752
7200 Winter	0.70	4608
8640 Winter	0.61	5368

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Date May 2019	Designed By KN	
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Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
10080 Winter	0.1	0.1	9.0372	1.9372	7.4	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
10080 Winter	0.55	6160

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Micro Drainage		Source Control W.11.2

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	10080		

Time / Area Diagram

Total Area (ha) = 0.023

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.023

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA10 Plot 10 & Ch 63-74	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage		Source Control W.11.2

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	8.0
Infil Coef - Sides (m/hr)	0.053600	Invert Level (m)	7.100
Safety Factor	9.0	Cover Level (m)	10.300
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.2		

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Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	SA10 Plot 10 & Ch 63-74	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 160 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.5	0.5	9.6942	1.7942	6.9	O K
30 Summer	0.6	0.6	10.2402	2.3402	9.0	O K
60 Summer	0.8	0.8	10.7271	2.8271	10.9	O K
120 Summer	0.9	0.9	11.0291	3.1291	12.0	O K
180 Summer	0.9	0.9	11.1331	3.2331	12.4	O K
240 Summer	0.9	0.9	11.1661	3.2661	12.5	O K
360 Summer	0.9	0.9	11.1501	3.2501	12.5	O K
480 Summer	0.9	0.9	11.0891	3.1891	12.2	O K
600 Summer	0.9	0.9	11.0071	3.1071	11.9	O K
720 Summer	0.8	0.8	10.9176	3.0176	11.6	O K
960 Summer	0.8	0.8	10.7381	2.8381	10.9	O K
1440 Summer	0.7	0.7	10.4212	2.5211	9.7	O K
2160 Summer	0.6	0.6	10.0602	2.1602	8.3	O K
2880 Summer	0.5	0.5	9.7982	1.8982	7.3	O K
15 Winter	0.5	0.5	9.6962	1.7962	6.9	O K
30 Winter	0.6	0.6	10.2462	2.3462	9.0	O K
60 Winter	0.8	0.8	10.7401	2.8401	10.9	O K
120 Winter	0.9	0.9	11.0471	3.1471	12.1	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	22
30 Summer	83.79	37
60 Summer	53.78	66
120 Summer	33.34	108
180 Summer	24.83	138
240 Summer	20.01	172
360 Summer	14.71	240
480 Summer	11.82	308
600 Summer	9.97	376
720 Summer	8.67	444
960 Summer	6.94	574
1440 Summer	5.07	828
2160 Summer	3.70	1196
2880 Summer	2.95	1564
15 Winter	124.63	22
30 Winter	83.79	36
60 Winter	53.78	64
120 Winter	33.34	118

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering SA10 Plot 10 & Ch 63-74	
Date May 2019 File Highway & Domestic Soakaway S...	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	0.9	0.9	11.1286	3.2286	12.4	0 K
240 Winter	0.9	0.9	11.1366	3.2366	12.4	0 K
360 Winter	0.9	0.9	11.0631	3.1631	12.1	0 K
480 Winter	0.8	0.8	10.9491	3.0491	11.7	0 K
600 Winter	0.8	0.8	10.8226	2.9226	11.2	0 K
720 Winter	0.8	0.8	10.6966	2.7966	10.7	0 K
960 Winter	0.7	0.7	10.4626	2.5626	9.8	0 K
1440 Winter	0.6	0.6	10.0827	2.1827	8.4	0 K
2160 Winter	0.5	0.5	9.6822	1.7822	6.8	0 K
2880 Winter	0.4	0.4	9.4102	1.5102	5.8	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	24.83	144
240 Winter	20.01	182
360 Winter	14.71	258
480 Winter	11.82	330
600 Winter	9.97	402
720 Winter	8.67	472
960 Winter	6.94	604
1440 Winter	5.07	870
2160 Winter	3.70	1240
2880 Winter	2.95	1620

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA10 Plot 10 & Ch 63-74	
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File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.023

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.023

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring SA10 Plot 10 & Ch 63-74	
Date May 2019	Designed By KN	
File Highway & Domestic Soakaway S...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	8.0
Infil Coef - Sides (m/hr)	0.053640	Invert Level (m)	7.900
Safety Factor	1.0	Cover Level (m)	11.200
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.2		

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways SA11-SA13	
Date July 2019	Designed By KN	
File Domestic Soakaway SA11-SA13 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 1178 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	8.8352	0.4352	1.2	0 K
30 Summer	0.0	0.0	8.9717	0.5717	1.6	0 K
60 Summer	0.0	0.0	9.1193	0.7193	2.0	0 K
120 Summer	0.0	0.0	9.2753	0.8753	2.5	0 K
180 Summer	0.0	0.0	9.3678	0.9678	2.7	0 K
240 Summer	0.0	0.0	9.4308	1.0308	2.9	0 K
360 Summer	0.0	0.0	9.5128	1.1128	3.1	0 K
480 Summer	0.0	0.0	9.5633	1.1633	3.3	0 K
600 Summer	0.0	0.0	9.5943	1.1943	3.3	0 K
720 Summer	0.0	0.0	9.6133	1.2133	3.4	0 K
960 Summer	0.0	0.0	9.6408	1.2408	3.5	0 K
1440 Summer	0.0	0.0	9.6753	1.2753	3.6	0 K
2160 Summer	0.0	0.0	9.6937	1.2937	3.6	0 K
2880 Summer	0.0	0.0	9.6897	1.2898	3.6	0 K
4320 Summer	0.0	0.0	9.6533	1.2533	3.5	0 K
5760 Summer	0.0	0.0	9.6038	1.2038	3.4	0 K
15 Winter	0.0	0.0	8.8352	0.4352	1.2	0 K
30 Winter	0.0	0.0	8.9717	0.5717	1.6	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	38
60 Summer	22.79	68
120 Summer	14.11	128
180 Summer	10.57	186
240 Summer	8.59	246
360 Summer	6.40	366
480 Summer	5.19	484
600 Summer	4.41	604
720 Summer	3.85	704
960 Summer	3.12	802
1440 Summer	2.31	1044
2160 Summer	1.72	1452
2880 Summer	1.39	1852
4320 Summer	1.03	2684
5760 Summer	0.83	3464
15 Winter	54.44	23
30 Winter	35.92	38

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways SA11-SA13	
Date July 2019	Designed By KN	
File Domestic Soakaway SA11-SA13 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
60 Winter	0.0	0.0	9.1193	0.7193	2.0	0 K
120 Winter	0.0	0.0	9.2763	0.8763	2.5	0 K
180 Winter	0.0	0.0	9.3688	0.9688	2.7	0 K
240 Winter	0.0	0.0	9.4323	1.0323	2.9	0 K
360 Winter	0.0	0.0	9.5163	1.1163	3.1	0 K
480 Winter	0.0	0.0	9.5683	1.1683	3.3	0 K
600 Winter	0.0	0.0	9.6018	1.2018	3.4	0 K
720 Winter	0.0	0.0	9.6238	1.2238	3.4	0 K
960 Winter	0.0	0.0	9.6453	1.2453	3.5	0 K
1440 Winter	0.0	0.0	9.6718	1.2718	3.6	0 K
2160 Winter	0.0	0.0	9.6728	1.2728	3.6	0 K
2880 Winter	0.0	0.0	9.6498	1.2498	3.5	0 K
4320 Winter	0.0	0.0	9.5818	1.1818	3.3	0 K
5760 Winter	0.0	0.0	9.5088	1.1088	3.1	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
60 Winter	22.79	68
120 Winter	14.11	126
180 Winter	10.57	184
240 Winter	8.59	242
360 Winter	6.40	358
480 Winter	5.19	472
600 Winter	4.41	582
720 Winter	3.85	690
960 Winter	3.12	886
1440 Winter	2.31	1100
2160 Winter	1.72	1560
2880 Winter	1.39	1996
4320 Winter	1.03	2860
5760 Winter	0.83	3688

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways SA11-SA13	
Date July 2019	Designed By KN	
File Domestic Soakaway SA11-SA13 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	5760		

Time / Area Diagram

Total Area (ha) = 0.009

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.009

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways SA11-SA13	
Date July 2019	Designed By KN	
File Domestic Soakaway SA11-SA13 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	8.0
Infil Coef - Sides (m/hr)	0.053640	Invert Level (m)	8.400
Safety Factor	10.0	Cover Level (m)	10.500
Porosity	0.35	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways SA11-SA13	
Date August 2019	Designed By KN	
File Domestic Soakaway SA11-SA13 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1177 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	9.3963	0.9963	2.8	O K
30 Summer	0.0	0.0	9.7337	1.3337	3.7	O K
60 Summer	0.0	0.0	10.0972	1.6972	4.8	O K
120 Summer	0.1	0.1	10.4682	2.0682	5.8	O K
180 Summer	0.1	0.1	10.6722	2.2722	6.4	O K
240 Summer	0.1	0.1	10.7997	2.3997	6.7	O K
360 Summer	0.1	0.1	10.9581	2.5581	7.2	O K
480 Summer	0.1	0.1	11.0501	2.6501	7.4	O K
600 Summer	0.1	0.1	11.1016	2.7016	7.6	O K
720 Summer	0.1	0.1	11.1271	2.7271	7.6	O K
960 Summer	0.1	0.1	11.1611	2.7611	7.7	O K
1440 Summer	0.1	0.1	11.1941	2.7941	7.8	O K
2160 Summer	0.1	0.1	11.1866	2.7866	7.8	O K
2880 Summer	0.1	0.1	11.1421	2.7421	7.7	O K
4320 Summer	0.1	0.1	11.0141	2.6141	7.3	O K
5760 Summer	0.1	0.1	10.8742	2.4741	6.9	O K
15 Winter	0.0	0.0	9.3963	0.9963	2.8	O K
30 Winter	0.0	0.0	9.7337	1.3337	3.7	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	38
60 Summer	53.78	68
120 Summer	33.34	128
180 Summer	24.83	186
240 Summer	20.01	246
360 Summer	14.71	366
480 Summer	11.82	484
600 Summer	9.97	604
720 Summer	8.67	704
960 Summer	6.94	802
1440 Summer	5.07	1044
2160 Summer	3.70	1452
2880 Summer	2.95	1852
4320 Summer	2.14	2684
5760 Summer	1.70	3464
15 Winter	124.63	23
30 Winter	83.79	38

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways SA11-SA13	
Date August 2019	Designed By KN	
File Domestic Soakaway SA11-SA13 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
60 Winter	0.0	0.0	10.0972	1.6972	4.8	O K
120 Winter	0.1	0.1	10.4702	2.0702	5.8	O K
180 Winter	0.1	0.1	10.6752	2.2752	6.4	O K
240 Winter	0.1	0.1	10.8037	2.4037	6.7	O K
360 Winter	0.1	0.1	10.9651	2.5651	7.2	O K
480 Winter	0.1	0.1	11.0616	2.6616	7.5	O K
600 Winter	0.1	0.1	11.1186	2.7186	7.6	O K
720 Winter	0.1	0.1	11.1511	2.7511	7.7	O K
960 Winter	0.1	0.1	11.1711	2.7711	7.8	O K
1440 Winter	0.1	0.1	11.1866	2.7866	7.8	O K
2160 Winter	0.1	0.1	11.1411	2.7411	7.7	O K
2880 Winter	0.1	0.1	11.0576	2.6576	7.4	O K
4320 Winter	0.1	0.1	10.8651	2.4651	6.9	O K
5760 Winter	0.1	0.1	10.6792	2.2792	6.4	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
60 Winter	53.78	68
120 Winter	33.34	126
180 Winter	24.83	184
240 Winter	20.01	242
360 Winter	14.71	358
480 Winter	11.82	472
600 Winter	9.97	582
720 Winter	8.67	690
960 Winter	6.94	886
1440 Winter	5.07	1100
2160 Winter	3.70	1560
2880 Winter	2.95	1996
4320 Winter	2.14	2860
5760 Winter	1.70	3688

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways SA11-SA13	
Date August 2019	Designed By KN	
File Domestic Soakaway SA11-SA13 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	5760		

Time / Area Diagram

Total Area (ha) = 0.009

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.009

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways SA11-SA13	
Date August 2019	Designed By KN	
File Domestic Soakaway SA11-SA13 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	8.0
Infil Coef - Sides (m/hr)	0.053640	Invert Level (m)	8.400
Safety Factor	10.0	Cover Level (m)	11.200
Porosity	0.35	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 14-17	
Date July 2019	Designed By KN	
File Domestic Soakaway SA14-SA17 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 1014 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.1	0.1	7.5312	0.3312	4.6	0 K
30 Summer	0.1	0.1	7.6342	0.4342	6.0	0 K
60 Summer	0.1	0.1	7.7442	0.5442	7.5	0 K
120 Summer	0.1	0.1	7.8588	0.6588	9.1	0 K
180 Summer	0.1	0.1	7.9248	0.7248	10.0	0 K
240 Summer	0.1	0.1	7.9683	0.7683	10.6	0 K
360 Summer	0.1	0.1	8.0238	0.8238	11.4	0 K
480 Summer	0.1	0.1	8.0553	0.8553	11.8	0 K
600 Summer	0.1	0.1	8.0733	0.8733	12.1	0 K
720 Summer	0.1	0.1	8.0828	0.8828	12.2	0 K
960 Summer	0.1	0.1	8.0928	0.8928	12.3	0 K
1440 Summer	0.1	0.1	8.0988	0.8988	12.4	0 K
2160 Summer	0.1	0.1	8.0868	0.8868	12.2	0 K
2880 Summer	0.1	0.1	8.0633	0.8633	11.9	0 K
4320 Summer	0.1	0.1	8.0093	0.8093	11.2	0 K
5760 Summer	0.1	0.1	7.9568	0.7568	10.4	0 K
15 Winter	0.1	0.1	7.5312	0.3312	4.6	0 K
30 Winter	0.1	0.1	7.6347	0.4347	6.0	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	38
60 Summer	22.79	68
120 Summer	14.11	128
180 Summer	10.57	186
240 Summer	8.59	246
360 Summer	6.40	366
480 Summer	5.19	484
600 Summer	4.41	604
720 Summer	3.85	704
960 Summer	3.12	812
1440 Summer	2.31	1058
2160 Summer	1.72	1476
2880 Summer	1.39	1880
4320 Summer	1.03	2728
5760 Summer	0.83	3520
15 Winter	54.44	23
30 Winter	35.92	37

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 14-17	
Date July 2019	Designed By KN	
File Domestic Soakaway SA14-SA17 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
60 Winter	0.1	0.1	7.7447	0.5447	7.5	O K
120 Winter	0.1	0.1	7.8598	0.6598	9.1	O K
180 Winter	0.1	0.1	7.9258	0.7258	10.0	O K
240 Winter	0.1	0.1	7.9703	0.7703	10.6	O K
360 Winter	0.1	0.1	8.0268	0.8268	11.4	O K
480 Winter	0.1	0.1	8.0603	0.8603	11.9	O K
600 Winter	0.1	0.1	8.0803	0.8803	12.1	O K
720 Winter	0.1	0.1	8.0918	0.8918	12.3	O K
960 Winter	0.1	0.1	8.0988	0.8988	12.4	O K
1440 Winter	0.1	0.1	8.0988	0.8988	12.4	O K
2160 Winter	0.1	0.1	8.0758	0.8758	12.1	O K
2880 Winter	0.1	0.1	8.0388	0.8388	11.6	O K
4320 Winter	0.1	0.1	7.9588	0.7588	10.5	O K
5760 Winter	0.1	0.1	7.8848	0.6848	9.4	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
60 Winter	22.79	66
120 Winter	14.11	126
180 Winter	10.57	184
240 Winter	8.59	242
360 Winter	6.40	358
480 Winter	5.19	472
600 Winter	4.41	582
720 Winter	3.85	690
960 Winter	3.12	890
1440 Winter	2.31	1112
2160 Winter	1.72	1580
2880 Winter	1.39	2024
4320 Winter	1.03	2900
5760 Winter	0.83	3752

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 14-17	
Date July 2019	Designed By KN	
File Domestic Soakaway SA14-SA17 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	5760		

Time / Area Diagram

Total Area (ha) = 0.034

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.034

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 14-17	
Date July 2019	Designed By KN	
File Domestic Soakaway SA14-SA17 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.006793	Length (m)	46.0
Infil Coef - Sides (m/hr)	0.006793	Invert Level (m)	7.200
Safety Factor	2.0	Cover Level (m)	9.200
Porosity	0.30	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 14-17	
Date July 2019	Designed By KN	
File Domestic Soakaway SA14-SA17 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1290 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.1	0.1	7.8738	0.6738	10.5	O K
30 Summer	0.1	0.1	8.1018	0.9018	14.1	O K
60 Summer	0.2	0.2	8.3468	1.1468	17.9	O K
120 Summer	0.2	0.2	8.5977	1.3977	21.8	O K
180 Summer	0.2	0.2	8.7357	1.5357	24.0	O K
240 Summer	0.2	0.2	8.8232	1.6232	25.3	O K
360 Summer	0.2	0.2	8.9332	1.7332	27.0	O K
480 Summer	0.2	0.2	8.9997	1.7997	28.1	O K
600 Summer	0.2	0.2	9.0387	1.8387	28.7	O K
720 Summer	0.2	0.2	9.0607	1.8607	29.0	O K
960 Summer	0.2	0.2	9.0747	1.8747	29.2	O K
1440 Summer	0.2	0.2	9.0802	1.8802	29.3	O K
2160 Summer	0.2	0.2	9.0587	1.8587	29.0	O K
2880 Summer	0.2	0.2	9.0167	1.8167	28.3	O K
4320 Summer	0.2	0.2	8.9117	1.7117	26.7	O K
5760 Summer	0.2	0.2	8.8027	1.6027	25.0	O K
15 Winter	0.1	0.1	7.8738	0.6738	10.5	O K
30 Winter	0.1	0.1	8.1018	0.9018	14.1	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	38
60 Summer	53.78	68
120 Summer	33.34	128
180 Summer	24.83	186
240 Summer	20.01	246
360 Summer	14.71	366
480 Summer	11.82	486
600 Summer	9.97	604
720 Summer	8.67	724
960 Summer	6.94	882
1440 Summer	5.07	1116
2160 Summer	3.70	1516
2880 Summer	2.95	1932
4320 Summer	2.14	2768
5760 Summer	1.70	3576
15 Winter	124.63	23
30 Winter	83.79	37

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 14-17	
Date July 2019	Designed By KN	
File Domestic Soakaway SA14-SA17 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
60 Winter	0.2	0.2	8.3473	1.1473	17.9	O K
120 Winter	0.2	0.2	8.5987	1.3987	21.8	O K
180 Winter	0.2	0.2	8.7382	1.5382	24.0	O K
240 Winter	0.2	0.2	8.8257	1.6257	25.4	O K
360 Winter	0.2	0.2	8.9377	1.7377	27.1	O K
480 Winter	0.2	0.2	9.0067	1.8067	28.2	O K
600 Winter	0.2	0.2	9.0492	1.8492	28.8	O K
720 Winter	0.2	0.2	9.0747	1.8747	29.2	O K
960 Winter	0.2	0.2	9.0942	1.8942	29.5	O K
1440 Winter	0.2	0.2	9.0847	1.8847	29.4	O K
2160 Winter	0.2	0.2	9.0477	1.8477	28.8	O K
2880 Winter	0.2	0.2	8.9847	1.7847	27.8	O K
4320 Winter	0.2	0.2	8.8402	1.6402	25.6	O K
5760 Winter	0.2	0.2	8.6987	1.4987	23.4	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
60 Winter	53.78	68
120 Winter	33.34	126
180 Winter	24.83	184
240 Winter	20.01	242
360 Winter	14.71	360
480 Winter	11.82	474
600 Winter	9.97	588
720 Winter	8.67	698
960 Winter	6.94	912
1440 Winter	5.07	1144
2160 Winter	3.70	1604
2880 Winter	2.95	2056
4320 Winter	2.14	2944
5760 Winter	1.70	3808

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 14-17	
Date July 2019	Designed By KN	
File Domestic Soakaway SA14-SA17 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	5760		

Time / Area Diagram

Total Area (ha) = 0.034

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.034

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Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 14-17	
Date July 2019	Designed By KN	
File Domestic Soakaway SA14-SA17 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.006793	Length (m)	52.0
Infil Coef - Sides (m/hr)	0.006793	Invert Level (m)	7.200
Safety Factor	2.0	Cover Level (m)	10.400
Porosity	0.30	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 18-24	
Date July 2019	Designed By KN	
File Domestic Soakaway SA18-SA24 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 1191 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.1	0.1	8.0037	0.4037	5.7	0 K
30 Summer	0.1	0.1	8.1297	0.5297	7.4	0 K
60 Summer	0.1	0.1	8.2658	0.6658	9.3	0 K
120 Summer	0.1	0.1	8.4088	0.8088	11.4	0 K
180 Summer	0.1	0.1	8.4928	0.8928	12.5	0 K
240 Summer	0.1	0.1	8.5498	0.9498	13.3	0 K
360 Summer	0.1	0.1	8.6243	1.0243	14.4	0 K
480 Summer	0.1	0.1	8.6703	1.0703	15.0	0 K
600 Summer	0.1	0.1	8.6988	1.0988	15.4	0 K
720 Summer	0.1	0.1	8.7158	1.1158	15.7	0 K
960 Summer	0.1	0.1	8.7348	1.1348	15.9	0 K
1440 Summer	0.1	0.1	8.7553	1.1553	16.2	0 K
2160 Summer	0.1	0.1	8.7593	1.1593	16.3	0 K
2880 Summer	0.1	0.1	8.7458	1.1458	16.1	0 K
4320 Summer	0.1	0.1	8.6983	1.0983	15.4	0 K
5760 Summer	0.1	0.1	8.6423	1.0423	14.6	0 K
7200 Summer	0.1	0.1	8.5888	0.9888	13.9	0 K
15 Winter	0.1	0.1	8.0037	0.4037	5.7	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	38
60 Summer	22.79	68
120 Summer	14.11	128
180 Summer	10.57	186
240 Summer	8.59	246
360 Summer	6.40	366
480 Summer	5.19	486
600 Summer	4.41	604
720 Summer	3.85	724
960 Summer	3.12	834
1440 Summer	2.31	1086
2160 Summer	1.72	1480
2880 Summer	1.39	1904
4320 Summer	1.03	2728
5760 Summer	0.83	3528
7200 Summer	0.70	4328
15 Winter	54.44	23

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 18-24	
Date July 2019	Designed By KN	
File Domestic Soakaway SA18-SA24 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
30 Winter	0.1	0.1	8.1297	0.5297	7.4	O K
60 Winter	0.1	0.1	8.2658	0.6658	9.3	O K
120 Winter	0.1	0.1	8.4093	0.8093	11.4	O K
180 Winter	0.1	0.1	8.4938	0.8938	12.6	O K
240 Winter	0.1	0.1	8.5518	0.9518	13.4	O K
360 Winter	0.1	0.1	8.6278	1.0278	14.4	O K
480 Winter	0.1	0.1	8.6748	1.0748	15.1	O K
600 Winter	0.1	0.1	8.7058	1.1058	15.5	O K
720 Winter	0.1	0.1	8.7253	1.1253	15.8	O K
960 Winter	0.1	0.1	8.7443	1.1443	16.1	O K
1440 Winter	0.1	0.1	8.7563	1.1563	16.2	O K
2160 Winter	0.1	0.1	8.7483	1.1483	16.1	O K
2880 Winter	0.1	0.1	8.7203	1.1203	15.7	O K
4320 Winter	0.1	0.1	8.6443	1.0443	14.7	O K
5760 Winter	0.1	0.1	8.5663	0.9663	13.6	O K
7200 Winter	0.1	0.1	8.4938	0.8938	12.5	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
30 Winter	35.92	37
60 Winter	22.79	66
120 Winter	14.11	126
180 Winter	10.57	184
240 Winter	8.59	242
360 Winter	6.40	358
480 Winter	5.19	472
600 Winter	4.41	586
720 Winter	3.85	696
960 Winter	3.12	902
1440 Winter	2.31	1126
2160 Winter	1.72	1584
2880 Winter	1.39	2048
4320 Winter	1.03	2940
5760 Winter	0.83	3752
7200 Winter	0.70	4608

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 18-24	
Date July 2019	Designed By KN	
File Domestic Soakaway SA18-SA24 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	7200		

Time / Area Diagram

Total Area (ha) = 0.042

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.042

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 18-24	
Date July 2019	Designed By KN	
File Domestic Soakaway SA18-SA24 1...	Checked By	
Micro Drainage		Source Control W.11.2

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.006793	Length (m)	52.0
Infil Coef - Sides (m/hr)	0.006793	Invert Level (m)	7.600
Safety Factor	2.0	Cover Level (m)	9.500
Porosity	0.45	Slope (1:x)	0.0
Width (m)	0.6		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 18-24	
Date July 2019	Designed By KN	
File Domestic Soakaway SA19- SA24 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1399 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.1	0.1	8.2473	1.0473	13.0	O K
30 Summer	0.1	0.1	8.6027	1.4027	17.4	O K
60 Summer	0.2	0.2	8.9867	1.7867	22.2	O K
120 Summer	0.2	0.2	9.3817	2.1817	27.1	O K
180 Summer	0.2	0.2	9.6017	2.4017	29.8	O K
240 Summer	0.2	0.2	9.7421	2.5421	31.6	O K
360 Summer	0.3	0.3	9.9231	2.7231	33.8	O K
480 Summer	0.3	0.3	10.0351	2.8351	35.2	O K
600 Summer	0.3	0.3	10.1041	2.9041	36.1	O K
720 Summer	0.3	0.3	10.1461	2.9461	36.6	O K
960 Summer	0.3	0.3	10.1806	2.9806	37.0	O K
1440 Summer	0.3	0.3	10.2106	3.0106	37.4	O K
2160 Summer	0.3	0.3	10.2071	3.0071	37.3	O K
2880 Summer	0.3	0.3	10.1676	2.9676	36.9	O K
4320 Summer	0.3	0.3	10.0451	2.8451	35.3	O K
5760 Summer	0.3	0.3	9.9056	2.7056	33.6	O K
15 Winter	0.1	0.1	8.2473	1.0473	13.0	O K
30 Winter	0.1	0.1	8.6027	1.4027	17.4	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	38
60 Summer	53.78	68
120 Summer	33.34	128
180 Summer	24.83	186
240 Summer	20.01	246
360 Summer	14.71	366
480 Summer	11.82	486
600 Summer	9.97	604
720 Summer	8.67	724
960 Summer	6.94	898
1440 Summer	5.07	1118
2160 Summer	3.70	1516
2880 Summer	2.95	1932
4320 Summer	2.14	2732
5760 Summer	1.70	3568
15 Winter	124.63	23
30 Winter	83.79	38

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaways Plots 18-24	
Date July 2019	Designed By KN	
File Domestic Soakaway SA19- SA24 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
60 Winter	0.2	0.2	8.9867	1.7867	22.2	O K
120 Winter	0.2	0.2	9.3832	2.1832	27.1	O K
180 Winter	0.2	0.2	9.6047	2.4047	29.9	O K
240 Winter	0.2	0.2	9.7461	2.5461	31.6	O K
360 Winter	0.3	0.3	9.9291	2.7291	33.9	O K
480 Winter	0.3	0.3	10.0446	2.8446	35.3	O K
600 Winter	0.3	0.3	10.1181	2.9181	36.2	O K
720 Winter	0.3	0.3	10.1651	2.9651	36.8	O K
960 Winter	0.3	0.3	10.2086	3.0086	37.4	O K
1440 Winter	0.3	0.3	10.2146	3.0146	37.4	O K
2160 Winter	0.3	0.3	10.1866	2.9866	37.1	O K
2880 Winter	0.3	0.3	10.1141	2.9141	36.2	O K
4320 Winter	0.3	0.3	9.9281	2.7281	33.9	O K
5760 Winter	0.2	0.2	9.7381	2.5381	31.5	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
60 Winter	53.78	68
120 Winter	33.34	126
180 Winter	24.83	184
240 Winter	20.01	242
360 Winter	14.71	360
480 Winter	11.82	474
600 Winter	9.97	588
720 Winter	8.67	698
960 Winter	6.94	916
1440 Winter	5.07	1146
2160 Winter	3.70	1604
2880 Winter	2.95	2056
4320 Winter	2.14	2944
5760 Winter	1.70	3808

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 18-24	
Date July 2019	Designed By KN	
File Domestic Soakaway SA19- SA24 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	5760		

Time / Area Diagram

Total Area (ha) = 0.042

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.042

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaways Plots 18-24	
Date July 2019	Designed By KN	
File Domestic Soakaway SA19- SA24 1...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.006793	Length (m)	46.0
Infil Coef - Sides (m/hr)	0.006793	Invert Level (m)	7.200
Safety Factor	2.0	Cover Level (m)	10.400
Porosity	0.45	Slope (1:x)	0.0
Width (m)	0.6		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaway Drive Plots 18	
Date July 2019	Designed By KN	
File Drive Soakaway SA18A 100yrs+40...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1306 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	8.5828	0.9828	1.9	0 K
30 Summer	0.0	0.0	8.9157	1.3157	2.5	0 K
60 Summer	0.0	0.0	9.2752	1.6752	3.2	0 K
120 Summer	0.0	0.0	9.6432	2.0432	3.9	0 K
180 Summer	0.0	0.0	9.8472	2.2472	4.2	0 K
240 Summer	0.0	0.0	9.9767	2.3767	4.5	0 K
360 Summer	0.0	0.0	10.1401	2.5401	4.8	0 K
480 Summer	0.0	0.0	10.2391	2.6391	5.0	0 K
600 Summer	0.0	0.0	10.2981	2.6981	5.1	0 K
720 Summer	0.0	0.0	10.3316	2.7316	5.2	0 K
960 Summer	0.0	0.0	10.3591	2.7591	5.2	0 K
1440 Summer	0.0	0.0	10.3841	2.7841	5.3	0 K
2160 Summer	0.0	0.0	10.3741	2.7741	5.2	0 K
2880 Summer	0.0	0.0	10.3301	2.7301	5.2	0 K
4320 Summer	0.0	0.0	10.2046	2.6046	4.9	0 K
5760 Summer	0.0	0.0	10.0657	2.4656	4.7	0 K
7200 Summer	0.0	0.0	9.9327	2.3327	4.4	0 K
15 Winter	0.0	0.0	8.5828	0.9828	1.9	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	38
60 Summer	53.78	68
120 Summer	33.34	128
180 Summer	24.83	186
240 Summer	20.01	246
360 Summer	14.71	366
480 Summer	11.82	486
600 Summer	9.97	604
720 Summer	8.67	724
960 Summer	6.94	860
1440 Summer	5.07	1098
2160 Summer	3.70	1496
2880 Summer	2.95	1908
4320 Summer	2.14	2728
5760 Summer	1.70	3520
7200 Summer	1.43	4328
15 Winter	124.63	23

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaway Drive Plots 18	
Date July 2019	Designed By KN	
File Drive Soakaway SA18A 100yrs+40...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
30 Winter	0.0	0.0	8.9157	1.3157	2.5	O K
60 Winter	0.0	0.0	9.2752	1.6752	3.2	O K
120 Winter	0.0	0.0	9.6452	2.0452	3.9	O K
180 Winter	0.0	0.0	9.8502	2.2502	4.3	O K
240 Winter	0.0	0.0	9.9802	2.3802	4.5	O K
360 Winter	0.0	0.0	10.1466	2.5466	4.8	O K
480 Winter	0.0	0.0	10.2491	2.6491	5.0	O K
600 Winter	0.0	0.0	10.3126	2.7126	5.1	O K
720 Winter	0.0	0.0	10.3516	2.7516	5.2	O K
960 Winter	0.0	0.0	10.3831	2.7831	5.3	O K
1440 Winter	0.0	0.0	10.3866	2.7866	5.3	O K
2160 Winter	0.0	0.0	10.3486	2.7486	5.2	O K
2880 Winter	0.0	0.0	10.2716	2.6716	5.0	O K
4320 Winter	0.0	0.0	10.0846	2.4846	4.7	O K
5760 Winter	0.0	0.0	9.8992	2.2992	4.3	O K
7200 Winter	0.0	0.0	9.7297	2.1297	4.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
30 Winter	83.79	38
60 Winter	53.78	68
120 Winter	33.34	126
180 Winter	24.83	184
240 Winter	20.01	242
360 Winter	14.71	358
480 Winter	11.82	474
600 Winter	9.97	586
720 Winter	8.67	696
960 Winter	6.94	908
1440 Winter	5.07	1130
2160 Winter	3.70	1584
2880 Winter	2.95	2048
4320 Winter	2.14	2940
5760 Winter	1.70	3752
7200 Winter	1.43	4608

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaway Drive Plots 18	
Date July 2019	Designed By KN	
File Drive Soakaway SA18A 100yrs+40...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	7200		

Time / Area Diagram

Total Area (ha) = 0.006

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.006

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaway Drive Plots 18	
Date July 2019	Designed By KN	
File Drive Soakaway SA18A 100yrs+40...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.006793	Length (m)	7.0
Infil Coef - Sides (m/hr)	0.006793	Invert Level (m)	7.600
Safety Factor	2.0	Cover Level (m)	10.500
Porosity	0.45	Slope (1:x)	0.0
Width (m)	0.6		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaway Drive Plot 18	
Date July 2019 File Drive Soakaway SA18A 10yr.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 1130 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	8.0282	0.4282	0.8	O K
30 Summer	0.0	0.0	8.1622	0.5622	1.1	O K
60 Summer	0.0	0.0	8.3063	0.7063	1.3	O K
120 Summer	0.0	0.0	8.4573	0.8573	1.6	O K
180 Summer	0.0	0.0	8.5458	0.9458	1.8	O K
240 Summer	0.0	0.0	8.6058	1.0058	1.9	O K
360 Summer	0.0	0.0	8.6833	1.0833	2.0	O K
480 Summer	0.0	0.0	8.7303	1.1303	2.1	O K
600 Summer	0.0	0.0	8.7588	1.1588	2.2	O K
720 Summer	0.0	0.0	8.7753	1.1753	2.2	O K
960 Summer	0.0	0.0	8.7958	1.1958	2.3	O K
1440 Summer	0.0	0.0	8.8173	1.2173	2.3	O K
2160 Summer	0.0	0.0	8.8208	1.2208	2.3	O K
2880 Summer	0.0	0.0	8.8053	1.2053	2.3	O K
4320 Summer	0.0	0.0	8.7528	1.1528	2.2	O K
5760 Summer	0.0	0.0	8.6933	1.0933	2.1	O K
7200 Summer	0.0	0.0	8.6353	1.0353	2.0	O K
15 Winter	0.0	0.0	8.0282	0.4282	0.8	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	38
60 Summer	22.79	68
120 Summer	14.11	128
180 Summer	10.57	186
240 Summer	8.59	246
360 Summer	6.40	366
480 Summer	5.19	486
600 Summer	4.41	604
720 Summer	3.85	720
960 Summer	3.12	822
1440 Summer	2.31	1070
2160 Summer	1.72	1476
2880 Summer	1.39	1880
4320 Summer	1.03	2724
5760 Summer	0.83	3520
7200 Summer	0.70	4328
15 Winter	54.44	23

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Soakaway Drive Plot 18	
Date July 2019 File Drive Soakaway SA18A 10yr.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
30 Winter	0.0	0.0	8.1622	0.5622	1.1	O K
60 Winter	0.0	0.0	8.3063	0.7063	1.3	O K
120 Winter	0.0	0.0	8.4583	0.8583	1.6	O K
180 Winter	0.0	0.0	8.5473	0.9473	1.8	O K
240 Winter	0.0	0.0	8.6078	1.0078	1.9	O K
360 Winter	0.0	0.0	8.6868	1.0868	2.1	O K
480 Winter	0.0	0.0	8.7358	1.1358	2.1	O K
600 Winter	0.0	0.0	8.7668	1.1668	2.2	O K
720 Winter	0.0	0.0	8.7863	1.1863	2.2	O K
960 Winter	0.0	0.0	8.8038	1.2038	2.3	O K
1440 Winter	0.0	0.0	8.8173	1.2173	2.3	O K
2160 Winter	0.0	0.0	8.8063	1.2063	2.3	O K
2880 Winter	0.0	0.0	8.7748	1.1748	2.2	O K
4320 Winter	0.0	0.0	8.6928	1.0928	2.1	O K
5760 Winter	0.0	0.0	8.6088	1.0088	1.9	O K
7200 Winter	0.0	0.0	8.5318	0.9318	1.8	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
30 Winter	35.92	37
60 Winter	22.79	66
120 Winter	14.11	126
180 Winter	10.57	184
240 Winter	8.59	242
360 Winter	6.40	358
480 Winter	5.19	472
600 Winter	4.41	584
720 Winter	3.85	692
960 Winter	3.12	898
1440 Winter	2.31	1114
2160 Winter	1.72	1580
2880 Winter	1.39	2024
4320 Winter	1.03	2900
5760 Winter	0.83	3752
7200 Winter	0.70	4608

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaway Drive Plot 18	
Date July 2019 File Drive Soakaway SA18A 10yr.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	7200		

Time / Area Diagram

Total Area (ha) = 0.006

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.006

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Soakaway Drive Plot 18	
Date July 2019 File Drive Soakaway SA18A 10yr.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.006793	Length (m)	7.0
Infil Coef - Sides (m/hr)	0.006793	Invert Level (m)	7.600
Safety Factor	2.0	Cover Level (m)	9.500
Porosity	0.45	Slope (1:x)	0.0
Width (m)	0.6		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	Access Ch93-104 & Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH1.10yr Stor...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 1441 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.1	0.1	7.8253	0.6253	6.5	O K
30 Summer	0.1	0.1	8.0223	0.8223	8.6	O K
60 Summer	0.1	0.1	8.2363	1.0363	10.8	O K
120 Summer	0.1	0.1	8.4658	1.2658	13.2	O K
180 Summer	0.1	0.1	8.6032	1.4032	14.6	O K
240 Summer	0.1	0.1	8.6992	1.4992	15.6	O K
360 Summer	0.1	0.1	8.8297	1.6297	16.9	O K
480 Summer	0.1	0.1	8.9142	1.7142	17.8	O K
600 Summer	0.1	0.1	8.9712	1.7712	18.4	O K
720 Summer	0.1	0.1	9.0097	1.8097	18.8	O K
960 Summer	0.1	0.1	9.0542	1.8542	19.3	O K
1440 Summer	0.2	0.2	9.1112	1.9112	19.9	O K
2160 Summer	0.2	0.2	9.1542	1.9542	20.3	O K
2880 Summer	0.2	0.2	9.1642	1.9642	20.4	O K
4320 Summer	0.2	0.2	9.1382	1.9382	20.2	O K
5760 Summer	0.2	0.2	9.0842	1.8842	19.6	O K
15 Winter	0.1	0.1	7.8253	0.6253	6.5	O K
30 Winter	0.1	0.1	8.0223	0.8223	8.6	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	38
60 Summer	22.79	68
120 Summer	14.11	128
180 Summer	10.57	188
240 Summer	8.59	246
360 Summer	6.40	366
480 Summer	5.19	486
600 Summer	4.41	604
720 Summer	3.85	724
960 Summer	3.12	896
1440 Summer	2.31	1116
2160 Summer	1.72	1500
2880 Summer	1.39	1908
4320 Summer	1.03	2728
5760 Summer	0.83	3528
15 Winter	54.44	23
30 Winter	35.92	38

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Access Ch93-104 & Drive	
Date May 2019 File Highway Soakaway SH1.10yr Stor...	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
60 Winter	0.1	0.1	8.2363	1.0363	10.8	O K
120 Winter	0.1	0.1	8.4662	1.2663	13.2	O K
180 Winter	0.1	0.1	8.6047	1.4047	14.6	O K
240 Winter	0.1	0.1	8.7012	1.5012	15.6	O K
360 Winter	0.1	0.1	8.8327	1.6327	17.0	O K
480 Winter	0.1	0.1	8.9192	1.7192	17.9	O K
600 Winter	0.1	0.1	8.9787	1.7787	18.5	O K
720 Winter	0.1	0.1	9.0207	1.8207	18.9	O K
960 Winter	0.2	0.2	9.0702	1.8702	19.5	O K
1440 Winter	0.2	0.2	9.1127	1.9127	19.9	O K
2160 Winter	0.2	0.2	9.1382	1.9382	20.2	O K
2880 Winter	0.2	0.2	9.1257	1.9257	20.0	O K
4320 Winter	0.1	0.1	9.0557	1.8557	19.3	O K
5760 Winter	0.1	0.1	8.9667	1.7667	18.4	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
60 Winter	22.79	68
120 Winter	14.11	126
180 Winter	10.57	184
240 Winter	8.59	244
360 Winter	6.40	360
480 Winter	5.19	474
600 Winter	4.41	588
720 Winter	3.85	698
960 Winter	3.12	916
1440 Winter	2.31	1144
2160 Winter	1.72	1604
2880 Winter	1.39	2052
4320 Winter	1.03	2940
5760 Winter	0.83	3800

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Ch93-104 & Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH1.10yr Stor...	Checked By	
Micro Drainage		Source Control W.11.2

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	5760		

Time / Area Diagram

Total Area (ha) = 0.048

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.048

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Ch93-104 & Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH1.10yr Stor...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	26.0
Infil Coef - Sides (m/hr)	0.053640	Invert Level (m)	7.200
Safety Factor	10.0	Cover Level (m)	9.400
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmerring	
Romsey SO51 0HE	Access Ch73-104 & Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH1 100yr Sto...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 293 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.6	0.6	8.6067	1.4067	14.6	O K
30 Summer	0.7	0.7	9.0607	1.8607	19.4	O K
60 Summer	0.9	0.9	9.5092	2.3092	24.0	O K
120 Summer	1.1	1.1	9.8766	2.6766	27.8	O K
180 Summer	1.1	1.1	10.0001	2.8001	29.1	O K
240 Summer	1.1	1.1	10.0506	2.8506	29.6	O K
360 Summer	1.2	1.2	10.1026	2.9026	30.2	O K
480 Summer	1.2	1.2	10.1191	2.9191	30.4	O K
600 Summer	1.2	1.2	10.1091	2.9091	30.3	O K
720 Summer	1.2	1.2	10.0841	2.8841	30.0	O K
960 Summer	1.1	1.1	10.0101	2.8101	29.2	O K
1440 Summer	1.1	1.1	9.8316	2.6316	27.4	O K
2160 Summer	1.0	1.0	9.5747	2.3747	24.7	O K
2880 Summer	0.9	0.9	9.3592	2.1592	22.5	O K
15 Winter	0.6	0.6	8.6072	1.4072	14.6	O K
30 Winter	0.7	0.7	9.0622	1.8622	19.4	O K
60 Winter	0.9	0.9	9.5132	2.3132	24.1	O K
120 Winter	1.1	1.1	9.8906	2.6906	28.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	37
60 Summer	53.78	66
120 Summer	33.34	126
180 Summer	24.83	178
240 Summer	20.01	204
360 Summer	14.71	266
480 Summer	11.82	332
600 Summer	9.97	402
720 Summer	8.67	468
960 Summer	6.94	608
1440 Summer	5.07	870
2160 Summer	3.70	1260
2880 Summer	2.95	1648
15 Winter	124.63	22
30 Winter	83.79	37
60 Winter	53.78	66
120 Winter	33.34	122

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Access Ch73-104 & Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH1 100yr Sto...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	1.1	1.1	10.0241	2.8241	29.4	O K
240 Winter	1.2	1.2	10.0601	2.8601	29.7	O K
360 Winter	1.2	1.2	10.0941	2.8941	30.1	O K
480 Winter	1.2	1.2	10.0841	2.8841	30.0	O K
600 Winter	1.1	1.1	10.0461	2.8461	29.6	O K
720 Winter	1.1	1.1	9.9936	2.7936	29.1	O K
960 Winter	1.1	1.1	9.8716	2.6716	27.8	O K
1440 Winter	1.0	1.0	9.6221	2.4221	25.2	O K
2160 Winter	0.8	0.8	9.3022	2.1022	21.9	O K
2880 Winter	0.7	0.7	9.0517	1.8517	19.3	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	24.83	176
240 Winter	20.01	224
360 Winter	14.71	278
480 Winter	11.82	356
600 Winter	9.97	432
720 Winter	8.67	504
960 Winter	6.94	650
1440 Winter	5.07	928
2160 Winter	3.70	1324
2880 Winter	2.95	1708

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Ch73-104 & Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH1 100yr Sto...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.048

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.048

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Ch73-104 & Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH1 100yr Sto...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	26.0
Infil Coef - Sides (m/hr)	0.053640	Invert Level (m)	7.200
Safety Factor	2.0	Cover Level (m)	10.400
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Access Ch73-93 + Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH2.10yr Stor...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Half Drain Time : 1436 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	7.7647	0.5647	5.4	O K
30 Summer	0.1	0.1	7.9423	0.7423	7.1	O K
60 Summer	0.1	0.1	8.1358	0.9358	9.0	O K
120 Summer	0.1	0.1	8.3423	1.1423	11.0	O K
180 Summer	0.1	0.1	8.4667	1.2668	12.2	O K
240 Summer	0.1	0.1	8.5532	1.3532	13.0	O K
360 Summer	0.1	0.1	8.6707	1.4707	14.1	O K
480 Summer	0.1	0.1	8.7472	1.5472	14.9	O K
600 Summer	0.1	0.1	8.7982	1.5982	15.3	O K
720 Summer	0.1	0.1	8.8332	1.6332	15.7	O K
960 Summer	0.1	0.1	8.8727	1.6727	16.1	O K
1440 Summer	0.1	0.1	8.9247	1.7247	16.6	O K
2160 Summer	0.1	0.1	8.9627	1.7627	16.9	O K
2880 Summer	0.1	0.1	8.9717	1.7717	17.0	O K
4320 Summer	0.1	0.1	8.9477	1.7477	16.8	O K
5760 Summer	0.1	0.1	8.8992	1.6992	16.3	O K
15 Winter	0.0	0.0	7.7647	0.5647	5.4	O K
30 Winter	0.1	0.1	7.9423	0.7423	7.1	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	54.44	23
30 Summer	35.92	38
60 Summer	22.79	68
120 Summer	14.11	128
180 Summer	10.57	186
240 Summer	8.59	246
360 Summer	6.40	366
480 Summer	5.19	486
600 Summer	4.41	604
720 Summer	3.85	724
960 Summer	3.12	896
1440 Summer	2.31	1114
2160 Summer	1.72	1500
2880 Summer	1.39	1908
4320 Summer	1.03	2728
5760 Summer	0.83	3528
15 Winter	54.44	23
30 Winter	35.92	38

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Access Ch73-93 + Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH2.10yr Stor...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 10 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
60 Winter	0.1	0.1	8.1358	0.9358	9.0	O K
120 Winter	0.1	0.1	8.3433	1.1433	11.0	O K
180 Winter	0.1	0.1	8.4678	1.2678	12.2	O K
240 Winter	0.1	0.1	8.5552	1.3552	13.0	O K
360 Winter	0.1	0.1	8.6737	1.4737	14.1	O K
480 Winter	0.1	0.1	8.7517	1.5517	14.9	O K
600 Winter	0.1	0.1	8.8052	1.6052	15.4	O K
720 Winter	0.1	0.1	8.8427	1.6427	15.8	O K
960 Winter	0.1	0.1	8.8872	1.6872	16.2	O K
1440 Winter	0.1	0.1	8.9257	1.7257	16.6	O K
2160 Winter	0.1	0.1	8.9482	1.7482	16.8	O K
2880 Winter	0.1	0.1	8.9367	1.7367	16.7	O K
4320 Winter	0.1	0.1	8.8732	1.6732	16.1	O K
5760 Winter	0.1	0.1	8.7927	1.5927	15.3	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
60 Winter	22.79	68
120 Winter	14.11	126
180 Winter	10.57	184
240 Winter	8.59	244
360 Winter	6.40	360
480 Winter	5.19	474
600 Winter	4.41	588
720 Winter	3.85	698
960 Winter	3.12	912
1440 Winter	2.31	1144
2160 Winter	1.72	1604
2880 Winter	1.39	2052
4320 Winter	1.03	2940
5760 Winter	0.83	3800

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Ch73-93 + Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH2.10yr Stor...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.350	Longest Storm (mins)	5760		

Time / Area Diagram

Total Area (ha) = 0.040

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.040

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Ch73-93 + Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH2.10yr Stor...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	24.0
Infil Coef - Sides (m/hr)	0.053640	Invert Level (m)	7.200
Safety Factor	10.0	Cover Level (m)	9.400
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios	Mayflower Way	
Stanbridge Lane	Angmering	
Romsey SO51 0HE	Access Ch73-93 + Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH2 100yr Sto...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 438 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.3	0.3	8.4792	1.2792	12.3	O K
30 Summer	0.4	0.4	8.9007	1.7007	16.3	O K
60 Summer	0.5	0.5	9.3332	2.1332	20.5	O K
120 Summer	0.6	0.6	9.7287	2.5287	24.3	O K
180 Summer	0.7	0.7	9.9006	2.7006	25.9	O K
240 Summer	0.7	0.7	9.9741	2.7741	26.6	O K
360 Summer	0.7	0.7	10.0361	2.8361	27.2	O K
480 Summer	0.7	0.7	10.0741	2.8741	27.6	O K
600 Summer	0.7	0.7	10.0926	2.8926	27.8	O K
720 Summer	0.7	0.7	10.0961	2.8961	27.8	O K
960 Summer	0.7	0.7	10.0741	2.8741	27.6	O K
1440 Summer	0.7	0.7	9.9766	2.7766	26.7	O K
2160 Summer	0.6	0.6	9.7941	2.5941	24.9	O K
2880 Summer	0.6	0.6	9.6167	2.4167	23.2	O K
15 Winter	0.3	0.3	8.4792	1.2792	12.3	O K
30 Winter	0.4	0.4	8.9017	1.7017	16.3	O K
60 Winter	0.5	0.5	9.3367	2.1367	20.5	O K
120 Winter	0.6	0.6	9.7357	2.5357	24.3	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	37
60 Summer	53.78	66
120 Summer	33.34	126
180 Summer	24.83	184
240 Summer	20.01	244
360 Summer	14.71	302
480 Summer	11.82	362
600 Summer	9.97	428
720 Summer	8.67	496
960 Summer	6.94	632
1440 Summer	5.07	910
2160 Summer	3.70	1304
2880 Summer	2.95	1704
15 Winter	124.63	23
30 Winter	83.79	37
60 Winter	53.78	66
120 Winter	33.34	124

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Access Ch73-93 + Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH2 100yr Sto...	Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
180 Winter	0.7	0.7	9.9136	2.7136	26.1	O K
240 Winter	0.7	0.7	9.9946	2.7946	26.8	O K
360 Winter	0.7	0.7	10.0451	2.8451	27.3	O K
480 Winter	0.7	0.7	10.0721	2.8721	27.6	O K
600 Winter	0.7	0.7	10.0756	2.8756	27.6	O K
720 Winter	0.7	0.7	10.0611	2.8611	27.5	O K
960 Winter	0.7	0.7	10.0021	2.8021	26.9	O K
1440 Winter	0.7	0.7	9.8391	2.6391	25.3	O K
2160 Winter	0.6	0.6	9.5867	2.3867	22.9	O K
2880 Winter	0.5	0.5	9.3647	2.1647	20.8	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
180 Winter	24.83	180
240 Winter	20.01	236
360 Winter	14.71	334
480 Winter	11.82	376
600 Winter	9.97	454
720 Winter	8.67	530
960 Winter	6.94	678
1440 Winter	5.07	970
2160 Winter	3.70	1388
2880 Winter	2.95	1792

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Ch73-93 + Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH2 100yr Sto...	Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	1.000	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	1.000	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	2880		

Time / Area Diagram

Total Area (ha) = 0.040

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.040

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Ch73-93 + Drive	
Date May 2019	Designed By KN	
File Highway Soakaway SH2 100yr Sto...	Checked By	
Micro Drainage	Source Control W.11.2	

Trench Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Length (m)	24.0
Infil Coef - Sides (m/hr)	0.053640	Invert Level (m)	7.200
Safety Factor	3.0	Cover Level (m)	10.400
Porosity	0.40	Slope (1:x)	0.0
Width (m)	1.0		

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Access Road ch0-20	
Date July 2019 File Access Road Ch0-20.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1454 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.1	0.1	9.9563	0.1313	3.3	O K
30 Summer	0.1	0.1	9.9822	0.1572	4.7	O K
60 Summer	0.1	0.1	10.0063	0.1812	6.2	O K
120 Summer	0.1	0.1	10.0313	0.2062	7.7	O K
180 Summer	0.1	0.1	10.0448	0.2197	8.6	O K
240 Summer	0.1	0.1	10.0538	0.2287	9.2	O K
360 Summer	0.1	0.1	10.0653	0.2402	9.9	O K
480 Summer	0.1	0.1	10.0723	0.2472	10.3	O K
600 Summer	0.1	0.1	10.0768	0.2517	10.6	O K
720 Summer	0.1	0.1	10.0798	0.2547	10.8	O K
960 Summer	0.1	0.1	10.0823	0.2572	11.0	O K
1440 Summer	0.1	0.1	10.0823	0.2572	10.9	O K
2160 Summer	0.1	0.1	10.0788	0.2537	10.7	O K
2880 Summer	0.1	0.1	10.0733	0.2482	10.4	O K
4320 Summer	0.1	0.1	10.0603	0.2352	9.6	O K
5760 Summer	0.1	0.1	10.0463	0.2212	8.7	O K
7200 Summer	0.1	0.1	10.0333	0.2082	7.9	O K
15 Winter	0.1	0.1	9.9662	0.1413	3.8	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	38
60 Summer	53.78	68
120 Summer	33.34	128
180 Summer	24.83	186
240 Summer	20.01	246
360 Summer	14.71	366
480 Summer	11.82	486
600 Summer	9.97	606
720 Summer	8.67	724
960 Summer	6.94	964
1440 Summer	5.07	1216
2160 Summer	3.70	1584
2880 Summer	2.95	1992
4320 Summer	2.14	2812
5760 Summer	1.70	3584
7200 Summer	1.43	4392
15 Winter	124.63	23

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Access Road ch0-20	
Date July 2019 File Access Road Ch0-20.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
30 Winter	0.1	0.1	9.9933	0.1682	5.3	O K
60 Winter	0.1	0.1	10.0203	0.1952	7.0	O K
120 Winter	0.1	0.1	10.0483	0.2232	8.8	O K
180 Winter	0.1	0.1	10.0638	0.2387	9.8	O K
240 Winter	0.1	0.1	10.0738	0.2487	10.4	O K
360 Winter	0.1	0.1	10.0873	0.2622	11.3	O K
480 Winter	0.1	0.1	10.0958	0.2707	11.8	O K
600 Winter	0.1	0.1	10.1018	0.2767	12.2	O K
720 Winter	0.1	0.1	10.1058	0.2807	12.4	O K
960 Winter	0.1	0.1	10.1102	0.2852	12.7	O K
1440 Winter	0.1	0.1	10.1102	0.2852	12.7	O K
2160 Winter	0.1	0.1	10.1043	0.2792	12.3	O K
2880 Winter	0.1	0.1	10.0963	0.2712	11.8	O K
4320 Winter	0.1	0.1	10.0768	0.2517	10.6	O K
5760 Winter	0.1	0.1	10.0558	0.2307	9.3	O K
7200 Winter	0.1	0.1	10.0358	0.2107	8.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
30 Winter	83.79	37
60 Winter	53.78	68
120 Winter	33.34	126
180 Winter	24.83	184
240 Winter	20.01	244
360 Winter	14.71	360
480 Winter	11.82	476
600 Winter	9.97	592
720 Winter	8.67	706
960 Winter	6.94	934
1440 Winter	5.07	1360
2160 Winter	3.70	1696
2880 Winter	2.95	2164
4320 Winter	2.14	3068
5760 Winter	1.70	3912
7200 Winter	1.43	4688

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Road ch0-20	
Date July 2019 File Access Road Ch0-20.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	0.750	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	0.840	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	7200		

Time / Area Diagram

Total Area (ha) = 0.018

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.018

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Road ch0-20	
Date July 2019 File Access Road Ch0-20.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Porous Car Park Details

Infil Coef - Base (m/hr)	0.004370	Invert Level (m)	9.825
Membrane Percolation (mm/hr)	50	Cover Level (m)	10.825
Safety Factor	3.0	Slope (1:x)	120.0
Porosity	0.35	Max Percolation (l/s)	2.5
Length (m)	20.0	Depression Storage (mm)	5
Width (m)	9.0	Evaporation (mm/day)	3

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Access Road ch20-30	
Date July 2019 File Access Road Ch20-30.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1472 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.1	0.1	9.9433	0.1183	3.6	0 K
30 Summer	0.1	0.1	9.9668	0.1418	5.2	0 K
60 Summer	0.1	0.1	9.9907	0.1657	6.9	0 K
120 Summer	0.1	0.1	10.0158	0.1907	8.6	0 K
180 Summer	0.1	0.1	10.0298	0.2047	9.6	0 K
240 Summer	0.1	0.1	10.0383	0.2132	10.2	0 K
360 Summer	0.1	0.1	10.0498	0.2247	11.0	0 K
480 Summer	0.1	0.1	10.0573	0.2322	11.5	0 K
600 Summer	0.1	0.1	10.0618	0.2367	11.8	0 K
720 Summer	0.1	0.1	10.0648	0.2397	12.0	0 K
960 Summer	0.1	0.1	10.0673	0.2422	12.2	0 K
1440 Summer	0.1	0.1	10.0663	0.2412	12.1	0 K
2160 Summer	0.1	0.1	10.0623	0.2372	11.8	0 K
2880 Summer	0.1	0.1	10.0563	0.2312	11.4	0 K
4320 Summer	0.1	0.1	10.0423	0.2172	10.4	0 K
5760 Summer	0.1	0.1	10.0278	0.2027	9.4	0 K
7200 Summer	0.1	0.1	10.0143	0.1892	8.5	0 K
15 Winter	0.1	0.1	9.9523	0.1273	4.2	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	38
60 Summer	53.78	68
120 Summer	33.34	128
180 Summer	24.83	186
240 Summer	20.01	246
360 Summer	14.71	366
480 Summer	11.82	486
600 Summer	9.97	606
720 Summer	8.67	724
960 Summer	6.94	964
1440 Summer	5.07	1218
2160 Summer	3.70	1584
2880 Summer	2.95	1992
4320 Summer	2.14	2812
5760 Summer	1.70	3624
7200 Summer	1.43	4392
15 Winter	124.63	23

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Access Road ch20-30	
Date July 2019 File Access Road Ch20-30.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
30 Winter	0.1	0.1	9.9773	0.1522	5.9	O K
60 Winter	0.1	0.1	10.0048	0.1797	7.8	O K
120 Winter	0.1	0.1	10.0328	0.2077	9.8	O K
180 Winter	0.1	0.1	10.0488	0.2237	10.9	O K
240 Winter	0.1	0.1	10.0588	0.2337	11.6	O K
360 Winter	0.1	0.1	10.0723	0.2472	12.5	O K
480 Winter	0.1	0.1	10.0813	0.2562	13.1	O K
600 Winter	0.1	0.1	10.0868	0.2617	13.5	O K
720 Winter	0.1	0.1	10.0908	0.2657	13.8	O K
960 Winter	0.1	0.1	10.0947	0.2697	14.1	O K
1440 Winter	0.1	0.1	10.0952	0.2702	14.1	O K
2160 Winter	0.1	0.1	10.0883	0.2632	13.6	O K
2880 Winter	0.1	0.1	10.0798	0.2547	13.0	O K
4320 Winter	0.1	0.1	10.0588	0.2337	11.6	O K
5760 Winter	0.1	0.1	10.0373	0.2122	10.1	O K
7200 Winter	0.1	0.1	10.0163	0.1913	8.6	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
30 Winter	83.79	37
60 Winter	53.78	68
120 Winter	33.34	126
180 Winter	24.83	184
240 Winter	20.01	244
360 Winter	14.71	360
480 Winter	11.82	476
600 Winter	9.97	594
720 Winter	8.67	706
960 Winter	6.94	934
1440 Winter	5.07	1362
2160 Winter	3.70	1712
2880 Winter	2.95	2164
4320 Winter	2.14	3072
5760 Winter	1.70	3920
7200 Winter	1.43	4688

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Road ch20-30	
Date July 2019 File Access Road Ch20-30.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	0.750	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	0.840	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	7200		

Time / Area Diagram

Total Area (ha) = 0.020

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.020

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Access Road ch20-30	
Date July 2019 File Access Road Ch20-30.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Porous Car Park Details

Infil Coef - Base (m/hr)	0.004370	Invert Level (m)	9.825
Membrane Percolation (mm/hr)	50	Cover Level (m)	10.825
Safety Factor	3.0	Slope (1:x)	150.0
Porosity	0.35	Max Percolation (l/s)	2.8
Length (m)	20.0	Depression Storage (mm)	5
Width (m)	9.9	Evaporation (mm/day)	3

Escher Silverman		Page 1
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Drives Plots 1-7 & 23-24	
Date July 2019 File Permeable Drives Plots 1-7.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1475 minutes

Storm Duration (mins)	Maximum Filtration (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.0	0.0	9.9693	0.1442	1.1	0 K
30 Summer	0.0	0.0	9.9973	0.1722	1.6	0 K
60 Summer	0.0	0.0	10.0233	0.1982	2.1	0 K
120 Summer	0.0	0.0	10.0478	0.2227	2.6	0 K
180 Summer	0.0	0.0	10.0618	0.2367	2.9	0 K
240 Summer	0.0	0.0	10.0708	0.2457	3.1	0 K
360 Summer	0.0	0.0	10.0823	0.2572	3.3	0 K
480 Summer	0.0	0.0	10.0893	0.2642	3.5	0 K
600 Summer	0.0	0.0	10.0942	0.2692	3.6	0 K
720 Summer	0.0	0.0	10.0972	0.2722	3.6	0 K
960 Summer	0.0	0.0	10.0997	0.2747	3.7	0 K
1440 Summer	0.0	0.0	10.0997	0.2747	3.7	0 K
2160 Summer	0.0	0.0	10.0973	0.2722	3.6	0 K
2880 Summer	0.0	0.0	10.0923	0.2672	3.5	0 K
4320 Summer	0.0	0.0	10.0798	0.2547	3.2	0 K
5760 Summer	0.0	0.0	10.0663	0.2412	3.0	0 K
7200 Summer	0.0	0.0	10.0538	0.2287	2.7	0 K
15 Winter	0.0	0.0	9.9798	0.1547	1.3	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	124.63	23
30 Summer	83.79	38
60 Summer	53.78	68
120 Summer	33.34	128
180 Summer	24.83	186
240 Summer	20.01	246
360 Summer	14.71	366
480 Summer	11.82	486
600 Summer	9.97	606
720 Summer	8.67	724
960 Summer	6.94	964
1440 Summer	5.07	1216
2160 Summer	3.70	1584
2880 Summer	2.95	1992
4320 Summer	2.14	2812
5760 Summer	1.70	3584
7200 Summer	1.43	4392
15 Winter	124.63	23

Escher Silverman		Page 2
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmering Drives Plots 1-7 & 23-24	
Date July 2019 File Permeable Drives Plots 1-7.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 100 year Return Period (+40%)

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
30 Winter	0.0	0.0	10.0093	0.1842	1.8	O K
60 Winter	0.0	0.0	10.0368	0.2117	2.4	O K
120 Winter	0.0	0.0	10.0648	0.2397	2.9	O K
180 Winter	0.0	0.0	10.0808	0.2557	3.3	O K
240 Winter	0.0	0.0	10.0908	0.2657	3.5	O K
360 Winter	0.0	0.0	10.1043	0.2792	3.8	O K
480 Winter	0.0	0.0	10.1133	0.2882	3.9	O K
600 Winter	0.0	0.0	10.1192	0.2942	4.1	O K
720 Winter	0.0	0.0	10.1232	0.2982	4.2	O K
960 Winter	0.0	0.0	10.1277	0.3027	4.3	O K
1440 Winter	0.0	0.0	10.1282	0.3032	4.3	O K
2160 Winter	0.0	0.0	10.1228	0.2977	4.2	O K
2880 Winter	0.0	0.0	10.1152	0.2902	4.0	O K
4320 Winter	0.0	0.0	10.0968	0.2717	3.6	O K
5760 Winter	0.0	0.0	10.0768	0.2517	3.2	O K
7200 Winter	0.0	0.0	10.0578	0.2327	2.8	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
30 Winter	83.79	37
60 Winter	53.78	68
120 Winter	33.34	126
180 Winter	24.83	184
240 Winter	20.01	244
360 Winter	14.71	360
480 Winter	11.82	476
600 Winter	9.97	592
720 Winter	8.67	706
960 Winter	6.94	934
1440 Winter	5.07	1360
2160 Winter	3.70	1696
2880 Winter	2.95	2164
4320 Winter	2.14	3068
5760 Winter	1.70	3912
7200 Winter	1.43	4688

Escher Silverman		Page 3
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Drives Plots 1-7 & 23-24	
Date July 2019 File Permeable Drives Plots 1-7.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Cv (Summer)	0.750	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	0.840	Winter Storms	Yes
M5-60 (mm)	19.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.350	Longest Storm (mins)	7200		

Time / Area Diagram

Total Area (ha) = 0.006

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.000	4	8	0.006

Escher Silverman		Page 4
Lone Barn Studios Stanbridge Lane Romsey SO51 0HE	Mayflower Way Angmerring Drives Plots 1-7 & 23-24	
Date July 2019 File Permeable Drives Plots 1-7.SRC	Designed By KN Checked By	
Micro Drainage	Source Control W.11.2	

Porous Car Park Details

Infil Coef - Base (m/hr)	0.004370	Invert Level (m)	9.825
Membrane Percolation (mm/hr)	50	Cover Level (m)	10.825
Safety Factor	3.0	Slope (1:x)	50.0
Porosity	0.35	Max Percolation (l/s)	0.8
Length (m)	10.0	Depression Storage (mm)	5
Width (m)	6.0	Evaporation (mm/day)	3



Thomas Telford House
Sun Valley Business Park
Winnall Close
Winchester SO23 0LB

Crayfern Homes Ltd

By Email only: [REDACTED]

Our Ref: 17403/SL

16th April 2019

Dear Kevin,

RE: Land North of Mayflower Way, Angmering, Littlehampton, BN16 4AY.

We are writing regarding the intrusive investigation undertaken at the above-named site.

Brief

The Soils Limited quotation (reference Q20970, dated 17th January 2019) set the scope of the investigation. The investigation was to comprise machine excavated trial holes and infiltration tests in accordance with the principles of BRE DG365: 2016 Soakaway Design.

General

The site had an approximate area of 0.85ha and was located at Land North of Mayflower Way, Angmering, Littlehampton, BN16 4AY at O.S Land Ranger Grid Reference of TQ 072 033.

A site location plan has been included as Figure 1.

Site Works

Site works were undertaken between the 4th March and 6th March 2019 and comprised the excavation of five trial pits (SK1, SK2, SK3, PSK1 and PSK2) at locations and test depths selected by the client. Following the construction of the trial holes, infiltration tests in accordance with the principles of BRE DG365:2016 were carried out within the trial holes.

A trial hole location plan is included as Figure 2.

Upon completion of the trial hole logging and testing the trial holes were backfilled with arisings and mounded over to allow for future settlement.

Ground Conditions

The ground conditions encountered during the site investigation have been summarised in Table 1.

Made Ground (MG) River Terrace Deposits (Undifferentiated) (RTDU)

Table 1 – Summary of Ground Conditions

Strata	Depth Encountered (m bgl)		Typical Description
	Top	Base	
MG	0.00	0.35 – 1.20	Dark greyish brown gravelly SILT comprising fragments of flint, concrete and brick. Concrete slabs were encountered. MADE GROUND.
RTDU	0.35 – 1.20	1.00 ¹ – 3.45 ¹	Brown and orangish brown gravelly CLAY. Gravel was angular flint. RIVER TERRACE DEPOSITS.

Notes: ¹ Encountered to base of trial hole

Soils of the River Terrace Deposits were encountered in all five of the trial holes, underlying the Made Ground.

Infiltration Testing

Infiltration tests were performed in order to provide guidance on the suitability of the ground for the adoption of a shallow surface water drainage system. The tests were undertaken within the River Terrace Deposits at depths ranging between 0.60 and 2.25m bgl to the base of each trial hole. PSK1 and PSK2 were shallower tests to inform permeable pavement design whereas SK1 to SK3 were deeper tests to inform conventional soakaway for surface water disposal. The tests comprised pumping water from a water tanker into the open trial hole, the drop-in water level over time was then recorded to give an indication of soakage potential.

BRE DG365:2016 states that for an accurate infiltration rate to be obtained a soakage pit needs to be filled three times in quick succession. Each test is completed once 75% of the water present has drained away, in order to determine whether or not the underlying ground conditions may be suitable for surface water drainage.

A functioning soakaway should discharge from full to half-volume within 24 hours in readiness for subsequent storm inflow. In the event that the fall in head during infiltration testing is less than 50% of the total volume within a 24-hour period, the test is considered to have failed in accordance with BRE DG365:2016.

A single test was carried out within PSK1 and two tests within SK2, due to the slow rate of infiltration observed within these locations over the test period (3 days).

Table 2 presents the infiltration test results performed within all trial holes.

Table 2 - Infiltration Test Results

Trial Hole (Test No.)	Test Stratum	Trial Pit Depth (m bgl)	Water Level Start of Test (m bgl)	Infiltration Rate (m/sec)	Comments
SK1(1)	RTDU	2.78	1.85	2.112×10^{-5}	
SK1(2)	RTDU	2.73	1.37	1.594×10^{-5}	
SK1(3)	RTDU	2.60	1.67	1.497×10^{-5}	
SK2(1)	RTDU	2.74	1.46	2.451×10^{-6}	Data extrapolated overnight.
SK2(2)	RTDU	2.74	1.35	1.887×10^{-6}	Data extrapolated overnight and from 27% head to allow calculation of indicative infiltration rate.
SK3(1)	RTDU	3.45	1.81	4.511×10^{-5}	
SK3(2)	RTDU	3.45	2.25	4.066×10^{-5}	
SK3(3)	RTDU	3.34	1.40	2.639×10^{-5}	
PSK1(1)	RTDU	0.97	0.60	$*3.689 \times 10^{-7}$	Within 50.8 hours the head of water dropped to 38%. >24hrs were required for the head of water to fall by 50%.
PSK2(1)	RTDU	1.05	0.65	3.831×10^{-6}	Extrapolated data to allow calculation of indicative infiltration rate.
PSK2(2)	RTDU	1.05	0.70	3.007×10^{-6}	
PSK2(3)	RTDU	1.05	0.65	1.214×10^{-6}	

Notes: RTDU = River Terrace Deposits * = Test failed in accordance with BRE 365

Rates of between 4.511×10^{-5} m/sec and 1.887×10^{-6} m/sec were calculated based on the data from the tests within SK1 to SK3 with rates of between 3.831×10^{-6} m/sec and 3.689×10^{-7} m/sec calculated based on the data from the tests performed within PSK1 and PSK2.

Full results are included within Appendix A.

Conclusions

Given the observed infiltration over the test period, it is considered that the site would be suitable for the adoption of a surface water soakaway system located within the soils of River Terrace Deposits.

It should be noted that the Environment Agency must be consulted on any works which may impact groundwater sources.

The following attachments make up the remainder of this letter report.

Figure 1. Site Location Plan

Figure 2. Trial Hole Location Plan

Appendix A. Field Data

Should you have any further questions please do not hesitate to contact the undersigned.

Yours sincerely



C Morrison BSc (Hons) FGS MEnvSc
Director



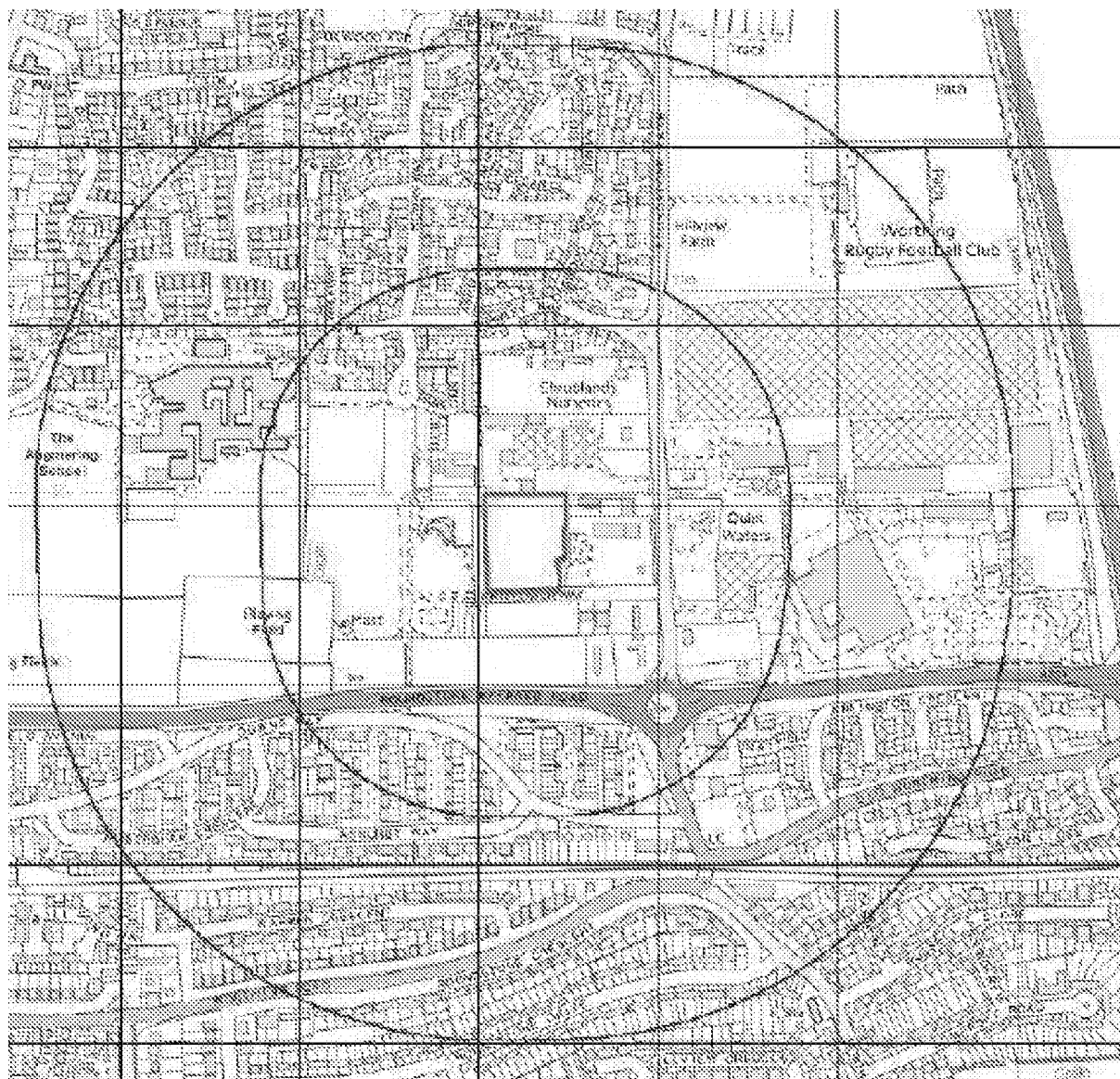
**Figure 1 – Site Location Plan**

Figure number

1

Title

Site Location Map

Project

Land North of Mayflower Way, Angmering, BN16 4AY

Date

April 2019

Client

Crayfern Homes

Reference

17403/SL

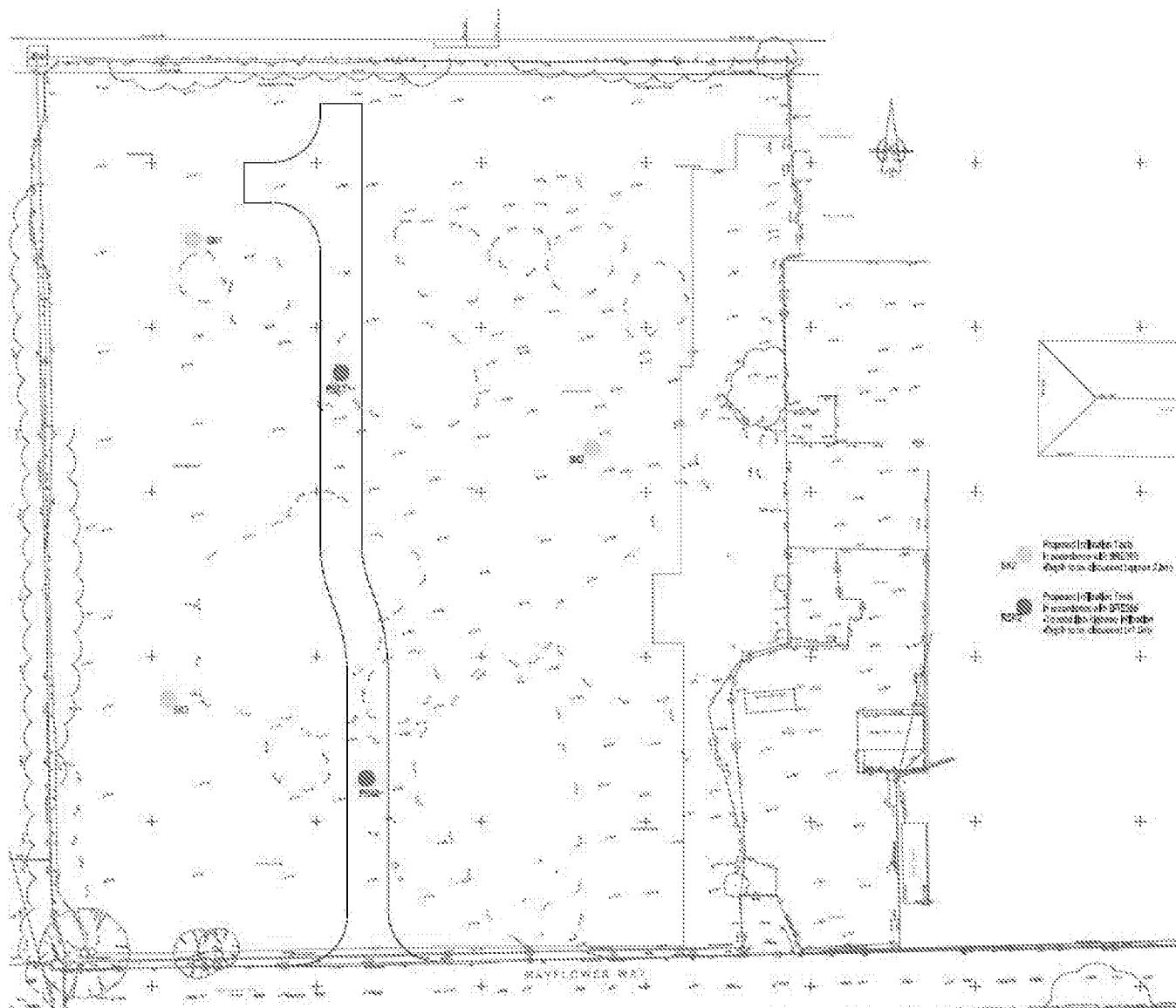


Figure 2 – Trial Hole Location Plan

Figure number

2

Title

Trial hole location plan

Project

Land North of Mayflower Way, Angmering, BN16 4AY

Date

April 2019

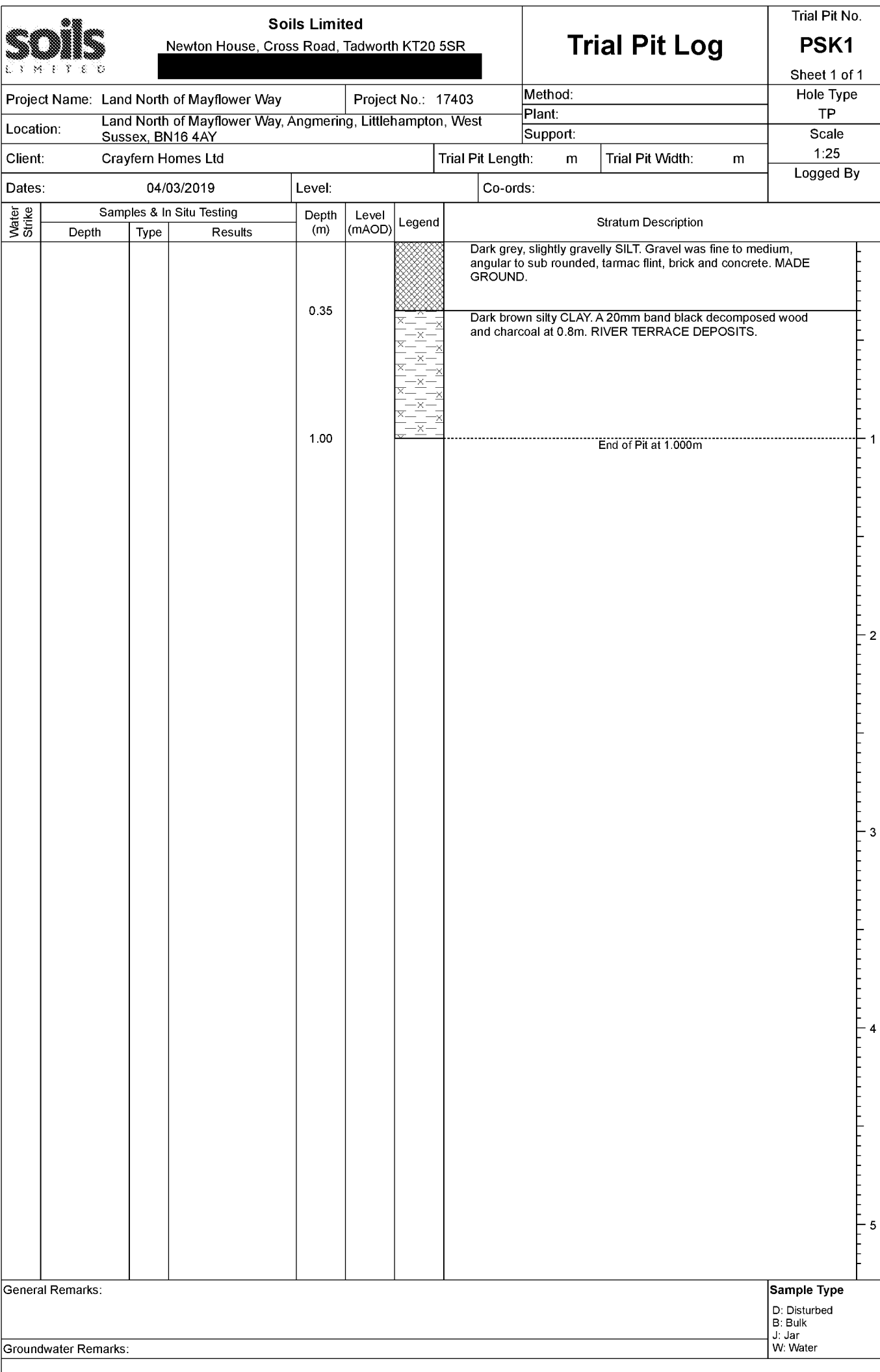
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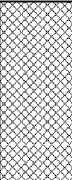
Crayfern Homes

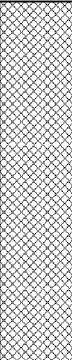
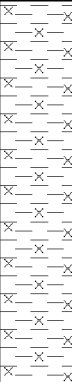
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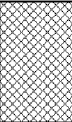
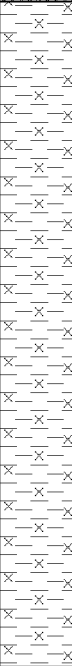
I7403/SL

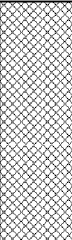
Appendix A. Field Data



		Soils Limited Newton House, Cross Road, Tadworth KT20 5SR 			Trial Pit Log		Trial Pit No. PSK2 Sheet 1 of 1	
Project Name: Land North of Mayflower Way				Project No.: 17403		Method:		Hole Type TP
Location: Land North of Mayflower Way, Angmering, Littlehampton, West Sussex, BN16 4AY				Plant:		Support:		
Client: Crayfern Homes Ltd				Trial Pit Length: m		Trial Pit Width: m		Scale 1:25
Dates: 04/03/2019			Level:		Co-ords:			Logged By
Water Strike	Samples & In Situ Testing			Depth (m)	Level (mAOD)	Legend	Stratum Description	
	Depth	Type	Results					
				0.60			Dark greyish brown to black, gravelly sandy SILT. Gravel was fine to medium, angular to sub angular, flint and brick. MADE GROUND.	
				1.00			Orangish brown silty CLAY. RIVER TERRACE DEPOSITS.	
							End of Pit at 1.000m	
General Remarks:								Sample Type D: Disturbed B: Bulk J: Jar W: Water
Groundwater Remarks:								

		Soils Limited Newton House, Cross Road, Tadworth KT20 5SR 			Trial Pit Log		Trial Pit No. SK1	
Project Name: Land North of Mayflower Way		Project No.: 17403		Method:		Sheet 1 of 1		
Location: Land North of Mayflower Way, Angmering, Littlehampton, West Sussex, BN16 4AY		Plant:		Support:		Hole Type TP		
Client: Crayfern Homes Ltd		Trial Pit Length: m		Trial Pit Width: m		Scale 1:25		
Dates: 04/03/2019		Level:		Co-ords:		Logged By		
Water Strike	Samples & In Situ Testing			Depth (m)	Level (mAOD)	Legend	Stratum Description	
	Depth	Type	Results					
				1.20			Dark greyish brown, gravelly sandy SILT. Gravel was medium, angular to sub angular, flint and brick. MADE GROUND.	
				2.50			Orangish brown, silty CLAY. RIVER TERRACE DEPOSITS.	
				2.80			Orangish brown gravelly CLAY. Gravel is subangular to angular clasts of flint. Occasional sub rounded flint cobbles up to 90mm RIVER TERRACE DEPOSITS	
							End of Pit at 2.800m	
General Remarks:							Sample Type D: Disturbed B: Bulk J: Jar W: Water	
Groundwater Remarks:								

		Soils Limited Newton House, Cross Road, Tadworth KT20 5SR 			Trial Pit Log		Trial Pit No. SK2	
Project Name: Land North of Mayflower Way		Project No.: 17403		Method:		Sheet 1 of 1		
Location: Land North of Mayflower Way, Angmering, Littlehampton, West Sussex, BN16 4AY		Plant:		Support:		Hole Type TP		
Client: Crayfern Homes Ltd		Trial Pit Length: m		Trial Pit Width: m		Scale 1:25		
Dates: 04/03/2019		Level:		Co-ords:		Logged By		
Water Strike	Samples & In Situ Testing			Depth (m)	Level (mAOD)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40			Dark greyish brown, gravelly SILT. Gravel was fine to medium, sub angular to sub rounded, flint, concrete and brick. Occasional concrete slabs. MADE GROUND.	
							Dark brown silty CLAY. RIVER TERRACE DEPOSITS.	
				2.60			Brown to orangish brown, gravelly CLAY. Gravel is fine to medium, angular flint. RIVER TERRACE DEPOSITS.	
				2.80			End of Pit at 2.800m	
General Remarks:							Sample Type D: Disturbed B: Bulk J: Jar W: Water	
Groundwater Remarks:								

		Soils Limited Newton House, Cross Road, Tadworth KT20 5SR 			Trial Pit Log		Trial Pit No. SK3 Sheet 1 of 1	
Project Name: Land North of Mayflower Way		Project No.: 17403		Method:		Hole Type		
Location: Land North of Mayflower Way, Angmering, Littlehampton, West Sussex, BN16 4AY				Plant:		TP		
Client: Crayfern Homes Ltd		Trial Pit Length: m		Trial Pit Width: m		Scale 1:25		
Dates: 04/03/2019		Level:		Co-ords:		Logged By		
Water Strike	Samples & In Situ Testing			Depth (m)	Level (mAOD)	Legend	Stratum Description	
	Depth	Type	Results					
				0.80			Dark greyish brown, gravelly sandy SILT. Gravel was fine to medium, angular to sub angular, flint and brick. MADE GROUND.	
							Orangish brown silty CLAY. RIVER TERRACE DEPOSITS.	
				3.20			Orangish brown slightly gravelly CLAY. Gravel fine to medium occasionally coarse sub rounded to angular flint. RIVER TERRACE DEPOSITS.	
				3.40			End of Pit at 3.400m	
General Remarks:							Sample Type D: Disturbed B: Bulk J: Jar W: Water	
Groundwater Remarks:								

Soakaway Calculations

Soakaway Test No.	SK1 Test 1
Contract:	Mayflower Way
Contract No.	17403

Field Test

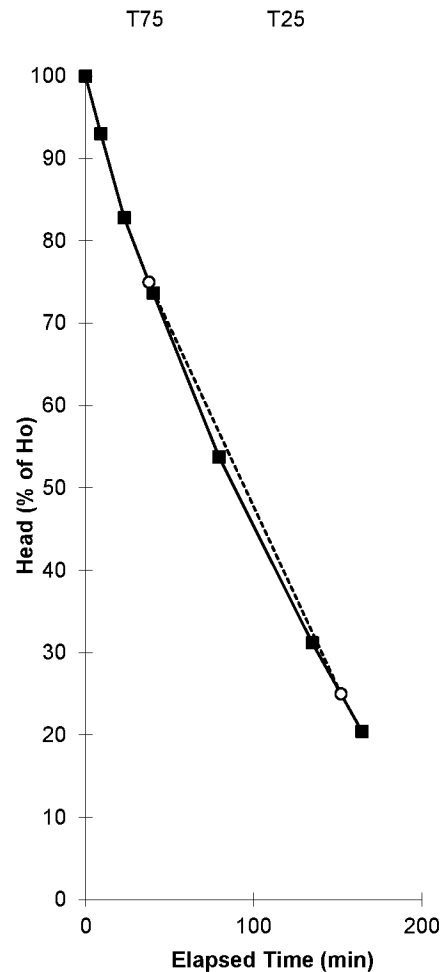
Trial Pit Log (include details of groundwater):

See trial Pit record

Depth of Pit	2.78 m
Width of Pit	0.60 m
Length of Pit	1.40 m
Depth of Pit Soaked	0.93 m
ap_{50}	2.7 m ²
V_{p75-25}	0.3906 m ³
t_{75-25}	114.2 min
water used	0.7812 m ³
f	2.112E-05 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of H_0)	Head of Water (m)
1.85	0	100	0.93
1.915	9	93	0.87
2.01	23	83	0.77
2.095	40	74	0.69
2.28	79	54	0.50
2.49	135	31	0.29
2.59	164	20	0.19



T75	37.718	75
T25	151.879	25
T75-25	114.162	Derived from Best Fit

Comments

SOILS LIMITED

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Soakaway Calculations

Soakaway Test No.	SK1 Test 2
Contract:	Mayflower Way
Contract No.	17403

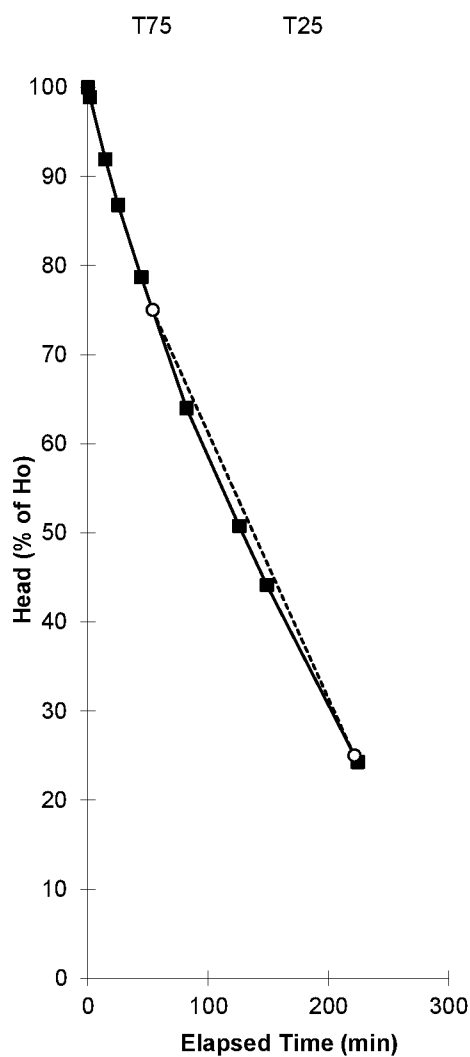
Field Test

Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	2.73 m
Width of Pit	0.60 m
Length of Pit	1.40 m
Depth of Pit Soaked	1.36 m
ap50	3.56 m2
Vp75-25	0.5712 m3
t75-25	167.8 min
water used	1.1424 m3
f	1.594E-05 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
1.37	0	100	1.36
1.385	2	99	1.35
1.48	15	92	1.25
1.55	25	87	1.18
1.66	44	79	1.07
1.86	82	64	0.87
2.04	126	51	0.69
2.13	149	44	0.60
2.4	224	24	0.33



T75	53.783	75
T25	221.582	25
T75-25	167.799	Derived from Best Fit

Comments

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Soakaway Calculations

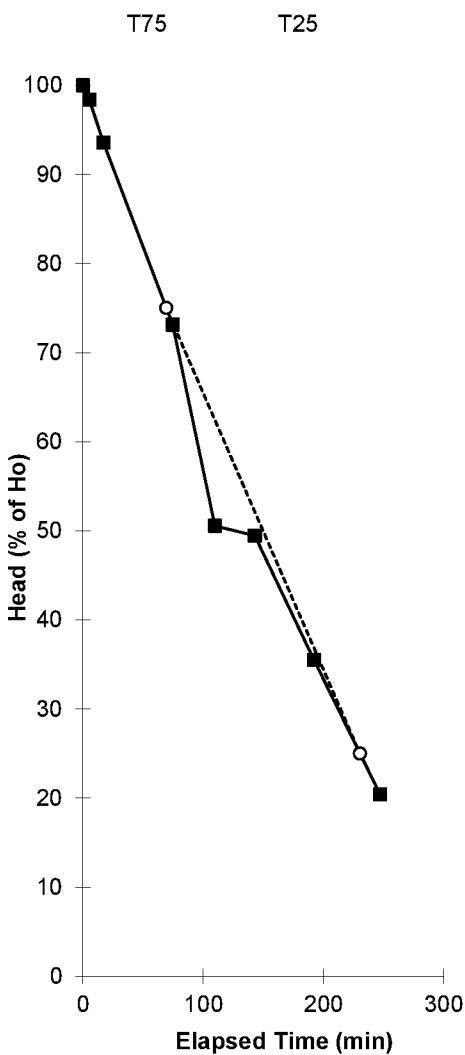
Seakaway Test No.	SK1 Test 3
Contract:	Mayflower Way
Contract No.	17403

Field Test

Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	2.60 m
Width of Pit	0.60 m
Length of Pit	1.40 m
Depth of Pit Soaked	0.93 m
ap50	2.7 m ²
V_{p75-25}	0.3906 m ³
t_{75-25}	161.0 min
water used	0.7812 m ³
$\dot{e}$	1.497E-05 m/sec.

Field Data

[illegible]

Comments

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Soakaway Calculations

Soakaway Test No.	SK2 Test 1
Contract:	Mayflower Way
Contract No.	17403

Field Test

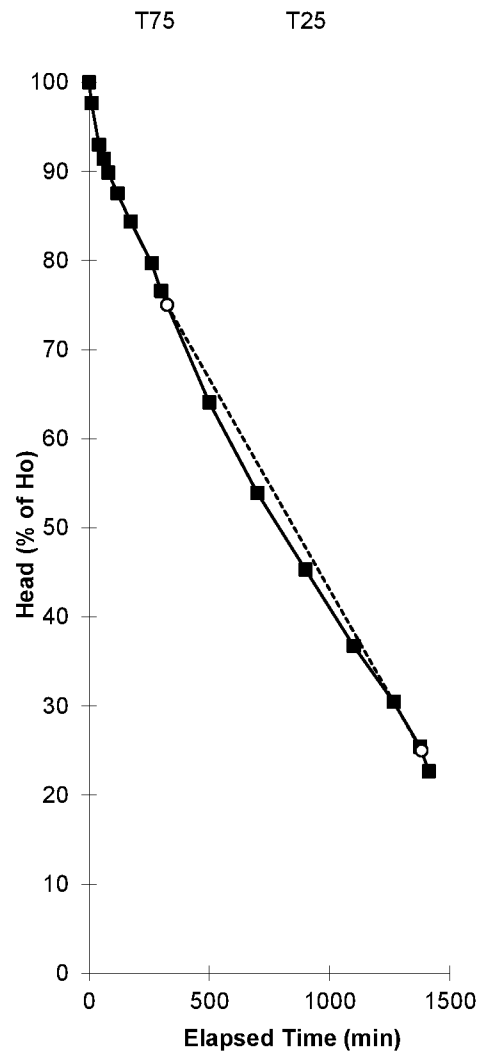
Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	2.74 m
Width of Pit	0.60 m
Length of Pit	1.30 m
Depth of Pit Soaked	1.28 m
ap50	3.212 m2
Vp75-25	0.4992 m3
t75-25	1056.8 min
water used	0.9984 m3
k	2.451E-06 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
1.46	0	100	1.28
1.49	11	98	1.25
1.55	41	93	1.19
1.57	61	91	1.17
1.59	80	90	1.15
1.62	118	88	1.12
1.66	173	84	1.08
1.72	261	80	1.02
1.76	299	77	0.98
1.92	500.00	64	0.82
2.05	700.00	54	0.69
2.18	900.00	45	0.58
2.27	1100.00	37	0.47
2.35	1265.00	30	0.39
2.415	1376.00	25	0.33
2.45	1412.00	23	0.29

T75	324.329	75
T25	1381.143	25
T75-25	1056.814	Derived from Best Fit



Comments

In 23.5 hours the head of water dropped to 23%. Extrapolated figures in red represent overnight infiltration.

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Soakaway Calculations

Soakaway Test No.	SK2 Test 2
Contract:	Mayflower Way
Contract No.	17403

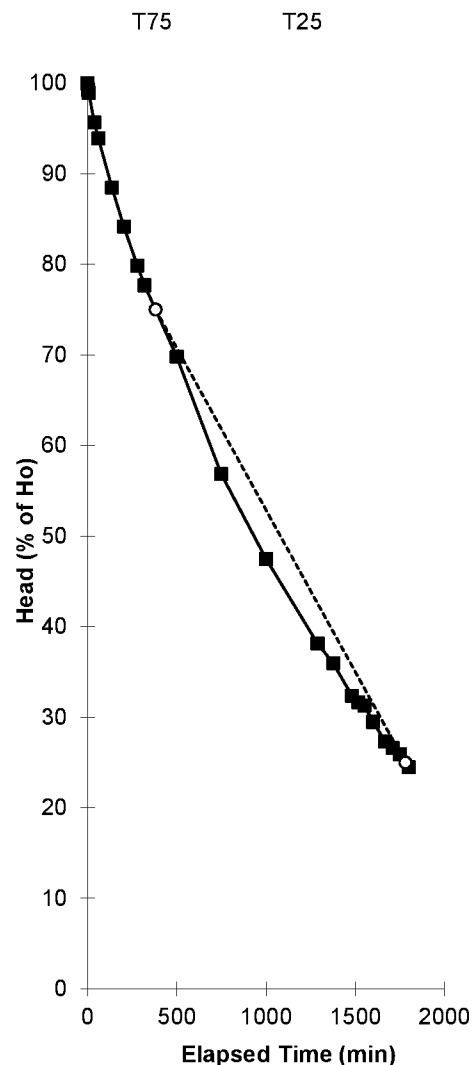
Field Test

Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	2.74 m
Width of Pit	0.60 m
Length of Pit	1.30 m
Depth of Pit Soaked	1.39 m
$ap50$	3.421 m2
$Vp75.25$	0.5421 m3
$t75.25$	1399.9 min
water used	1.0842 m3
f	$1.887E-06$ m/sec.

Field Data

<i>Depth to</i>	<i>Elapsed</i>	<i>Head of</i>	<i>Head of</i>
<i>Water</i>	<i>Time</i>	<i>Water</i>	<i>Water</i>
(m)	(min)	(% of Ho)	(m)
1.35	0	100	1.39
1.36	4	99	1.38
1.365	7	99	1.38
1.41	37	96	1.33
1.435	61	94	1.31
1.51	137	88	1.23
1.57	204	84	1.17
1.63	278	80	1.11
1.66	320.00	78	1.08
1.77	500.00	70	0.97
1.95	750.00	57	0.79
2.08	1000.00	47	0.66
2.21	1289.00	38	0.53
2.24	1376.00	36	0.50
2.29	1482.00	32	0.45
2.3	1518.00	32	0.44
2.305	1551.00	31	0.44
2.33	1600.00	29	0.41
2.36	1668.00	27	0.38
2.37	1709.00	27	0.37
2.38	1750.00	26	0.36
2.4	1800.00	24	0.34
T75	381.364	75	
T25	1781.250	25	
T75-25	1399.886	Derived from Best Fit	



Comments

Within 28.5 hours the head of water dropped to 27%. Extrapolated data in red to allow calculation of indicative infiltration rate.

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Soakaway Calculations

Soakaway Test No.	SK3 Test 1
Contract:	Mayflower Way
Contract No.	17403

Field Test

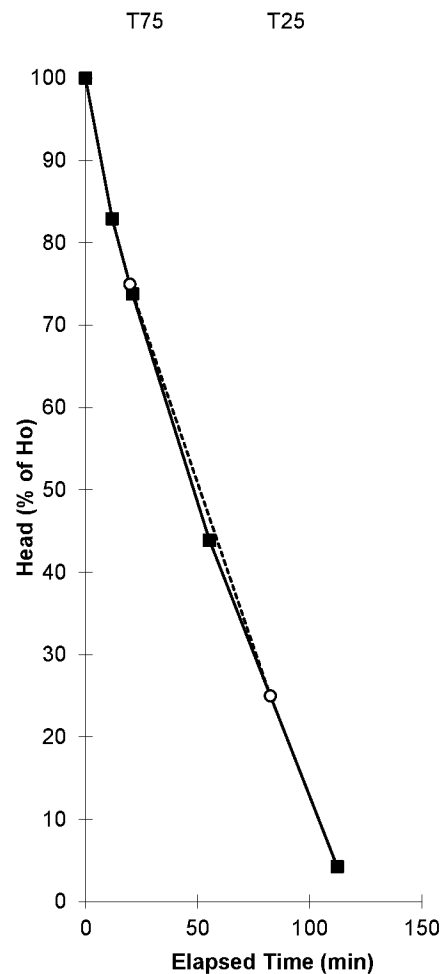
Trial Pit Log (include details of groundwater):

See trial Pit record

Depth of Pit	3.45 m
Width of Pit	0.60 m
Length of Pit	1.50 m
Depth of Pit Soaked	1.64 m
ap_{50}	4.344 m ²
V_{p75-25}	0.738 m ³
t_{75-25}	62.8 min
water used	1.4760 m ³
f	4.511E-05 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
1.81	0	100	1.64
2.09	12	83	1.36
2.24	21	74	1.21
2.73	55	44	0.72
3.38	112	4	0.07



T75	19.694	75
T25	82.469	25
T75-25	62.774	Derived from Best Fit

Comments

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Soakaway Calculations

Soakaway Test No.	SK3 Test 2
Contract:	Mayflower Way
Contract No.	17403

Field Test

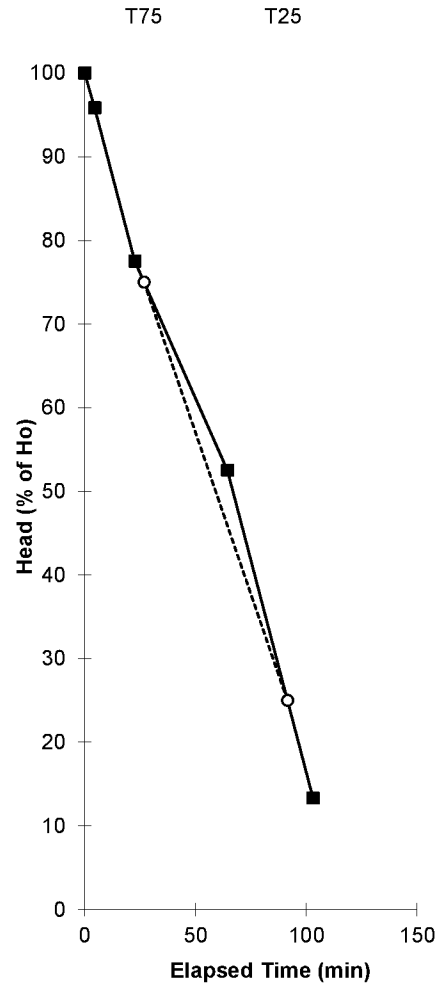
Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	3.45 m
Width of Pit	0.60 m
Length of Pit	1.50 m
Depth of Pit Soaked	1.20 m
ap_{80}	3.42 m ²
Vp_{75-25}	0.54 m ³
t_{75-25}	64.7 min
water used	1.0800 m ³
i	4.066E-05 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
2.25	0	100	1.20
2.3	5	96	1.15
2.52	23	78	0.93
2.82	64	53	0.63
3.29	103	13	0.16

T75	26.775	75
T25	91.499	25
T75-25	64.724	Derived from Best Fit



Comments

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Soakaway Calculations

Soakaway Test No.	SK3 - 3
Contract:	Mayflower Way
Contract No.	17403

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

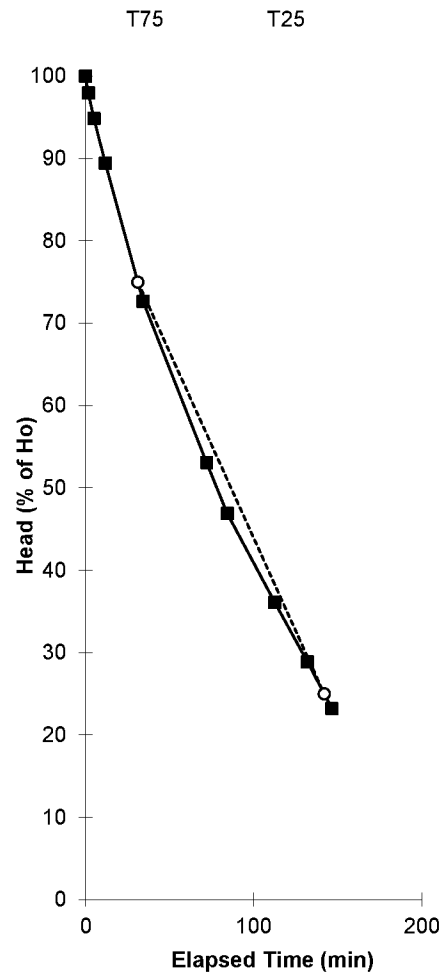
Depth of Pit	3.34 m
Width of Pit	0.60 m
Length of Pit	1.50 m
Depth of Pit Soaked	1.94 m
ap_{50}	4.974 m ²
V_{p75-25}	0.873 m ³
t_{75-25}	110.8 min
water used	1.7460 m ³
f	2.639E-05 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
1.4	0	100	1.94
1.44	2	98	1.90
1.5	5	95	1.84
1.605	12	89	1.74
1.93	34	73	1.41
2.31	72	53	1.03
2.43	84	47	0.91
2.64	113	36	0.70
2.78	132	29	0.56
2.89	146.57	23	0.45

T75	31.113	75
T25	141.948	25
T75-25	110.835	Derived from Best Fit

Comments



SOILS LIMITED

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Soakaway Calculations

Soakaway Test No.	PSK1 Test 1
Contract:	Mayflower Way
Contract No.	17403

Field Test

Trial Pit Log (include details of groundwater):

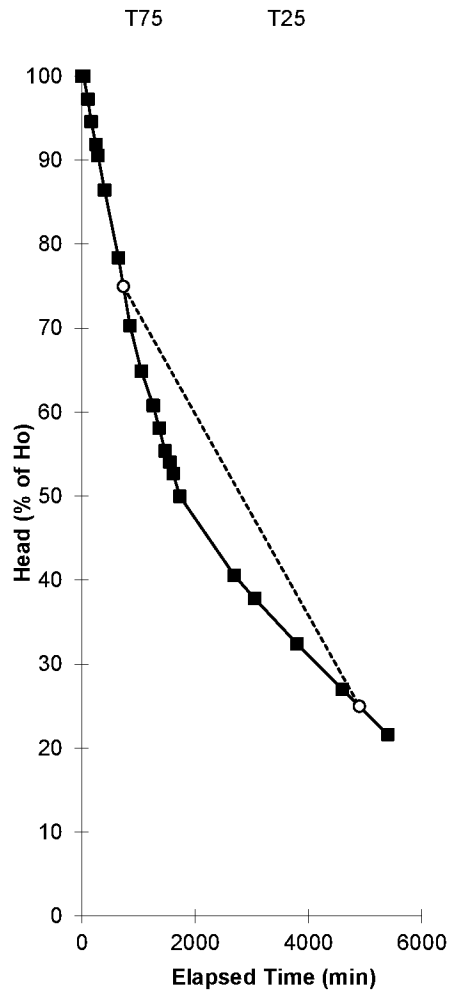
See trial Pit record

Depth of Pit	0.97 m
Width of Pit	0.95 m
Length of Pit	0.60 m
Depth of Pit Soaked	0.37 m
ap50	1.1435 m2
Vp75-20	0.10545 m3
t75-20	4166.7 min
water used	0.2109 m3
$\bar{t}$	3.689E-07 m/sec.

Field Data

Depth to Water	Elapsed Time	Head of Water	Head of Water
(m)	(min)	(% of Ho)	(m)
0.6	0	100	0.37
0.6	9	100	0.37
0.6	30	100	0.37
0.61	105	97	0.36
0.62	166	95	0.35
0.63	251	92	0.34
0.635	289	91	0.34
0.65	400	86	0.32
0.68	550	78	0.29
0.71	850.00	70	0.26
0.73	1050.00	65	0.24
0.745	1258.00	61	0.23
0.755	1365.00	58	0.22
0.765	1468.00	55	0.21
0.77	1553.00	54	0.20
0.775	1609.00	53	0.20
0.785	1729.00	50	0.19
0.82	2695.00	41	0.15
0.83	3050.00	38	0.14
0.85	3800.00	32	0.12
0.87	4800.00	27	0.10
0.89	5400.00	22	0.08

T75	733.333	75
T25	4900.000	25
T75-25	4166.667	Derived from Best Fit



Comments

Extrapolated data in red (overnight soakage and to allow calculation of indicative infiltration rate). Within 50.8 hours the head of water dropped to 38%. Extrapolated data in red to allow calculation of indicative infiltration rate.

SOILS LIMITED

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Soakaway Calculations

Soakaway Test No.	PSK2 Test 1
Contract:	Mayflower Way
Contract No.	17403

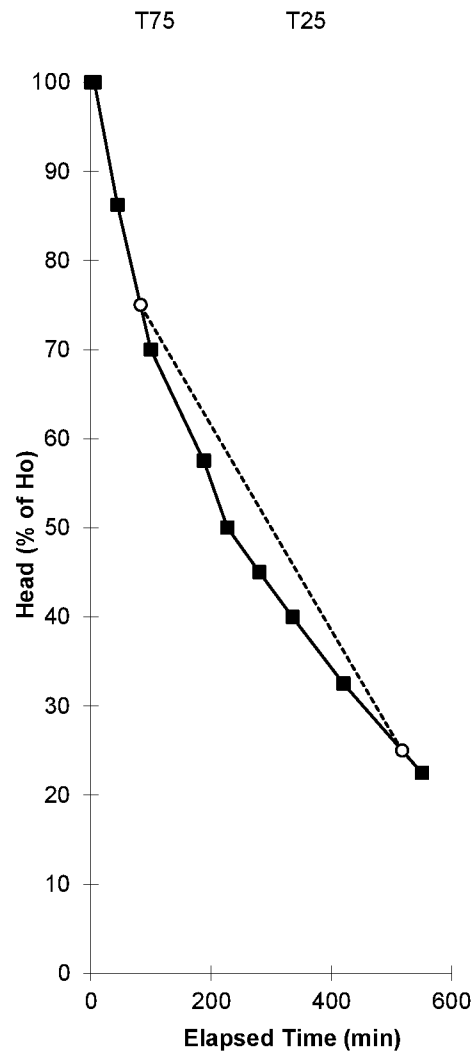
Field Test

Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	1.05 m
Width of Pit	0.60 m
Length of Pit	1.20 m
Depth of Pit Soaked	0.40 m
ap50	1.44 m ²
Vp75-25	0.144 m ³
t75-25	435.0 min
water used	0.2880 m ³
f	3.831E-06 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.65	0	100	0.40
0.65	6	100	0.40
0.705	44	86	0.35
0.77	100	70	0.28
0.82	188	58	0.23
0.85	227	50	0.20
0.87	280	45	0.18
0.89	335	40	0.16
0.92	420	33	0.13
0.96	550.00	23	0.09



T75	82.473	75
T25	517.500	25
T75-25	435.027	Derived from Best Fit

Comments

Data in red represents soakage overnight to allow calculation of indicative infiltration rate.

SOILS LIMITED

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Soakaway Calculations

Soakaway Test No.	PSK2 Test 2
Contract:	Mayflower Way
Contract No.	17403

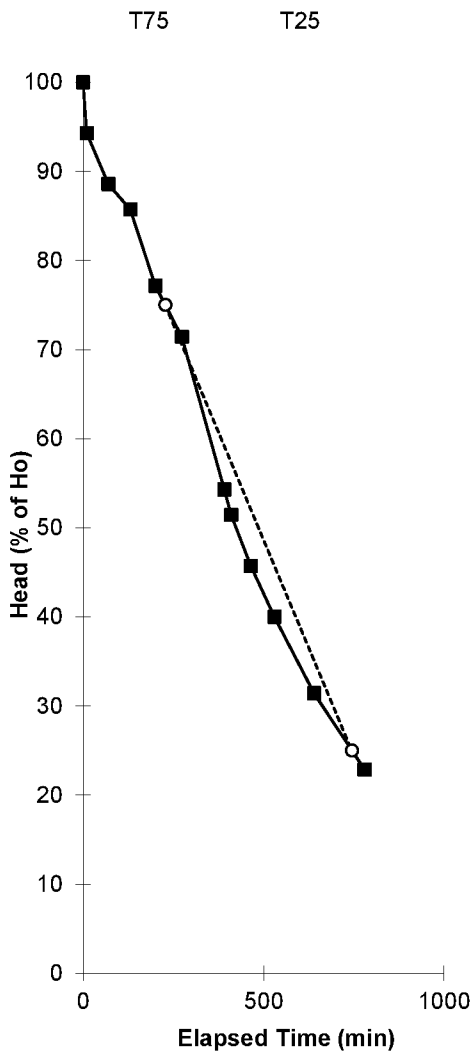
Field Test

Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	1.05 m
Width of Pit	0.60 m
Length of Pit	1.20 m
Depth of Pit Sealed	0.35 m
ap_{50}	1.35 m ²
V_{p75-25}	0.126 m ³
t_{75-25}	517.3 min
water used	0.2520 m ³
f	3.007E-06 m/sec.

Field Data

Depth to	Elapsed	Head of	Head of
Water	Time	Water	Water
(m)	(min)	(% of Hg)	(m)
0.7	0	100	0.35
0.72	10	94	0.33
0.74	70	89	0.31
0.75	131	86	0.30
0.78	200	77	0.27
0.8	274	71	0.25
0.86	391	54	0.19
0.87	410	51	0.18
0.88	465	46	0.16
0.91	530.00	40	0.14
0.94	640.00	31	0.11
0.97	780.00	23	0.08



T75	227.750	75
T25	745.000	25
T75-25	517.250	Derived from Best Fit

Comments

Data in red represents soakage overnight to allow calculation of indicative infiltration rate.

SOILS LIMITED

**Newton House, Cross Road, Tadworth
Surrey, KT20 5SR**

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Soakaway Calculations

Soakaway Test No.	PSK2 Test 3
Contract:	Mayflower Way
Contract No.	17403

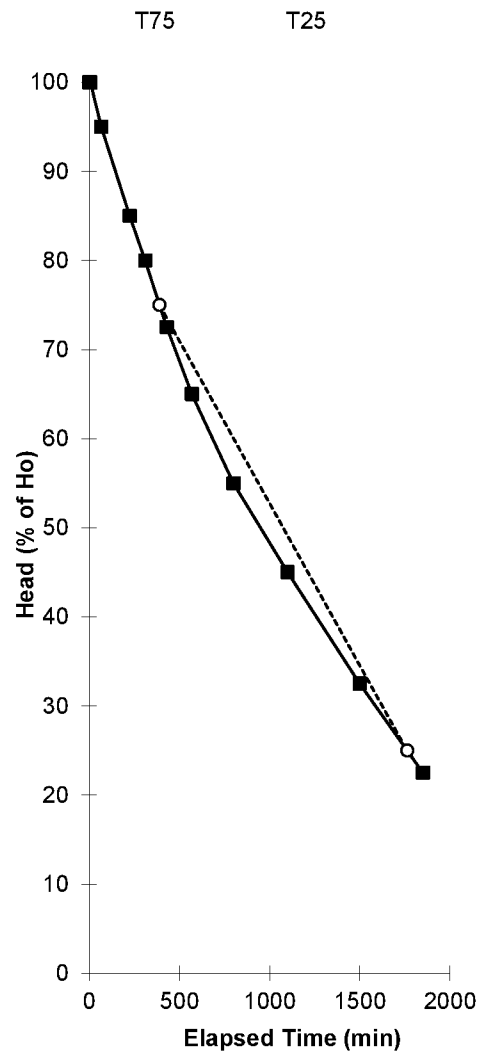
Field Test

Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	1.05 m
Width of Pit	0.60 m
Length of Pit	1.20 m
Depth of Pit Soaked	0.40 m
ap50	1.44 m ²
Vp75-25	0.144 m ³
t75-25	1372.5 min
water used	0.2880 m ³
k	1.214E-06 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.65	0	100	0.40
0.65	7	100	0.40
0.67	68	95	0.38
0.71	226	85	0.34
0.73	310	80	0.32
0.76	430	73	0.29
0.79	570	65	0.26
0.83	800	55	0.22
0.87	1100	45	0.18
0.92	1500	33	0.13
0.98	1850	23	0.09



T75	390.000	75
T25	1762.500	25
T75-25	1372.500	Derived from Best Fit

Comments

Data in red represents estimated soakage overnight to allow calculation of indicative infiltration rate.

SOILS LIMITED

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Surrey, KT20 5SR

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