

2x1X1n deep Soakage

Scott-White & Hookins		Page 1
42 West Street		
London House		
Carshalton SM5 2PR		
Date 02/11/2016 15:21	Designed by a lisle-denny	
File Soakaway design 2x2x1 p...	Checked by	
Micro Drainage	Source Control 2016.1	

Summary of Results for 100 year Return Period (+30%)

Half Drain Time : 57 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	98.755	0.505	0.2	1.0	O K
30 min Summer	98.872	0.622	0.3	1.2	O K
60 min Summer	98.939	0.689	0.3	1.3	O K
120 min Summer	98.953	0.703	0.3	1.3	O K
180 min Summer	98.924	0.674	0.3	1.3	O K
240 min Summer	98.885	0.635	0.3	1.2	O K
360 min Summer	98.815	0.565	0.2	1.1	O K
480 min Summer	98.755	0.505	0.2	1.0	O K
600 min Summer	98.702	0.452	0.2	0.9	O K
720 min Summer	98.657	0.407	0.2	0.8	O K
960 min Summer	98.582	0.332	0.2	0.6	O K
1440 min Summer	98.475	0.225	0.1	0.4	O K
2160 min Summer	98.375	0.125	0.1	0.2	O K
2880 min Summer	98.319	0.069	0.1	0.1	O K
4320 min Summer	98.291	0.041	0.1	0.1	O K
5760 min Summer	98.283	0.033	0.1	0.1	O K
7200 min Summer	98.277	0.027	0.1	0.1	O K
8640 min Summer	98.274	0.024	0.0	0.0	O K
10080 min Summer	98.271	0.031	0.0	0.0	O K
15 min Winter	98.820	0.570	0.2	1.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	117.738	0.0	17
30 min Summer	79.135	0.0	31
60 min Summer	50.758	0.0	48
120 min Summer	31.425	0.0	82
180 min Summer	23.382	0.0	116
240 min Summer	18.818	0.0	150
360 min Summer	13.840	0.0	218
480 min Summer	11.120	0.0	282
600 min Summer	9.376	0.0	346
720 min Summer	8.152	0.0	408
960 min Summer	6.531	0.0	530
1440 min Summer	4.769	0.0	778
2160 min Summer	3.475	0.0	1128
2880 min Summer	2.772	0.0	1472
4320 min Summer	2.012	0.0	2200
5760 min Summer	1.601	0.0	2888
7200 min Summer	1.341	0.0	3576
8640 min Summer	1.161	0.0	4288
10080 min Summer	1.027	0.0	5128
15 min Winter	117.738	0.0	17

Scott-White & Hookins		Page 2
42 West Street		
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File Soakaway design 2x2x1 p...	Checked by	
Micro Drainage	Source Control 2016.1	

Summary of Results for 100 year Return Period (+30%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	98.958	0.708	0.3	1.3	O K
60 min Winter	99.034	0.784	0.3	1.5	O K
120 min Winter	99.033	0.783	0.3	1.5	O K
180 min Winter	98.990	0.740	0.3	1.4	O K
240 min Winter	98.932	0.682	0.3	1.3	O K
360 min Winter	98.829	0.579	0.2	1.1	O K
480 min Winter	98.745	0.495	0.2	0.9	O K
600 min Winter	98.675	0.425	0.2	0.8	O K
720 min Winter	98.616	0.366	0.2	0.7	O K
960 min Winter	98.523	0.273	0.2	0.5	O K
1440 min Winter	98.400	0.150	0.1	0.3	O K
2160 min Winter	98.302	0.052	0.1	0.1	O K
2880 min Winter	98.291	0.041	0.1	0.1	O K
4320 min Winter	98.280	0.030	0.1	0.1	O K
5760 min Winter	98.274	0.024	0.0	0.0	O K
7200 min Winter	98.270	0.020	0.0	0.0	O K
8640 min Winter	98.267	0.017	0.0	0.0	O K
10080 min Winter	98.265	0.015	0.0	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
30 min Winter	79.135	0.0	30
60 min Winter	50.758	0.0	50
120 min Winter	31.425	0.0	88
180 min Winter	23.382	0.0	126
240 min Winter	18.818	0.0	162
360 min Winter	13.840	0.0	230
480 min Winter	11.120	0.0	298
600 min Winter	9.376	0.0	362
720 min Winter	8.152	0.0	426
960 min Winter	6.531	0.0	550
1440 min Winter	4.769	0.0	794
2160 min Winter	3.475	0.0	1130
2880 min Winter	2.772	0.0	1468
4320 min Winter	2.012	0.0	2172
5760 min Winter	1.601	0.0	2936
7200 min Winter	1.341	0.0	3592
8640 min Winter	1.161	0.0	4400
10080 min Winter	1.027	0.0	5144

Scott-White & Hookins		Page 3
42 West Street		
London House		
Carshalton SM5 2PR		
Date 02/11/2016 15:21	Designed by a lisle-denny	
File Soakaway design 2x2x1 p.u.	Checked by	
Micro Drainage	Source Control 2016.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
MS-60 (mm)	19.300	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.005

Time (mins)	Area
From:	To: (ha)
0	4 0.005

42 West Street

London House

Carshalton SM5 2PR

Date 02/11/2016 15:21

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Micro Drainage

Source Control 2016.1



Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

Invert Level (m)	98.250	Safety Factor	2.0
Infiltration Coefficient Base (m/hr)	0.31464	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.31464		

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	2.0	2.0	1.100	0.0	8.0
1.000	2.0	8.0			

3x3x in day Soakage

Scott-White & Hookins		Page 1
42 West Street		
London House		
Carshalton SM5 2PR		
Date 02/11/2016 15:32	Designed by a lisle-denny	
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Micro Drainage		Source Control 2016.1

Summary of Results for 100 year Return Period (+30%)

Half Drain Time : 85 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	98.653	0.453	0.6	3.9	OK
30 min Summer	98.772	0.572	0.7	4.9	OK
60 min Summer	98.851	0.651	0.7	5.6	OK
120 min Summer	98.875	0.675	0.7	5.8	OK
180 min Summer	98.860	0.660	0.7	5.6	OK
240 min Summer	98.833	0.633	0.7	5.4	OK
360 min Summer	98.777	0.577	0.7	4.9	OK
480 min Summer	98.725	0.525	0.7	4.5	OK
600 min Summer	98.676	0.476	0.6	4.1	OK
720 min Summer	98.631	0.431	0.6	3.7	OK
960 min Summer	98.553	0.353	0.6	3.0	OK
1440 min Summer	98.433	0.233	0.5	2.0	OK
2160 min Summer	98.317	0.117	0.5	1.0	OK
2880 min Summer	98.258	0.058	0.4	0.5	OK
4320 min Summer	98.239	0.039	0.3	0.3	OK
5760 min Summer	98.231	0.031	0.3	0.3	OK
7200 min Summer	98.226	0.026	0.2	0.2	OK
8640 min Summer	98.223	0.023	0.2	0.2	OK
10080 min Summer	98.220	0.020	0.2	0.2	OK
15 min Winter	98.712	0.512	0.7	4.4	OK

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	115.731	0.0	17
30 min Summer	77.804	0.0	31
60 min Summer	49.937	0.0	58
120 min Summer	30.956	0.0	90
180 min Summer	23.058	0.0	124
240 min Summer	18.577	0.0	158
360 min Summer	13.656	0.0	228
480 min Summer	10.974	0.0	294
600 min Summer	9.254	0.0	360
720 min Summer	8.046	0.0	426
960 min Summer	6.447	0.0	550
1440 min Summer	4.709	0.0	794
2160 min Summer	3.432	0.0	1144
2880 min Summer	2.739	0.0	1472
4320 min Summer	1.989	0.0	2184
5760 min Summer	1.583	0.0	2936
7200 min Summer	1.325	0.0	3672
8640 min Summer	1.147	0.0	4376
10080 min Summer	1.015	0.0	5136
15 min Winter	115.731	0.0	17

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Scott-White & Hookins		Page 2
42 West Street		
London House		
Carshalton SM5 2PR		
Date 02/11/2016 15:32	Designed by a lisle-denny	
File Soakaway design 3x5x1 f.m.	Checked by	
Micro Drainage	Source Control 2016.1	

Summary of Results for 100 year Return Period (+30%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	98.851	0.651	0.7	5.6	O K
60 min Winter	98.950	0.750	0.8	6.4	O K
120 min Winter	98.975	0.775	0.8	6.6	O K
180 min Winter	98.951	0.751	0.8	6.4	O K
240 min Winter	98.910	0.710	0.8	6.1	O K
360 min Winter	98.824	0.624	0.7	5.3	O K
480 min Winter	98.746	0.546	0.7	4.7	O K
600 min Winter	98.675	0.475	0.6	4.1	O K
720 min Winter	98.612	0.412	0.6	3.5	O K
960 min Winter	98.505	0.305	0.6	2.6	O K
1440 min Winter	98.352	0.152	0.5	1.3	O K
2160 min Winter	98.248	0.048	0.4	0.4	O K
2880 min Winter	98.239	0.039	0.3	0.3	O K
4320 min Winter	98.228	0.028	0.2	0.2	O K
5760 min Winter	98.222	0.022	0.2	0.2	O K
7200 min Winter	98.219	0.019	0.2	0.2	O K
8640 min Winter	98.216	0.016	0.1	0.1	O K
10080 min Winter	98.214	0.014	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
30 min Winter	77.804	0.0	31
60 min Winter	49.937	0.0	58
120 min Winter	30.956	0.0	94
180 min Winter	23.058	0.0	134
240 min Winter	18.577	0.0	172
360 min Winter	13.656	0.0	244
480 min Winter	10.974	0.0	314
600 min Winter	9.254	0.0	382
720 min Winter	8.046	0.0	448
960 min Winter	6.447	0.0	578
1440 min Winter	4.709	0.0	820
2160 min Winter	3.432	0.0	1100
2880 min Winter	2.739	0.0	1468
4320 min Winter	1.989	0.0	2172
5760 min Winter	1.583	0.0	3000
7200 min Winter	1.325	0.0	3552
8640 min Winter	1.147	0.0	4264
10080 min Winter	1.015	0.0	5136

Scott-White & Hookins		Page 3
42 West Street		
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Date 02/11/2016 15:32	Designed by a lisle-denny	
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Micro Drainage	Source Control 2016.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.000

Time (mins)	Area
From: To:	(ha)

0	4	0.000
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Time Area Diagram

Total Area (ha) 0.020

Time (mins)	Area
From: To:	(ha)

0	4	0.020
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Scott-White & Hookins		Page 4
42 West Street		
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Carshalton SM5 2PR		
Date 02/11/2016 15:32	Designed by a lisle-denny	
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Micro Drainage	Source Control 2016.1	

Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

Invert Level (m) 98.200 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.31464 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.31464

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	9.0	9.0	1.100	0.0	21.0
1.000	9.0	21.0			

6x3x 1m deep Soakaway

Scott-White & Hookins		Page 1
42 West Street		
London House		
Carshalton SM5 2PR		
Date 02/11/2016 15:37	Designed by a lisle-denny	
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Micro Drainage		Source Control 2016.1

Summary of Results for 100 year Return Period (+30%)

Half Drain Time : 99 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	98.656	0.456	1.1	7.6	O K
30 min Summer	98.780	0.580	1.2	9.9	O K
60 min Summer	98.868	0.668	1.3	11.4	O K
120 min Summer	98.895	0.695	1.3	11.9	O K
180 min Summer	98.882	0.682	1.3	11.7	O K
240 min Summer	98.857	0.657	1.3	11.2	O K
360 min Summer	98.804	0.604	1.3	10.3	O K
480 min Summer	98.753	0.553	1.2	9.5	O K
600 min Summer	98.705	0.505	1.2	8.6	O K
720 min Summer	98.660	0.460	1.1	7.9	O K
960 min Summer	98.579	0.379	1.1	6.5	O K
1440 min Summer	98.451	0.251	1.0	4.3	O K
2160 min Summer	98.327	0.127	0.9	2.2	O K
2880 min Summer	98.262	0.062	0.8	1.1	O K
4320 min Summer	98.239	0.039	0.6	0.7	O K
5760 min Summer	98.231	0.031	0.5	0.5	O K
7200 min Summer	98.226	0.026	0.4	0.4	O K
8640 min Summer	98.223	0.023	0.4	0.4	O K
10080 min Summer	98.220	0.020	0.3	0.3	O K
15 min Winter	98.716	0.516	1.2	8.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	115.731	0.0	18
30 min Summer	77.804	0.0	32
60 min Summer	49.937	0.0	60
120 min Summer	30.956	0.0	94
180 min Summer	23.058	0.0	126
240 min Summer	18.577	0.0	162
360 min Summer	13.656	0.0	230
480 min Summer	10.974	0.0	298
600 min Summer	9.254	0.0	364
720 min Summer	8.046	0.0	430
960 min Summer	6.447	0.0	558
1440 min Summer	4.709	0.0	796
2160 min Summer	3.432	0.0	1148
2880 min Summer	2.739	0.0	1472
4320 min Summer	1.989	0.0	2200
5760 min Summer	1.583	0.0	2936
7200 min Summer	1.325	0.0	3616
8640 min Summer	1.147	0.0	4368
10080 min Summer	1.015	0.0	4992
15 min Winter	115.731	0.0	18

Scott-White & Hookins		Page 2
42 West Street		
London House		
Carshalton SM5 2PR		
Date 02/11/2016 15:37	Designed by a lisle-denny	
File Soakaway design 6x5x1 r...	Checked by	
Micro Drainage	Source Control 2016.1	

Summary of Results for 100 year Return Period (+30%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	98.860	0.660	1.3	11.3	O K
60 min Winter	98.968	0.768	1.4	13.1	O K
120 min Winter	98.981	0.801	1.4	13.7	O K
180 min Winter	98.983	0.783	1.4	13.4	O K
240 min Winter	98.945	0.745	1.4	12.7	O K
360 min Winter	98.864	0.664	1.3	11.4	O K
480 min Winter	98.787	0.587	1.2	10.0	O K
600 min Winter	98.715	0.515	1.2	8.8	O K
720 min Winter	98.649	0.449	1.1	7.7	O K
960 min Winter	98.536	0.336	1.1	5.8	O K
1440 min Winter	98.369	0.169	0.9	2.9	O K
2160 min Winter	98.249	0.049	0.8	0.8	O K
2880 min Winter	98.339	0.039	0.6	0.7	O K
4320 min Winter	98.229	0.029	0.5	0.5	O K
5760 min Winter	98.223	0.023	0.4	0.4	O K
7200 min Winter	98.219	0.019	0.3	0.3	O K
8640 min Winter	98.217	0.017	0.3	0.3	O K
10080 min Winter	98.215	0.015	0.2	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
30 min Winter	77.804	0.0	31
60 min Winter	49.937	0.0	60
120 min Winter	30.956	0.0	98
180 min Winter	23.058	0.0	136
240 min Winter	18.577	0.0	174
360 min Winter	13.656	0.0	248
480 min Winter	10.974	0.0	320
600 min Winter	9.254	0.0	390
720 min Winter	8.046	0.0	456
960 min Winter	6.447	0.0	586
1440 min Winter	4.709	0.0	824
2160 min Winter	3.432	0.0	1104
2880 min Winter	2.739	0.0	1444
4320 min Winter	1.989	0.0	2192
5760 min Winter	1.583	0.0	2872
7200 min Winter	1.325	0.0	3632
8640 min Winter	1.147	0.0	4336
10080 min Winter	1.015	0.0	5208

42 West Street

London House

Carshalton SME 2PR

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Micro Drainage

Source Control 2016.1



Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.000

Time (mins)	Area
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From: To: (ha)

0 4 0.000

Time Area Diagram

Total Area (ha) 0.040

Time	(mins)	Area
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From: To: (ha)

0 4 0.040

Scott-White & Hookins		Page 4
42 West Street		
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File Soakaway design 6x5x1 r...	Checked by	
Micro Drainage	Source Control 2016.1	

Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

Invert Level (m) 98.200 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.31464 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.31464

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	18.0	18.0	1.100	0.0	36.0
1.000	18.0	36.0			