

Peter Brett Associates LLP		Page 1
Caversham Bridge House	Green Park Village	
Waterman Place	Soakaways	
Reading RG1 8DN	1.8m diameter	
Date 8th July 2010	Designed By VH	
File 1.8 dia.SRC	Checked By	
Micro Drainage	Source Control W.11.4 net	

Lined Soakaway Details

Infil Coef - Base (m/hr)	0.000000	Pit Multiplier	1.5
Infil Coef - Sides (m/hr)	0.036000	Number Required	1
Safety Factor	2.0	Invert Level (m)	38.800
Porosity	0.30	Cover Level (m)	40.200
Ring Diameter (m)	1.8	Cap Infiltration (m)	39.800

Note:

Infiltration rate for base is 0, in accordance with BRE 365

Infiltration Rate = 1×10^{-5} m/s

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Rainfall Details

Region	ENG+WAL	Cv (Summer)	0.750	Summer Storms	Yes
Return Period (years)	10	Cv (Winter)	0.840	Winter Storms	Yes
M5-60 (mm)	18.500	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.400	Longest Storm (mins)	10080		

Time / Area Diagram

Total Area (ha) = 0.006 This is the maximum area
draining to a 1.5m diameter
soakaway

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

Summary of Results for 10 year Return Period

Half Drain Time : 826 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	38.9558	0.1557	0.6	0 K
30 Summer	0.0	0.0	38.9998	0.1997	0.8	0 K
60 Summer	0.0	0.0	39.0453	0.2452	1.0	0 K
120 Summer	0.0	0.0	39.0898	0.2897	1.1	0 K
180 Summer	0.0	0.0	39.1138	0.3137	1.2	0 K
240 Summer	0.0	0.0	39.1293	0.3292	1.3	0 K
360 Summer	0.0	0.0	39.1457	0.3457	1.4	0 K
480 Summer	0.0	0.0	39.1532	0.3532	1.4	0 K
600 Summer	0.0	0.0	39.1568	0.3567	1.4	0 K
720 Summer	0.0	0.0	39.1602	0.3602	1.4	0 K
960 Summer	0.0	0.0	39.1637	0.3637	1.4	0 K
1440 Summer	0.0	0.0	39.1657	0.3657	1.5	0 K
2160 Summer	0.0	0.0	39.1592	0.3592	1.4	0 K
2880 Summer	0.0	0.0	39.1488	0.3487	1.4	0 K
4320 Summer	0.0	0.0	39.1257	0.3257	1.3	0 K
5760 Summer	0.0	0.0	39.1032	0.3032	1.2	0 K
7200 Summer	0.0	0.0	39.0838	0.2837	1.1	0 K
8640 Summer	0.0	0.0	39.0663	0.2662	1.1	0 K
10080 Summer	0.0	0.0	39.0513	0.2512	1.0	0 K
15 Winter	0.0	0.0	38.9743	0.1742	0.7	0 K
30 Winter	0.0	0.0	39.0238	0.2237	0.9	0 K
60 Winter	0.0	0.0	39.0748	0.2747	1.1	0 K
120 Winter	0.0	0.0	39.1247	0.3247	1.3	0 K
180 Winter	0.0	0.0	39.1522	0.3522	1.4	0 K
240 Winter	0.0	0.0	39.1698	0.3697	1.5	0 K
360 Winter	0.0	0.0	39.1892	0.3892	1.5	0 K
480 Winter	0.0	0.0	39.1987	0.3987	1.6	0 K
600 Winter	0.0	0.0	39.2027	0.4027	1.6	0 K
720 Winter	0.0	0.0	39.2037	0.4037	1.6	0 K
960 Winter	0.0	0.0	39.2067	0.4067	1.6	0 K
1440 Winter	0.0	0.0	39.2037	0.4037	1.6	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
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Note:

1 in 10 year water level below invert of incoming pipe

15 Summer	55.33	19
30 Summer	35.76	34
60 Summer	22.18	64
120 Summer	13.43	122
180 Summer	9.94	182
240 Summer	8.00	242
360 Summer	5.88	360
480 Summer	4.72	478
600 Summer	3.98	524
720 Summer	3.46	582
960 Summer	2.78	704
1440 Summer	2.03	978
2160 Summer	1.49	1384
2880 Summer	1.19	1788
4320 Summer	0.87	2592
5760 Summer	0.70	3392
7200 Summer	0.59	4112
8640 Summer	0.51	4920
10080 Summer	0.45	5648
15 Winter	55.33	19
30 Winter	35.76	33
60 Winter	22.18	62
120 Winter	13.43	120
180 Winter	9.94	180
240 Winter	8.00	236
360 Winter	5.88	350
480 Winter	4.72	460
600 Winter	3.98	564
720 Winter	3.46	600
960 Winter	2.78	738
1440 Winter	2.03	1040

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Micro Drainage		Source Control W.11.4 net

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
2160 Winter	0.0	0.0	39.1887	0.3887	1.5	0 K
2880 Winter	0.0	0.0	39.1702	0.3702	1.5	0 K
4320 Winter	0.0	0.0	39.1337	0.3337	1.3	0 K
5760 Winter	0.0	0.0	39.1028	0.3027	1.2	0 K
7200 Winter	0.0	0.0	39.0763	0.2762	1.1	0 K
8640 Winter	0.0	0.0	39.0543	0.2542	1.0	0 K
10080 Winter	0.0	0.0	39.0358	0.2357	0.9	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
2160 Winter	1.49	1492
2880 Winter	1.19	1928
4320 Winter	0.87	2764
5760 Winter	0.70	3568
7200 Winter	0.59	4328
8640 Winter	0.51	5104
10080 Winter	0.45	5856

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Micro Drainage Source Control w.11.4 net		

Summary of Results for 30 year Return Period

Half Drain Time : 827 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	38.9968	0.1967	0.8	0 K
30 Summer	0.0	0.0	39.0553	0.2552	1.0	0 K
60 Summer	0.0	0.0	39.1143	0.3142	1.2	0 K
120 Summer	0.0	0.0	39.1718	0.3717	1.5	0 K
180 Summer	0.0	0.0	39.2027	0.4027	1.6	0 K
240 Summer	0.0	0.0	39.2212	0.4212	1.7	0 K
360 Summer	0.0	0.0	39.2402	0.4402	1.7	0 K
480 Summer	0.0	0.0	39.2477	0.4477	1.8	0 K
600 Summer	0.0	0.0	39.2512	0.4512	1.8	0 K
720 Summer	0.0	0.0	39.2542	0.4542	1.8	0 K
960 Summer	0.0	0.0	39.2572	0.4572	1.8	0 K
1440 Summer	0.0	0.0	39.2567	0.4567	1.8	0 K
2160 Summer	0.0	0.0	39.2462	0.4462	1.8	0 K
2880 Summer	0.0	0.0	39.2312	0.4312	1.7	0 K
4320 Summer	0.0	0.0	39.1992	0.3992	1.6	0 K
5760 Summer	0.0	0.0	39.1703	0.3702	1.5	0 K
7200 Summer	0.0	0.0	39.1443	0.3442	1.4	0 K
8640 Summer	0.0	0.0	39.1223	0.3222	1.3	0 K
10080 Summer	0.0	0.0	39.1032	0.3032	1.2	0 K
15 Winter	0.0	0.0	39.0208	0.2207	0.9	0 K
30 Winter	0.0	0.0	39.0858	0.2857	1.1	0 K
60 Winter	0.0	0.0	39.1522	0.3522	1.4	0 K
120 Winter	0.0	0.0	39.2172	0.4172	1.7	0 K
180 Winter	0.0	0.0	39.2517	0.4517	1.8	0 K
240 Winter	0.0	0.0	39.2727	0.4727	1.9	0 K
360 Winter	0.0	0.0	39.2952	0.4952	2.0	0 K
480 Winter	0.0	0.0	39.3057	0.5057	2.0	0 K
600 Winter	0.0	0.0	39.3093	0.5092	2.0	0 K
720 Winter	0.0	0.0	39.3098	0.5097	2.0	0 K
960 Winter	0.0	0.0	39.3112	0.5112	2.0	0 K
1440 Winter	0.0	0.0	39.3042	0.5042	2.0	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	70.01	19
30 Summer	45.61	34
60 Summer	28.45	64
120 Summer	17.24	122
180 Summer	12.74	182
240 Summer	10.24	242
360 Summer	7.48	360
480 Summer	5.99	478
600 Summer	5.03	524
720 Summer	4.37	582
960 Summer	3.49	704
1440 Summer	2.54	978
2160 Summer	1.85	1384
2880 Summer	1.47	1788
4320 Summer	1.07	2592
5760 Summer	0.85	3392
7200 Summer	0.71	4112
8640 Summer	0.62	4920
10080 Summer	0.55	5648
15 Winter	70.01	19
30 Winter	45.61	33
60 Winter	28.45	62
120 Winter	17.24	120
180 Winter	12.74	180
240 Winter	10.24	236
360 Winter	7.48	350
480 Winter	5.99	460
600 Winter	5.03	564
720 Winter	4.37	600
960 Winter	3.49	738
1440 Winter	2.54	1040

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Micro Drainage		Source Control W.11.4 net

Summary of Results for 30 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
2160 Winter	0.0	0.0	39.2822	0.4822	1.9	0 K
2880 Winter	0.0	0.0	39.2572	0.4572	1.8	0 K
4320 Winter	0.0	0.0	39.2097	0.4097	1.6	0 K
5760 Winter	0.0	0.0	39.1692	0.3692	1.5	0 K
7200 Winter	0.0	0.0	39.1358	0.3357	1.3	0 K
8640 Winter	0.0	0.0	39.1078	0.3077	1.2	0 K
10080 Winter	0.0	0.0	39.0842	0.2842	1.1	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
2160 Winter	1.85	1492
2880 Winter	1.47	1928
4320 Winter	1.07	2764
5760 Winter	0.85	3568
7200 Winter	0.71	4328
8640 Winter	0.62	5104
10080 Winter	0.55	5856

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Date 8th July 2010 File 1.8 dia.SRC	Designed By VH Checked By	
Micro Drainage	Source Control W.11.4 net	

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

Half Drain Time : 819 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	39.1313	0.3312	1.3	0 K
30 Summer	0.0	0.0	39.2328	0.4327	1.7	0 K
60 Summer	0.0	0.0	39.3368	0.5367	2.1	0 K
120 Summer	0.0	0.0	39.4358	0.6358	2.5	0 K
180 Summer	0.0	0.0	39.4873	0.6873	2.7	0 K
240 Summer	0.0	0.0	39.5173	0.7173	2.8	0 K
360 Summer	0.0	0.0	39.5448	0.7448	3.0	0 K
480 Summer	0.0	0.0	39.5553	0.7553	3.0	0 K
600 Summer	0.0	0.0	39.5588	0.7588	3.0	0 K
720 Summer	0.0	0.0	39.5618	0.7618	3.0	0 K
960 Summer	0.0	0.0	39.5638	0.7638	3.0	0 K
1440 Summer	0.0	0.0	39.5578	0.7578	3.0	0 K
2160 Summer	0.0	0.0	39.5348	0.7348	2.9	0 K
2880 Summer	0.0	0.0	39.5068	0.7068	2.8	0 K
4320 Summer	0.0	0.0	39.4498	0.6498	2.6	0 K
5760 Summer	0.0	0.0	39.3983	0.5983	2.4	0 K
7200 Summer	0.0	0.0	39.3543	0.5542	2.2	0 K
8640 Summer	0.0	0.0	39.3168	0.5167	2.1	0 K
10080 Summer	0.0	0.0	39.2842	0.4842	1.9	0 K
15 Winter	0.0	0.0	39.1713	0.3712	1.5	0 K
30 Winter	0.0	0.0	39.2852	0.4852	1.9	0 K
60 Winter	0.0	0.0	39.4013	0.6013	2.4	0 K
120 Winter	0.0	0.0	39.5133	0.7133	2.8	0 K
180 Winter	0.0	0.0	39.5713	0.7713	3.1	0 K
240 Winter	0.0	0.0	39.6053	0.8053	3.2	0 K
360 Winter	0.0	0.0	39.6383	0.8383	3.3	0 K
480 Winter	0.0	0.0	39.6523	0.8523	3.4	0 K
600 Winter	0.0	0.0	39.6563	0.8563	3.4	0 K
720 Winter	0.0	0.0	39.6543	0.8543	3.4	0 K
960 Winter	0.0	0.0	39.6538	0.8538	3.4	0 K
1440 Winter	0.0	0.0	39.6368	0.8368	3.3	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	117.77	19
30 Summer	77.43	34
60 Summer	48.56	64
120 Summer	29.48	122
180 Summer	21.75	182
240 Summer	17.44	242
360 Summer	12.67	360
480 Summer	10.10	478
600 Summer	8.46	524
720 Summer	7.33	582
960 Summer	5.83	704
1440 Summer	4.22	978
2160 Summer	3.04	1384
2880 Summer	2.41	1788
4320 Summer	1.74	2592
5760 Summer	1.38	3392
7200 Summer	1.15	4112
8640 Summer	0.99	4920
10080 Summer	0.87	5648
15 Winter	117.77	19
30 Winter	77.43	33
60 Winter	48.56	62
120 Winter	29.48	120
180 Winter	21.75	180
240 Winter	17.44	236
360 Winter	12.67	350
480 Winter	10.10	460
600 Winter	8.46	564
720 Winter	7.33	600
960 Winter	5.83	738
1440 Winter	4.22	1040

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Micro Drainage		Source Control W.11.4 net

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

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
2160 Winter	0.0	0.0	39.5948	0.7948	3.2	0 K
2880 Winter	0.0	0.0	39.5493	0.7493	3.0	0 K
4320 Winter	0.0	0.0	39.4663	0.6663	2.6	0 K
5760 Winter	0.0	0.0	39.3973	0.5973	2.4	0 K
7200 Winter	0.0	0.0	39.3403	0.5402	2.1	0 K
8640 Winter	0.0	0.0	39.2932	0.4932	2.0	0 K
10080 Winter	0.0	0.0	39.2537	0.4537	1.8	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
2160 Winter	3.04	1492
2880 Winter	2.41	1928
4320 Winter	1.74	2764
5760 Winter	1.38	3568
7200 Winter	1.15	4328
8640 Winter	0.99	5104
10080 Winter	0.87	5856