

Cellular Storage Details

Infil Coef - Base (m/hr)	0.036000	Porosity	0.95
Infil Coef - Sides (m/hr)	0.036000	Invert Level (m)	0.000
Safety Factor	2.0	Ground Level (m)	0.400

Depth (m)	Area (m ²)	Infil. Area (m ²)	Depth (m)	Area (m ²)	Infil. Area (m ²)	Depth (m)	Area (m ²)	Infil. Area (m ²)	Depth (m)	Area (m ²)	Infil. Area (m ²)
0.00	90.0	90.0	0.70	0.0	105.2	1.40	0.0	105.2	2.10	0.0	105.2
0.10	90.0	93.8	0.80	0.0	105.2	1.50	0.0	105.2	2.20	0.0	105.2
0.20	90.0	97.6	0.90	0.0	105.2	1.60	0.0	105.2	2.30	0.0	105.2
0.30	90.0	101.4	1.00	0.0	105.2	1.70	0.0	105.2	2.40	0.0	105.2
0.40	90.0	105.2	1.10	0.0	105.2	1.80	0.0	105.2	2.50	0.0	105.2
0.50	0.0	105.2	1.20	0.0	105.2	1.90	0.0	105.2			
0.60	0.0	105.2	1.30	0.0	105.2	2.00	0.0	105.2			

Note:

Infiltration Rate = 1×10^{-5} m/s

Area = 10.0m x 9.0m x 0.4m deep

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Date 01 July 2010	Designed By VH	
File EAST.SRC	Checked By	
Micro Drainage		Source Control W.11.4 net

Rainfall Details

Region	ENG+WAL	Cv (Summer)	0.750	Summer Storms	Yes
Return Period (years)	30	Cv (Winter)	0.840	Winter Storms	Yes
M5-60 (mm)	18.600	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.400	Longest Storm (mins)	10080		

Time / Area Diagram

Total Area (ha) = 0.061

Time from:	(mins) to:	Area (ha)
0	4	0.061

Summary of Results for 10 year Return Period

Half Drain Time : 219 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	0.5	0.5	0.0708	0.0708	6.1	0 K
30 Summer	0.5	0.5	0.0898	0.0898	7.7	0 K
60 Summer	0.5	0.5	0.1063	0.1063	9.1	0 K
120 Summer	0.5	0.5	0.1178	0.1178	10.1	0 K
180 Summer	0.5	0.5	0.1203	0.1203	10.3	0 K
240 Summer	0.5	0.5	0.1208	0.1208	10.3	0 K
360 Summer	0.5	0.5	0.1193	0.1193	10.2	0 K
480 Summer	0.5	0.5	0.1163	0.1163	10.0	0 K
600 Summer	0.5	0.5	0.1128	0.1128	9.6	0 K
720 Summer	0.5	0.5	0.1083	0.1083	9.3	0 K
960 Summer	0.5	0.5	0.0998	0.0998	8.5	0 K
1440 Summer	0.5	0.5	0.0833	0.0833	7.1	0 K
2160 Summer	0.5	0.5	0.0643	0.0643	5.5	0 K
2880 Summer	0.5	0.5	0.0513	0.0513	4.4	0 K
4320 Summer	0.4	0.4	0.0407	0.0407	3.5	0 K
5760 Summer	0.3	0.3	0.0342	0.0342	2.9	0 K
7200 Summer	0.3	0.3	0.0292	0.0292	2.5	0 K
8640 Summer	0.2	0.2	0.0262	0.0262	2.2	0 K
10080 Summer	0.2	0.2	0.0237	0.0237	2.0	0 K
15 Winter	0.5	0.5	0.0798	0.0798	6.8	0 K
30 Winter	0.5	0.5	0.1008	0.1008	8.6	0 K
60 Winter	0.5	0.5	0.1203	0.1203	10.3	0 K
120 Winter	0.5	0.5	0.1343	0.1343	11.5	0 K
180 Winter	0.5	0.5	0.1383	0.1383	11.8	0 K
240 Winter	0.5	0.5	0.1383	0.1383	11.8	0 K
360 Winter	0.5	0.5	0.1353	0.1353	11.6	0 K
480 Winter	0.5	0.5	0.1303	0.1303	11.1	0 K
600 Winter	0.5	0.5	0.1243	0.1243	10.6	0 K
720 Winter	0.5	0.5	0.1178	0.1178	10.1	0 K
960 Winter	0.5	0.5	0.1038	0.1038	8.9	0 K
1440 Winter	0.5	0.5	0.0788	0.0788	6.7	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
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15 Summer	55.64	18
30 Summer	35.95	33
60 Summer	22.31	62
120 Summer	13.50	120
180 Summer	9.99	164
240 Summer	8.04	192
360 Summer	5.91	258
480 Summer	4.75	326
600 Summer	4.00	394
720 Summer	3.48	462
960 Summer	2.79	596
1440 Summer	2.04	852
2160 Summer	1.50	1212
2880 Summer	1.20	1532
4320 Summer	0.88	2252
5760 Summer	0.70	2992
7200 Summer	0.59	3680
8640 Summer	0.51	4416
10080 Summer	0.45	5144
15 Winter	55.64	18
30 Winter	35.95	32
60 Winter	22.31	62
120 Winter	13.50	118
180 Winter	9.99	174
240 Winter	8.04	224
360 Winter	5.91	278
480 Winter	4.75	354
600 Winter	4.00	428
720 Winter	3.48	504
960 Winter	2.79	644
1440 Winter	2.04	896

Note:

1 in 10 year water level below invert of incoming pipe

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	0.5	0.5	0.0528	0.0528	4.5	0 K
2880 Winter	0.4	0.4	0.0432	0.0432	3.7	0 K
4320 Winter	0.3	0.3	0.0327	0.0327	2.8	0 K
5760 Winter	0.2	0.2	0.0267	0.0267	2.3	0 K
7200 Winter	0.2	0.2	0.0227	0.0227	1.9	0 K
8640 Winter	0.2	0.2	0.0197	0.0197	1.7	0 K
10080 Winter	0.2	0.2	0.0178	0.0178	1.5	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
2160 Winter	1.50	1216
2880 Winter	1.20	1560
4320 Winter	0.88	2292
5760 Winter	0.70	3000
7200 Winter	0.59	3744
8640 Winter	0.51	4488
10080 Winter	0.45	5136

Summary of Results for 30 year Return Period

Half Drain Time : 293 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	0.5	0.5	0.0903	0.0903	7.7	0 K
30 Summer	0.5	0.5	0.1158	0.1158	9.9	0 K
60 Summer	0.5	0.5	0.1388	0.1388	11.9	0 K
120 Summer	0.5	0.5	0.1567	0.1567	13.4	0 K
180 Summer	0.5	0.5	0.1622	0.1622	13.9	0 K
240 Summer	0.5	0.5	0.1632	0.1632	13.9	0 K
360 Summer	0.5	0.5	0.1607	0.1607	13.8	0 K
480 Summer	0.5	0.5	0.1577	0.1577	13.5	0 K
600 Summer	0.5	0.5	0.1532	0.1532	13.1	0 K
720 Summer	0.5	0.5	0.1483	0.1483	12.7	0 K
960 Summer	0.5	0.5	0.1383	0.1383	11.8	0 K
1440 Summer	0.5	0.5	0.1188	0.1188	10.1	0 K
2160 Summer	0.5	0.5	0.0928	0.0928	7.9	0 K
2880 Summer	0.5	0.5	0.0733	0.0733	6.2	0 K
4320 Summer	0.5	0.5	0.0497	0.0497	4.3	0 K
5760 Summer	0.4	0.4	0.0417	0.0417	3.6	0 K
7200 Summer	0.3	0.3	0.0357	0.0357	3.1	0 K
8640 Summer	0.3	0.3	0.0317	0.0317	2.7	0 K
10080 Summer	0.3	0.3	0.0282	0.0282	2.4	0 K
15 Winter	0.5	0.5	0.1018	0.1018	8.7	0 K
30 Winter	0.5	0.5	0.1303	0.1303	11.1	0 K
60 Winter	0.5	0.5	0.1567	0.1567	13.4	0 K
120 Winter	0.5	0.5	0.1787	0.1787	15.3	0 K
180 Winter	0.5	0.5	0.1862	0.1862	15.9	0 K
240 Winter	0.5	0.5	0.1882	0.1882	16.1	0 K
360 Winter	0.5	0.5	0.1837	0.1837	15.7	0 K
480 Winter	0.5	0.5	0.1792	0.1792	15.3	0 K
600 Winter	0.5	0.5	0.1727	0.1727	14.8	0 K
720 Winter	0.5	0.5	0.1657	0.1657	14.2	0 K
960 Winter	0.5	0.5	0.1503	0.1503	12.8	0 K
1440 Winter	0.5	0.5	0.1198	0.1198	10.3	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	70.41	18
30 Summer	45.87	33
60 Summer	28.61	62
120 Summer	17.34	122
180 Summer	12.81	180
240 Summer	10.29	220
360 Summer	7.52	278
480 Summer	6.02	342
600 Summer	5.06	410
720 Summer	4.39	478
960 Summer	3.51	616
1440 Summer	2.55	880
2160 Summer	1.86	1256
2880 Summer	1.48	1612
4320 Summer	1.07	2252
5760 Summer	0.86	2992
7200 Summer	0.72	3680
8640 Summer	0.62	4416
10080 Summer	0.55	5144
15 Winter	70.41	18
30 Winter	45.87	33
60 Winter	28.61	62
120 Winter	17.34	118
180 Winter	12.81	176
240 Winter	10.29	230
360 Winter	7.52	298
480 Winter	6.02	370
600 Winter	5.06	446
720 Winter	4.39	522
960 Winter	3.51	666
1440 Winter	2.55	940

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 (m³)	Status
2160 Winter	0.5	0.5	0.0818	0.0818	7.0	0 K
2880 Winter	0.5	0.5	0.0558	0.0558	4.8	0 K
4320 Winter	0.4	0.4	0.0402	0.0402	3.4	0 K
5760 Winter	0.3	0.3	0.0327	0.0327	2.8	0 K
7200 Winter	0.3	0.3	0.0277	0.0277	2.4	0 K
8640 Winter	0.2	0.2	0.0237	0.0237	2.1	0 K
10080 Winter	0.2	0.2	0.0212	0.0212	1.8	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
2160 Winter	1.86	1316
2880 Winter	1.48	1616
4320 Winter	1.07	2292
5760 Winter	0.86	3000
7200 Winter	0.72	3704
8640 Winter	0.62	4496
10080 Winter	0.55	5152

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Date 01 July 2010 File EAST.SRC	Designed By VH Checked By	
Micro Drainage		

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

Half Drain Time : 523 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	0.5	0.5	0.1542	0.1542	13.2	0 K
30 Summer	0.5	0.5	0.2002	0.2002	17.1	FLOOD RISK
60 Summer	0.5	0.5	0.2452	0.2452	20.9	FLOOD RISK
120 Summer	0.5	0.5	0.2842	0.2842	24.3	FLOOD RISK
180 Summer	0.5	0.5	0.3012	0.3012	25.8	FLOOD RISK
240 Summer	0.5	0.5	0.3082	0.3082	26.4	FLOOD RISK
360 Summer	0.5	0.5	0.3087	0.3087	26.4	FLOOD RISK
480 Summer	0.5	0.5	0.3037	0.3037	26.0	FLOOD RISK
600 Summer	0.5	0.5	0.2982	0.2982	25.5	FLOOD RISK
720 Summer	0.5	0.5	0.2922	0.2922	25.0	FLOOD RISK
960 Summer	0.5	0.5	0.2797	0.2797	23.9	FLOOD RISK
1440 Summer	0.5	0.5	0.2542	0.2542	21.7	FLOOD RISK
2160 Summer	0.5	0.5	0.2177	0.2177	18.6	FLOOD RISK
2880 Summer	0.5	0.5	0.1852	0.1852	15.8	0 K
4320 Summer	0.5	0.5	0.1313	0.1313	11.2	0 K
5760 Summer	0.5	0.5	0.0918	0.0918	7.8	0 K
7200 Summer	0.5	0.5	0.0653	0.0653	5.6	0 K
8640 Summer	0.5	0.5	0.0507	0.0507	4.3	0 K
10080 Summer	0.4	0.4	0.0452	0.0452	3.9	0 K
15 Winter	0.5	0.5	0.1732	0.1732	14.8	0 K
30 Winter	0.5	0.5	0.2252	0.2252	19.2	FLOOD RISK
60 Winter	0.5	0.5	0.2762	0.2762	23.6	FLOOD RISK
120 Winter	0.5	0.5	0.3222	0.3222	27.5	FLOOD RISK
180 Winter	0.5	0.5	0.3427	0.3427	29.3	FLOOD RISK
240 Winter	0.5	0.5	0.3527	0.3527	30.2	FLOOD RISK
360 Winter	0.5	0.5	0.3567	0.3567	30.5	FLOOD RISK
480 Winter	0.5	0.5	0.3532	0.3532	30.2	FLOOD RISK
600 Winter	0.5	0.5	0.3447	0.3447	29.5	FLOOD RISK
720 Winter	0.5	0.5	0.3372	0.3372	28.8	FLOOD RISK
960 Winter	0.5	0.5	0.3207	0.3207	27.4	FLOOD RISK
1440 Winter	0.5	0.5	0.2837	0.2837	24.3	FLOOD RISK

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	118.47	19
30 Summer	77.88	33
60 Summer	48.84	64
120 Summer	29.64	122
180 Summer	21.86	182
240 Summer	17.52	242
360 Summer	12.72	360
480 Summer	10.14	416
600 Summer	8.50	476
720 Summer	7.36	538
960 Summer	5.85	672
1440 Summer	4.23	940
2160 Summer	3.06	1344
2880 Summer	2.42	1732
4320 Summer	1.75	2464
5760 Summer	1.38	3168
7200 Summer	1.15	3816
8640 Summer	0.99	4416
10080 Summer	0.87	5144
15 Winter	118.47	19
30 Winter	77.88	33
60 Winter	48.84	62
120 Winter	29.64	120
180 Winter	21.86	178
240 Winter	17.52	236
360 Winter	12.72	348
480 Winter	10.14	456
600 Winter	8.50	552
720 Winter	7.36	572
960 Winter	5.85	724
1440 Winter	4.23	1026

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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	0.5	0.5	0.2292	0.2292	19.6	FLOOD RISK
2880 Winter	0.5	0.5	0.1807	0.1807	15.4	0 K
4320 Winter	0.5	0.5	0.1028	0.1028	8.8	0 K
5760 Winter	0.5	0.5	0.0558	0.0558	4.8	0 K
7200 Winter	0.4	0.4	0.0442	0.0442	3.8	0 K
8640 Winter	0.4	0.4	0.0382	0.0382	3.3	0 K
10080 Winter	0.3	0.3	0.0337	0.0337	2.9	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
2160 Winter	3.06	1452
2880 Winter	2.42	1848
4320 Winter	1.75	2552
5760 Winter	1.38	3120
7200 Winter	1.15	3744
8640 Winter	0.99	4488
10080 Winter	0.87	5240