

Lancaster Court
 8 Barnes Wallis Road
 Fareham PO15 5TU

DOWNEND ROAD PORCHESTER
 INFILTRATION BASIN 3
 FOS 1.5 1-100 STORM



Date 21.06.2021
 File basin 3-100.SRCX

Designed by RW
 Checked by

XP Solutions Source Control 2014.1

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

Half Drain Time : 2005 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	23.716	0.466	0.9	162.8	O K
30 min Summer	23.734	0.484	0.9	170.6	O K
60 min Summer	23.754	0.504	1.0	179.3	O K
120 min Summer	23.776	0.526	1.0	189.2	O K
180 min Summer	23.789	0.539	1.0	195.4	O K
240 min Summer	23.799	0.549	1.0	199.8	O K
360 min Summer	23.811	0.561	1.0	205.7	O K
480 min Summer	23.812	0.562	1.0	206.0	O K
600 min Summer	23.809	0.559	1.0	204.7	O K
720 min Summer	23.806	0.556	1.0	203.0	O K
960 min Summer	23.796	0.546	1.0	198.5	O K
1440 min Summer	23.773	0.523	1.0	188.2	O K
2160 min Summer	23.737	0.487	0.9	172.0	O K
2880 min Summer	23.700	0.450	0.9	156.1	O K
4320 min Summer	23.674	0.424	0.9	144.9	O K
5760 min Summer	23.672	0.422	0.9	144.3	O K
7200 min Summer	23.671	0.421	0.9	143.9	O K
8640 min Summer	23.671	0.421	0.9	143.6	O K
10080 min Summer	23.670	0.420	0.9	143.5	O K
15 min Winter	23.722	0.472	0.9	165.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	124.633	0.0	322
30 min Summer	83.789	0.0	321
60 min Summer	53.779	0.0	320
120 min Summer	33.337	0.0	320
180 min Summer	24.832	0.0	316
240 min Summer	20.006	0.0	316
360 min Summer	14.706	0.0	362
480 min Summer	11.818	0.0	468
600 min Summer	9.966	0.0	488
720 min Summer	8.665	0.0	554
960 min Summer	6.943	0.0	664
1440 min Summer	5.071	0.0	940
2160 min Summer	3.696	0.0	1360
2880 min Summer	2.949	0.0	1756
4320 min Summer	2.142	0.0	336
5760 min Summer	1.705	0.0	336
7200 min Summer	1.427	0.0	328
8640 min Summer	1.235	0.0	328
10080 min Summer	1.093	0.0	328
15 min Winter	124.633	0.0	322

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Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
30 min Winter	23.742	0.492	0.9	174.1	O K
60 min Winter	23.764	0.514	1.0	183.9	O K
120 min Winter	23.788	0.538	1.0	194.9	O K
180 min Winter	23.803	0.553	1.0	201.8	O K
240 min Winter	23.814	0.564	1.0	206.7	O K
360 min Winter	23.828	0.578	1.0	213.5	O K
480 min Winter	23.830	0.580	1.0	214.7	O K
600 min Winter	23.827	0.577	1.0	213.2	O K
720 min Winter	23.823	0.573	1.0	211.3	O K
960 min Winter	23.813	0.563	1.0	206.5	O K
1440 min Winter	23.789	0.539	1.0	195.6	O K
2160 min Winter	23.751	0.501	1.0	178.2	O K
2880 min Winter	23.712	0.462	0.9	161.2	O K
4320 min Winter	23.673	0.423	0.9	144.5	O K
5760 min Winter	23.671	0.421	0.9	143.7	O K
7200 min Winter	23.670	0.420	0.9	143.2	O K
8640 min Winter	23.669	0.419	0.9	142.9	O K
10080 min Winter	23.668	0.418	0.9	142.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
30 min Winter	83.789	0.0	321
60 min Winter	53.779	0.0	320
120 min Winter	33.337	0.0	320
180 min Winter	24.832	0.0	316
240 min Winter	20.006	0.0	316
360 min Winter	14.706	0.0	356
480 min Winter	11.818	0.0	462
600 min Winter	9.966	0.0	560
720 min Winter	8.665	0.0	572
960 min Winter	6.943	0.0	722
1440 min Winter	5.071	0.0	1024
2160 min Winter	3.696	0.0	1468
2880 min Winter	2.949	0.0	1876
4320 min Winter	2.142	0.0	348
5760 min Winter	1.705	0.0	336
7200 min Winter	1.427	0.0	328
8640 min Winter	1.235	0.0	328
10080 min Winter	1.093	0.0	328

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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 %	+40

Time Area Diagram

Total Area (ha) 0.100

Time (mins)	Area
From: To:	(ha)
0	4 0.100

Paul Basham Associates		Page 4
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Model Details

Storage is Online Cover Level (m) 24.768

Infiltration Basin Structure

Invert Level (m) 23.250 Safety Factor 1.5
 Infiltration Coefficient Base (m/hr) 0.00830 Porosity 1.00
 Infiltration Coefficient Side (m/hr) 0.00830

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	269.6	0.501	444.6	1.001	633.8	1.501	837.0
0.101	303.5	0.601	481.3	1.101	673.3	1.518	844.3
0.201	337.9	0.701	518.6	1.201	713.4		
0.301	372.9	0.801	556.4	1.301	754.0		
0.401	408.5	0.901	594.8	1.401	795.2		