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

Half Drain Time : 379 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	8.732	0.232	0.0	1.2	1.2	24.3	O K
30 min Summer	8.837	0.337	0.0	1.4	1.4	35.3	O K
60 min Summer	8.963	0.463	0.0	1.6	1.6	48.4	O K
120 min Summer	9.087	0.587	0.0	1.9	1.9	61.4	O K
180 min Summer	9.148	0.648	0.0	1.9	1.9	67.8	O K
240 min Summer	9.185	0.685	0.0	2.0	2.0	71.6	O K
360 min Summer	9.227	0.727	0.0	2.1	2.1	76.1	O K
480 min Summer	9.253	0.753	0.0	2.1	2.1	78.8	O K
600 min Summer	9.268	0.768	0.0	2.1	2.1	80.3	O K
720 min Summer	9.275	0.775	0.0	2.1	2.1	81.2	O K
960 min Summer	9.278	0.778	0.0	2.1	2.1	81.4	O K
1440 min Summer	9.261	0.761	0.0	2.1	2.1	79.7	O K
2160 min Summer	9.221	0.721	0.0	2.1	2.1	75.5	O K
2880 min Summer	9.179	0.679	0.0	2.0	2.0	71.0	O K
4320 min Summer	9.105	0.605	0.0	1.9	1.9	63.3	O K
5760 min Summer	9.048	0.548	0.0	1.8	1.8	57.3	O K
7200 min Summer	8.998	0.498	0.0	1.7	1.7	52.1	O K
8640 min Summer	8.954	0.454	0.0	1.6	1.6	47.5	O K
10080 min Summer	8.917	0.417	0.0	1.6	1.6	43.6	O K
15 min Winter	8.732	0.232	0.0	1.2	1.2	24.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	113.755	0.0	24.6	19
30 min Summer	84.004	0.0	36.4	33
60 min Summer	59.321	0.0	52.1	62
120 min Summer	39.696	0.0	69.7	122
180 min Summer	30.759	0.0	81.0	180
240 min Summer	25.620	0.0	90.0	240
360 min Summer	19.710	0.0	103.9	300
480 min Summer	16.310	0.0	114.6	362
600 min Summer	14.057	0.0	123.4	428
720 min Summer	12.435	0.0	131.0	498
960 min Summer	10.225	0.0	143.6	636
1440 min Summer	7.757	0.0	163.2	912
2160 min Summer	5.899	0.0	186.8	1320
2880 min Summer	4.868	0.0	205.5	1728
4320 min Summer	3.742	0.0	236.8	2504
5760 min Summer	3.133	0.0	264.6	3232
7200 min Summer	2.734	0.0	288.6	3968
8640 min Summer	2.445	0.0	309.7	4752
10080 min Summer	2.224	0.0	328.5	5448
15 min Winter	113.755	0.0	24.6	18

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	8.838	0.338	0.0	1.4	1.4	35.3	O K
60 min Winter	8.963	0.463	0.0	1.6	1.6	48.5	O K
120 min Winter	9.089	0.589	0.0	1.9	1.9	61.6	O K
180 min Winter	9.151	0.651	0.0	2.0	2.0	68.1	O K
240 min Winter	9.190	0.690	0.0	2.0	2.0	72.2	O K
360 min Winter	9.229	0.729	0.0	2.1	2.1	76.3	O K
480 min Winter	9.251	0.751	0.0	2.1	2.1	78.6	O K
600 min Winter	9.262	0.762	0.0	2.1	2.1	79.8	O K
720 min Winter	9.265	0.765	0.0	2.1	2.1	80.1	O K
960 min Winter	9.257	0.757	0.0	2.1	2.1	79.2	O K
1440 min Winter	9.218	0.718	0.0	2.1	2.1	75.1	O K
2160 min Winter	9.148	0.648	0.0	2.0	2.0	67.9	O K
2880 min Winter	9.084	0.584	0.0	1.9	1.9	61.1	O K
4320 min Winter	8.980	0.480	0.0	1.7	1.7	50.2	O K
5760 min Winter	8.905	0.405	0.0	1.5	1.5	42.4	O K
7200 min Winter	8.846	0.346	0.0	1.4	1.4	36.2	O K
8640 min Winter	8.799	0.299	0.0	1.3	1.3	31.3	O K
10080 min Winter	8.761	0.261	0.0	1.2	1.2	27.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	84.004	0.0	36.4	33
60 min Winter	59.321	0.0	52.1	62
120 min Winter	39.696	0.0	69.7	120
180 min Winter	30.759	0.0	81.0	176
240 min Winter	25.620	0.0	90.0	232
360 min Winter	19.710	0.0	103.9	332
480 min Winter	16.310	0.0	114.6	376
600 min Winter	14.057	0.0	123.4	454
720 min Winter	12.435	0.0	131.0	532
960 min Winter	10.225	0.0	143.6	684
1440 min Winter	7.757	0.0	163.2	980
2160 min Winter	5.899	0.0	186.8	1404
2880 min Winter	4.868	0.0	205.5	1816
4320 min Winter	3.742	0.0	236.9	2592
5760 min Winter	3.133	0.0	264.6	3344
7200 min Winter	2.734	0.0	288.6	4104
8640 min Winter	2.445	0.0	309.7	4840
10080 min Winter	2.224	0.0	328.6	5552

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.900	Shortest Storm (mins)	15
Ratio R	0.200	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.088

Time (mins) From:	To:	Area (ha)
0	4	0.088

Model Details

Storage is Online Cover Level (m) 10.000

Cellular Storage Structure

Invert Level (m) 8.500 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	110.2	110.2	0.841	0.0	143.8
0.840	110.2	143.8			

Crown Vortex Valve® Outflow Control

Design Head (m) 0.840 Vortex Valve® Type R1 SW Only Invert Level (m) 8.500
Design Flow (l/s) 2.2 Diameter (mm) 64

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.9	1.200	2.7	3.000	4.2	7.000	6.4
0.200	1.1	1.400	2.9	3.500	4.5	7.500	6.6
0.300	1.3	1.600	3.1	4.000	4.8	8.000	6.9
0.400	1.5	1.800	3.3	4.500	5.1	8.500	7.1
0.500	1.7	2.000	3.4	5.000	5.4	9.000	7.3
0.600	1.9	2.200	3.6	5.500	5.7	9.500	7.5
0.800	2.2	2.400	3.8	6.000	5.9		
1.000	2.4	2.600	3.9	6.500	6.2		