Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 219 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	39.376	0.506	0.0	2.5	2.5	43.7	O K
30 min Summer	39.461	0.591	0.0	2.6	2.6	51.1	O K
60 min Summer	39.544	0.674	0.0	2.8	2.8	58.2	O K
120 min Summer	39.605	0.735	0.0	2.9	2.9	63.5	O K
180 min Summer	39.618	0.748	0.0	3.0	3.0	64.7	O K
240 min Summer	39.621	0.751	0.0	3.0	3.0	64.9	O K
360 min Summer	39.616	0.746	0.0	3.0	3.0	64.5	O K
480 min Summer	39.602	0.732	0.0	2.9	2.9	63.3	O K
600 min Summer	39.585	0.715	0.0	2.9	2.9	61.8	O K
720 min Summer	39.567	0.697	0.0	2.9	2.9	60.2	O K
960 min Summer	39.528	0.658	0.0	2.8	2.8	56.9	O K
1440 min Summer	39.455	0.585	0.0	2.6	2.6	50.6	O K
2160 min Summer	39.359	0.489	0.0	2.4	2.4	42.3	O K
2880 min Summer	39.278	0.408	0.0	2.2	2.2	35.3	O K
4320 min Summer	39.119	0.249	0.0	1.9	1.9	21.5	O K
5760 min Summer	39.004	0.134	0.0	1.9	1.9	11.6	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	182.617	22
30 min Summer	109.552	37
60 min Summer	65.720	66
120 min Summer	39.426	124
180 min Summer	29.239	170
240 min Summer	23.652	198
360 min Summer	17.541	264
480 min Summer	14.189	332
600 min Summer	12.036	402
720 min Summer	10.523	472
960 min Summer	8.504	610
1440 min Summer	6.299	882
2160 min Summer	4.666	1276
2880 min Summer	3.771	1648
4320 min Summer	2.695	2384
5760 min Summer	2.124	3048

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Summary of Results for 100 year Return Period (+45%)

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
7200 min Summer	38.959	0.089	0.0	1.8	1.8	7.7	O K
8640 min Summer	38.939	0.069	0.0	1.6	1.6	6.0	O K
10080 min Summer	38.927	0.057	0.0	1.4	1.4	4.9	O K
15 min Winter	39.376	0.506	0.0	2.5	2.5	43.8	O K
30 min Winter	39.462	0.592	0.0	2.6	2.6	51.2	O K
60 min Winter	39.545	0.675	0.0	2.8	2.8	58.4	O K
120 min Winter	39.610	0.740	0.0	3.0	3.0	64.0	O K
180 min Winter	39.626	0.756	0.0	3.0	3.0	65.4	O K
240 min Winter	39.624	0.754	0.0	3.0	3.0	65.2	O K
360 min Winter	39.614	0.744	0.0	3.0	3.0	64.3	O K
480 min Winter	39.592	0.722	0.0	2.9	2.9	62.4	O K
600 min Winter	39.565	0.695	0.0	2.9	2.9	60.1	O K
720 min Winter	39.536	0.666	0.0	2.8	2.8	57.6	O K
960 min Winter	39.479	0.609	0.0	2.7	2.7	52.6	O K
1440 min Winter	39.374	0.504	0.0	2.5	2.5	43.6	O K
2160 min Winter	39.243	0.373	0.0	2.2	2.2	32.2	O K
2880 min Winter	39.128	0.258	0.0	1.9	1.9	22.3	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
7200 min Summer	1.766	3680
8640 min Summer	1.518	4408
10080 min Summer	1.336	5136
15 min Winter	182.617	22
30 min Winter	109.552	36
60 min Winter	65.720	64
120 min Winter	39.426	122
180 min Winter	29.239	176
240 min Winter	23.652	204
360 min Winter	17.541	278
480 min Winter	14.189	356
600 min Winter	12.036	432
720 min Winter	10.523	506
960 min Winter	8.504	650
1440 min Winter	6.299	930
2160 min Winter	4.666	1344
2880 min Winter	3.771	1732

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Summary of Results for 100 year Return Period (+45%)

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
4320 min Winter	38.962	0.092	0.0	1.8	1.8	8.0	O K
5760 min Winter	38.929	0.059	0.0	1.5	1.5	5.1	O K
7200 min Winter	38.916	0.046	0.0	1.2	1.2	4.0	O K
8640 min Winter	38.908	0.038	0.0	1.1	1.1	3.3	O K
10080 min Winter	38.902	0.032	0.0	0.9	0.9	2.8	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
4320 min Winter	2.695	2296
5760 min Winter	2.124	2944
7200 min Winter	1.766	3672
8640 min Winter	1.518	4408
10080 min Winter	1.336	5096

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Rainfall Details

Rainfall Model	FEH	F (1km)	2.420
Return Period (years)	100	Summer Storms	Yes
Site Location	GB 471550 172100	Winter Storms	Yes
C (1km)	-0.027	Cv (Summer)	1.000
D1 (1km)	0.387	Cv (Winter)	1.000
D2 (1km)	0.384	Shortest Storm (mins)	15
D3 (1km)	0.296	Longest Storm (mins)	10080
E (1km)	0.303	Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.100

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.000	4-8	0.100

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Model Details

Storage is Online Cover Level (m) 39.670

Cellular Storage Structure

Invert Level (m) 38.870 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	91.0	0.0	0.800	91.0	0.0

Hydro-Brake® Outflow Control

Design Head (m) 0.790 Hydro-Brake® Type Md5 SW Only Invert Level (m) 38.850
Design Flow (l/s) 3.0 Diameter (mm) 75

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.7	1.200	3.7	3.000	5.9	7.000	9.0
0.200	1.9	1.400	4.0	3.500	6.4	7.500	9.4
0.300	2.0	1.600	4.3	4.000	6.8	8.000	9.7
0.400	2.2	1.800	4.6	4.500	7.3	8.500	10.0
0.500	2.4	2.000	4.8	5.000	7.6	9.000	10.3
0.600	2.7	2.200	5.1	5.500	8.0	9.500	10.5
0.800	3.1	2.400	5.3	6.000	8.4		
1.000	3.4	2.600	5.5	6.500	8.7		

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