

PRP

Catherine House
Old Harborough Road
Brixworth NN6 9BX

Date 27/01/2022
File 81270 - SOAKAWAY BASIN ...

Micro Drainage

Shades Farm - 81270
1 in 100 year storm + 40%CC

Designed by AGS
Checked by DE

Source Control 2018.1.1

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

Half Drain Time : 301 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	110.483	0.183	1.5	0.0	1.5	49.6	O K
30 min Summer	110.540	0.240	1.5	0.0	1.5	65.1	O K
60 min Summer	110.598	0.298	1.6	0.0	1.6	81.2	O K
120 min Summer	110.657	0.357	1.6	0.0	1.6	97.5	O K
180 min Summer	110.688	0.388	1.6	0.5	2.1	106.2	O K
240 min Summer	110.703	0.403	1.6	1.1	2.7	110.3	Flood Risk
360 min Summer	110.710	0.410	1.6	1.5	3.1	112.3	Flood Risk
480 min Summer	110.712	0.412	1.6	1.6	3.2	112.9	Flood Risk
600 min Summer	110.714	0.414	1.6	1.7	3.3	113.5	Flood Risk
720 min Summer	110.716	0.416	1.6	1.8	3.5	114.0	Flood Risk
960 min Summer	110.718	0.418	1.6	1.9	3.5	114.5	Flood Risk
1440 min Summer	110.717	0.417	1.6	1.9	3.5	114.3	Flood Risk
2160 min Summer	110.713	0.413	1.6	1.6	3.2	113.0	Flood Risk
2880 min Summer	110.707	0.407	1.6	1.3	2.9	111.6	Flood Risk
4320 min Summer	110.697	0.397	1.6	0.8	2.4	108.7	O K
5760 min Summer	110.689	0.389	1.6	0.5	2.1	106.5	O K
7200 min Summer	110.681	0.381	1.6	0.3	1.9	104.3	O K
8640 min Summer	110.673	0.373	1.6	0.1	1.7	101.9	O K
10080 min Summer	110.659	0.359	1.6	0.0	1.6	98.0	O K
15 min Winter	110.505	0.205	1.5	0.0	1.5	55.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	132.861	0.0	127.4	23
30 min Summer	87.290	0.0	129.4	38
60 min Summer	54.663	0.0	258.6	68
120 min Summer	33.095	0.0	262.4	128
180 min Summer	24.358	0.0	266.2	186
240 min Summer	19.485	0.0	270.9	244
360 min Summer	14.144	0.0	278.0	350
480 min Summer	11.275	0.0	283.3	390
600 min Summer	9.449	0.0	287.1	442
720 min Summer	8.176	0.0	289.9	502
960 min Summer	6.502	0.0	293.5	634
1440 min Summer	4.700	0.0	295.7	900
2160 min Summer	3.392	0.0	550.8	1312
2880 min Summer	2.689	0.0	548.7	1732
4320 min Summer	1.935	0.0	537.3	2592
5760 min Summer	1.531	0.0	884.5	3456
7200 min Summer	1.276	0.0	893.6	4392
8640 min Summer	1.099	0.0	901.3	5280
10080 min Summer	0.968	0.0	907.9	6264
15 min Winter	132.861	0.0	128.3	23

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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 E Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	110.568	0.268	1.6	0.0	1.6	72.9	O K
60 min Winter	110.633	0.333	1.6	0.0	1.6	90.9	O K
120 min Winter	110.697	0.397	1.6	0.8	2.4	108.5	O K
180 min Winter	110.721	0.421	1.6	2.1	3.8	115.3	Flood Risk
240 min Winter	110.729	0.429	1.6	2.6	4.2	117.6	Flood Risk
360 min Winter	110.733	0.433	1.6	3.0	4.7	118.7	Flood Risk
480 min Winter	110.737	0.437	1.6	3.4	5.0	119.8	Flood Risk
600 min Winter	110.738	0.438	1.6	3.5	5.2	120.1	Flood Risk
720 min Winter	110.738	0.438	1.6	3.5	5.2	120.1	Flood Risk
960 min Winter	110.736	0.436	1.6	3.3	5.0	119.6	Flood Risk
1440 min Winter	110.731	0.431	1.6	2.8	4.5	118.1	Flood Risk
2160 min Winter	110.722	0.422	1.6	2.2	3.8	115.6	Flood Risk
2880 min Winter	110.715	0.415	1.6	1.7	3.4	113.6	Flood Risk
4320 min Winter	110.704	0.404	1.6	1.1	2.7	110.7	Flood Risk
5760 min Winter	110.696	0.396	1.6	0.8	2.4	108.3	O K
7200 min Winter	110.689	0.389	1.6	0.5	2.1	106.4	O K
8640 min Winter	110.682	0.382	1.6	0.3	1.9	104.4	O K
10080 min Winter	110.673	0.373	1.6	0.1	1.7	102.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	87.290	0.0	130.5	37
60 min Winter	54.663	0.0	261.2	66
120 min Winter	33.095	0.0	268.4	124
180 min Winter	24.358	0.0	277.2	178
240 min Winter	19.485	0.0	283.7	232
360 min Winter	14.144	0.0	292.6	282
480 min Winter	11.275	0.0	299.1	352
600 min Winter	9.449	0.0	303.8	422
720 min Winter	8.176	0.0	307.3	494
960 min Winter	6.502	0.0	312.0	634
1440 min Winter	4.700	0.0	315.8	912
2160 min Winter	3.392	0.0	572.6	1320
2880 min Winter	2.689	0.0	571.4	1732
4320 min Winter	1.935	0.0	559.7	2596
5760 min Winter	1.531	0.0	910.8	3464
7200 min Winter	1.276	0.0	921.1	4400
8640 min Winter	1.099	0.0	929.6	5440
10080 min Winter	0.968	0.0	937.1	6456

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Model Details

Storage is Online Cover Level (m) 111.000

Infiltration Basin Structure

Invert Level (m) 110.300 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.03816 Porosity 1.00
Infiltration Coefficient Side (m/hr) 0.03816

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	268.0	0.700	288.0

Pipe Outflow Control

Diameter (m) 0.150 Entry Loss Coefficient 0.500
Slope (1:X) 150.0 Coefficient of Contraction 0.600
Length (m) 4.000 Upstream Invert Level (m) 110.660
Roughness k (mm) 0.600

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