


Broomhouse Lane Edlington Doncaster DN12 1ES	79030 119 Bristol Road Frampton Cott 10.0m x 8.0m x 1.2m	
Date 18/04/22	Designed by DR	
File T-MD-79030_DR_MD1 (1 IN...	Checked by	

Micro Drainage Source Control 2016.1

Summary of Results for 30 year Return Period (+45%)

Half Drain Time : 463 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control Σ (l/s)	Max Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	98.258	0.458	0.0	1.2	1.2	34.8	O K
30 min Summer	98.401	0.601	0.0	1.3	1.3	45.7	O K
60 min Summer	98.548	0.748	0.0	1.5	1.5	56.8	O K
120 min Summer	98.683	0.883	0.0	1.6	1.6	67.1	O K
180 min Summer	98.744	0.944	0.0	1.7	1.7	71.7	O K
240 min Summer	98.774	0.974	0.0	1.7	1.7	74.0	O K
360 min Summer	98.797	0.997	0.0	1.7	1.7	75.8	O K
480 min Summer	98.808	1.008	0.0	1.7	1.7	76.6	O K
600 min Summer	98.811	1.011	0.0	1.8	1.8	76.8	O K
720 min Summer	98.809	1.009	0.0	1.8	1.8	76.7	O K
960 min Summer	98.796	0.996	0.0	1.7	1.7	75.7	O K
1440 min Summer	98.752	0.952	0.0	1.7	1.7	72.3	O K
2160 min Summer	98.674	0.874	0.0	1.6	1.6	66.4	O K
2880 min Summer	98.600	0.800	0.0	1.6	1.6	60.8	O K
4320 min Summer	98.476	0.676	0.0	1.4	1.4	51.4	O K
5760 min Summer	98.379	0.579	0.0	1.3	1.3	44.0	O K
7200 min Summer	98.303	0.503	0.0	1.2	1.2	38.2	O K
8640 min Summer	98.242	0.442	0.0	1.1	1.1	33.6	O K
10080 min Summer	98.192	0.392	0.0	1.1	1.1	29.8	O K
15 min Winter	98.313	0.513	0.0	1.2	1.2	39.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	105.388	0.0	35.1	19
30 min Summer	70.126	0.0	46.7	33
60 min Summer	44.676	0.0	60.1	62
120 min Summer	27.603	0.0	74.3	122
180 min Summer	20.577	0.0	83.1	182
240 min Summer	16.627	0.0	89.6	240
360 min Summer	12.315	0.0	99.5	322
480 min Summer	9.939	0.0	107.1	382
600 min Summer	8.411	0.0	113.2	444
720 min Summer	7.335	0.0	118.5	512
960 min Summer	5.907	0.0	127.2	648
1440 min Summer	4.348	0.0	140.2	924
2160 min Summer	3.195	0.0	155.2	1336
2880 min Summer	2.566	0.0	166.1	1728
4320 min Summer	1.881	0.0	182.6	2504
5760 min Summer	1.508	0.0	195.4	3232
7200 min Summer	1.271	0.0	205.8	3968
8640 min Summer	1.105	0.0	214.8	4672
10080 min Summer	0.982	0.0	222.6	5440
15 min Winter	105.388	0.0	39.3	19

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Summary of Results for 30 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
30 min Winter	98.475	0.675	0.0	1.4	1.4	51.3	O K
60 min Winter	98.641	0.841	0.0	1.6	1.6	63.9	O K
120 min Winter	98.796	0.996	0.0	1.7	1.7	75.7	O K
180 min Winter	98.869	1.069	0.0	1.8	1.8	81.3	O K
240 min Winter	98.907	1.107	0.0	1.8	1.8	84.2	O K
360 min Winter	98.941	1.141	0.0	1.9	1.9	86.7	O K
480 min Winter	98.945	1.145	0.0	1.9	1.9	87.0	O K
600 min Winter	98.946	1.146	0.0	1.9	1.9	87.1	O K
720 min Winter	98.941	1.141	0.0	1.9	1.9	86.7	O K
960 min Winter	98.917	1.117	0.0	1.8	1.8	84.9	O K
1440 min Winter	98.844	1.044	0.0	1.8	1.8	79.4	O K
2160 min Winter	98.726	0.926	0.0	1.7	1.7	70.3	O K
2880 min Winter	98.618	0.818	0.0	1.6	1.6	62.1	O K
4320 min Winter	98.445	0.645	0.0	1.4	1.4	49.0	O K
5760 min Winter	98.319	0.519	0.0	1.2	1.2	39.5	O K
7200 min Winter	98.227	0.427	0.0	1.1	1.1	32.4	O K
8640 min Winter	98.157	0.357	0.0	1.0	1.0	27.1	O K
10080 min Winter	98.103	0.303	0.0	0.9	0.9	23.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
30 min Winter	70.126	0.0	52.3	33
60 min Winter	44.676	0.0	67.4	62
120 min Winter	27.603	0.0	83.3	120
180 min Winter	20.577	0.0	93.1	178
240 min Winter	16.627	0.0	100.3	234
360 min Winter	12.315	0.0	111.4	342
480 min Winter	9.939	0.0	119.9	402
600 min Winter	8.411	0.0	126.8	470
720 min Winter	7.335	0.0	132.7	546
960 min Winter	5.907	0.0	142.5	702
1440 min Winter	4.348	0.0	157.0	996
2160 min Winter	3.195	0.0	173.8	1428
2880 min Winter	2.566	0.0	186.1	1844
4320 min Winter	1.881	0.0	204.5	2636
5760 min Winter	1.508	0.0	218.8	3392
7200 min Winter	1.271	0.0	230.5	4112
8640 min Winter	1.105	0.0	240.5	4840
10080 min Winter	0.982	0.0	249.3	5544

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Micro Drainage	Source Control 2016.1
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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time Area Diagram

Total Area (ha) 0.180

Time (mins)	Area
From: To:	(ha)
0	4 0.180

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Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

Invert Level (m) 97.800 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	80.0	80.0	1.300	0.0	123.2
1.200	80.0	123.2			

Orifice Outflow Control

Diameter (m) 0.029 Discharge Coefficient 0.600 Invert Level (m) 97.800