

7 Museum Street
Ipswich
Suffolk IP1 1HQ

IA21/085 HILL HOUSE
NEEDHAM MARKET
HOUSE TYPE 2.3 SOAKAWAY



Date 01/06/2021
File HT2.3.SRCX

Designed by JBB
Checked by

Micro Drainage

Source Control 2020.1

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

Half Drain Time : 562 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	0.356	0.356	0.1	2.0	O K
30 min Summer	0.463	0.463	0.1	2.6	O K
60 min Summer	0.566	0.566	0.1	3.2	Flood Risk
120 min Summer	0.657	0.657	0.1	3.7	Flood Risk
180 min Summer	0.697	0.697	0.1	4.0	Flood Risk
240 min Summer	0.714	0.714	0.1	4.1	Flood Risk
360 min Summer	0.722	0.722	0.1	4.1	Flood Risk
480 min Summer	0.716	0.716	0.1	4.1	Flood Risk
600 min Summer	0.709	0.709	0.1	4.0	Flood Risk
720 min Summer	0.700	0.700	0.1	4.0	Flood Risk
960 min Summer	0.680	0.680	0.1	3.9	Flood Risk
1440 min Summer	0.635	0.635	0.1	3.6	Flood Risk
2160 min Summer	0.573	0.573	0.1	3.3	Flood Risk
2880 min Summer	0.519	0.519	0.1	3.0	Flood Risk
4320 min Summer	0.426	0.426	0.1	2.4	O K
5760 min Summer	0.351	0.351	0.1	2.0	O K
7200 min Summer	0.289	0.289	0.1	1.6	O K
8640 min Summer	0.237	0.237	0.0	1.4	O K
10080 min Summer	0.194	0.194	0.0	1.1	O K
15 min Winter	0.400	0.400	0.1	2.3	O K
30 min Winter	0.520	0.520	0.1	3.0	Flood Risk
60 min Winter	0.637	0.637	0.1	3.6	Flood Risk
120 min Winter	0.742	0.742	0.1	4.2	Flood Risk
180 min Winter	0.789	0.789	0.1	4.5	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	138.153	0.0	19
30 min Summer	90.705	0.0	34
60 min Summer	56.713	0.0	64
120 min Summer	34.246	0.0	122
180 min Summer	25.149	0.0	182
240 min Summer	20.078	0.0	242
360 min Summer	14.585	0.0	360
480 min Summer	11.622	0.0	420
600 min Summer	9.738	0.0	482
720 min Summer	8.424	0.0	544
960 min Summer	6.697	0.0	676
1440 min Summer	4.839	0.0	952
2160 min Summer	3.490	0.0	1364
2880 min Summer	2.766	0.0	1764
4320 min Summer	1.989	0.0	2552
5760 min Summer	1.573	0.0	3336
7200 min Summer	1.311	0.0	4040
8640 min Summer	1.129	0.0	4760
10080 min Summer	0.994	0.0	5544
15 min Winter	138.153	0.0	19
30 min Winter	90.705	0.0	33
60 min Winter	56.713	0.0	62
120 min Winter	34.246	0.0	120
180 min Winter	25.149	0.0	178

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Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
240 min Winter	0.801	0.801	0.1	4.6	FLOOD
360 min Winter	0.801	0.801	0.1	4.7	FLOOD
480 min Winter	0.801	0.801	0.1	4.7	FLOOD
600 min Winter	0.801	0.801	0.1	4.6	FLOOD
720 min Winter	0.801	0.801	0.1	4.6	FLOOD
960 min Winter	0.776	0.776	0.1	4.4	Flood Risk
1440 min Winter	0.716	0.716	0.1	4.1	Flood Risk
2160 min Winter	0.627	0.627	0.1	3.6	Flood Risk
2880 min Winter	0.549	0.549	0.1	3.1	Flood Risk
4320 min Winter	0.419	0.419	0.1	2.4	O K
5760 min Winter	0.318	0.318	0.1	1.8	O K
7200 min Winter	0.238	0.238	0.0	1.4	O K
8640 min Winter	0.173	0.173	0.0	1.0	O K
10080 min Winter	0.122	0.122	0.0	0.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
240 min Winter	20.078	0.1	236
360 min Winter	14.585	0.2	348
480 min Winter	11.622	0.1	456
600 min Winter	9.738	0.1	546
720 min Winter	8.424	0.0	570
960 min Winter	6.697	0.0	722
1440 min Winter	4.839	0.0	1026
2160 min Winter	3.490	0.0	1472
2880 min Winter	2.766	0.0	1900
4320 min Winter	1.989	0.0	2720
5760 min Winter	1.573	0.0	3512
7200 min Winter	1.311	0.0	4248
8640 min Winter	1.129	0.0	4936
10080 min Winter	0.994	0.0	5648

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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)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.008

Time (mins)	Area
From:	To: (ha)
0	4 0.008

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Model Details

Storage is Online Cover Level (m) 0.800

Cellular Storage Structure

Invert Level (m) 0.000 Safety Factor 3.0
 Infiltration Coefficient Base (m/hr) 0.06120 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.06120

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	6.0	6.0	0.800	6.0	14.0	0.801	0.0	14.0