

Harrisfield,
Blackmoor Road
Mawdesley. L40 2QF

8 Westbrook Grove, Purbrook
SW attenuation 1 l/s
Sub-base storage

Date July 2021

Designed By TMC

File DRIVE STORAGE.SRCX

Checked By

Micro Drainage

Source Control W.12.5



Model Details

Storage is Online Cover Level (m) 37.960

Cellular Storage Structure

Invert Level (m) 37.620 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.30
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

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	33.0	30.0	0.250	33.0	37.8	0.260	0.0	37.8

Orifice Outflow Control

Diameter (m) 0.028 Discharge Coefficient 0.600 Invert Level (m) 37.470

Weir Overflow Control

Discharge Coef 0.544 Width (m) 0.500 Invert Level (m) 37.960



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Rainfall Details

Rainfall Model	FSR	Ratio R	0.350	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	720
M5-60 (mm)	19.200	Cv (Summer)	0.750	Climate Change %	+40

Pipe Network

Volume in Pipe Network (m³) 1 Slope of Outfall Pipe (1:X) 100 Dia of Outfall Pipe (m) 0.1 Roughness of Outfall Pipe (mm) 0.600

Time / Area Diagram

Total Area (ha) 0.010

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-2	0.000	2-4	0.000	4-6	0.006	6-8	0.004

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

Half Drain Time : 23 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	37.772	0.152	0.0	0.9	0.0	0.9	1.5	Flood Risk
30 min Summer	37.802	0.182	0.0	0.9	0.0	0.9	1.8	Flood Risk
60 min Summer	37.807	0.187	0.0	0.9	0.0	0.9	1.9	Flood Risk
120 min Summer	37.789	0.169	0.0	0.9	0.0	0.9	1.7	Flood Risk
180 min Summer	37.763	0.143	0.0	0.9	0.0	0.9	1.4	Flood Risk
240 min Summer	37.738	0.118	0.0	0.8	0.0	0.8	1.2	Flood Risk
360 min Summer	37.697	0.077	0.0	0.8	0.0	0.8	0.8	Flood Risk
480 min Summer	37.667	0.047	0.0	0.7	0.0	0.7	0.5	Flood Risk
600 min Summer	37.646	0.026	0.0	0.7	0.0	0.7	0.3	O K
720 min Summer	37.631	0.011	0.0	0.6	0.0	0.6	0.1	O K
15 min Winter	37.797	0.177	0.0	0.9	0.0	0.9	1.7	Flood Risk

Storm Event	Rain (mm/hr)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	126.074	0.0	22
30 min Summer	84.745	0.0	33
60 min Summer	54.368	0.0	50
120 min Summer	33.674	0.0	84
180 min Summer	25.065	0.0	116
240 min Summer	20.180	0.0	148
360 min Summer	14.839	0.0	210
480 min Summer	11.923	0.0	268
600 min Summer	10.054	0.0	326
720 min Summer	8.741	0.0	384
15 min Winter	126.074	0.0	22

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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 Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	37.834	0.214	0.0	1.0	0.0	1.0	2.1	Flood Risk
60 min Winter	37.837	0.217	0.0	1.0	0.0	1.0	2.1	Flood Risk
120 min Winter	37.802	0.182	0.0	0.9	0.0	0.9	1.8	Flood Risk
180 min Winter	37.762	0.142	0.0	0.9	0.0	0.9	1.4	Flood Risk
240 min Winter	37.726	0.106	0.0	0.8	0.0	0.8	1.0	Flood Risk
360 min Winter	37.671	0.051	0.0	0.7	0.0	0.7	0.5	Flood Risk
480 min Winter	37.636	0.016	0.0	0.6	0.0	0.6	0.2	O K
600 min Winter	37.620	0.000	0.0	0.6	0.0	0.6	0.0	O K
720 min Winter	37.620	0.000	0.0	0.5	0.0	0.5	0.0	O K

Storm Event	Rain (mm/hr)	Overflow Volume (m³)	Time-Peak (mins)
30 min Winter	84.745	0.0	34
60 min Winter	54.368	0.0	52
120 min Winter	33.674	0.0	88
180 min Winter	25.065	0.0	122
240 min Winter	20.180	0.0	156
360 min Winter	14.839	0.0	216
480 min Winter	11.923	0.0	270
600 min Winter	10.054	0.0	0
720 min Winter	8.741	0.0	0

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Flood Routing through Storage Facility

Event: 60 min Winter

Total Volume over Overflow (Spill Flow) 0.0m³

Time (mins)	Level (m)	Depth (m)	Σ Inflow (l/s)	Filtration (l/s)	Control (l/s)	Overflow (l/s)	Σ Outflow (l/s)	Volume (m³)
2	37.620	0.000	0.0	0.0	0.0	0.0	0.0	0.0
4	37.620	0.000	0.0	0.0	0.0	0.0	0.0	0.0
6	37.620	0.000	0.0	0.0	0.0	0.0	0.0	0.0
8	37.620	0.000	0.1	0.0	0.1	0.0	0.1	0.0
10	37.620	0.000	0.2	0.0	0.2	0.0	0.2	0.0
12	37.620	0.000	0.3	0.0	0.3	0.0	0.3	0.0
14	37.620	0.000	0.4	0.0	0.4	0.0	0.4	0.0
16	37.620	0.000	0.5	0.0	0.5	0.0	0.5	0.0
18	37.620	0.000	0.5	0.0	0.5	0.0	0.5	0.0
20	37.620	0.000	0.6	0.0	0.6	0.0	0.6	0.0
22	37.621	0.001	0.7	0.0	0.6	0.0	0.6	0.0
24	37.623	0.003	0.9	0.0	0.6	0.0	0.6	0.0
26	37.628	0.008	1.2	0.0	0.6	0.0	0.6	0.1
28	37.637	0.017	1.5	0.0	0.6	0.0	0.6	0.2
30	37.650	0.030	1.9	0.0	0.7	0.0	0.7	0.3
32	37.667	0.047	2.3	0.0	0.7	0.0	0.7	0.5
34	37.688	0.068	2.7	0.0	0.7	0.0	0.7	0.7
36	37.713	0.093	2.9	0.0	0.8	0.0	0.8	0.9
38	37.739	0.119	3.0	0.0	0.8	0.0	0.8	1.2
40	37.765	0.145	2.9	0.0	0.9	0.0	0.9	1.4
42	37.788	0.168	2.6	0.0	0.9	0.0	0.9	1.7
44	37.806	0.186	2.2	0.0	0.9	0.0	0.9	1.8
46	37.820	0.200	1.9	0.0	0.9	0.0	0.9	2.0
48	37.830	0.210	1.5	0.0	1.0	0.0	1.0	2.1
50	37.835	0.215	1.2	0.0	1.0	0.0	1.0	2.1
52	37.837	0.217	1.0	0.0	1.0	0.0	1.0	2.1
54	37.836	0.216	0.8	0.0	1.0	0.0	1.0	2.1
56	37.833	0.213	0.7	0.0	1.0	0.0	1.0	2.1

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58	37.830	0.210	0.6	0.0	1.0	0.0	1.0	2.1
60	37.825	0.205	0.6	0.0	1.0	0.0	1.0	2.0
62	37.821	0.201	0.6	0.0	0.9	0.0	0.9	2.0
64	37.816	0.196	0.5	0.0	0.9	0.0	0.9	1.9
66	37.809	0.189	0.3	0.0	0.9	0.0	0.9	1.9
68	37.801	0.181	0.2	0.0	0.9	0.0	0.9	1.8
70	37.792	0.172	0.1	0.0	0.9	0.0	0.9	1.7
72	37.782	0.162	0.1	0.0	0.9	0.0	0.9	1.6
74	37.773	0.153	0.1	0.0	0.9	0.0	0.9	1.5
76	37.763	0.143	0.0	0.0	0.9	0.0	0.9	1.4
78	37.753	0.133	0.0	0.0	0.8	0.0	0.8	1.3
80	37.743	0.123	0.0	0.0	0.8	0.0	0.8	1.2
82	37.733	0.113	0.0	0.0	0.8	0.0	0.8	1.1
84	37.724	0.104	0.0	0.0	0.8	0.0	0.8	1.0
86	37.714	0.094	0.0	0.0	0.8	0.0	0.8	0.9
88	37.705	0.085	0.0	0.0	0.8	0.0	0.8	0.8
90	37.696	0.076	0.0	0.0	0.8	0.0	0.8	0.8
92	37.687	0.067	0.0	0.0	0.7	0.0	0.7	0.7
94	37.678	0.058	0.0	0.0	0.7	0.0	0.7	0.6
96	37.670	0.050	0.0	0.0	0.7	0.0	0.7	0.5
98	37.661	0.041	0.0	0.0	0.7	0.0	0.7	0.4
100	37.653	0.033	0.0	0.0	0.7	0.0	0.7	0.3
102	37.645	0.025	0.0	0.0	0.7	0.0	0.7	0.2
104	37.637	0.017	0.0	0.0	0.6	0.0	0.6	0.2
106	37.630	0.010	0.0	0.0	0.6	0.0	0.6	0.1
108	37.622	0.002	0.0	0.0	0.6	0.0	0.6	0.0
110	37.620	0.000	0.0	0.0	0.0	0.0	0.0	0.0

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