

Archibald Shaw Limited		Page 1
One Little London Chichester Sussex PO19 1PP	ELM GROVE HAYLING ISLAND CULVERT STORAGE M1	
Date JAN. 2023 File ELM GROVE BOX CULVERT ST...	Designed By PF Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 1 year Return Period

Storm Duration (mins)	Maximum Control (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	1.0	1.0	5.3133	0.0633	14.2	0 K
30 Summer	1.5	1.5	5.3313	0.0813	18.3	0 K
60 Summer	1.7	1.7	5.3493	0.0993	22.4	0 K
120 Summer	1.9	1.9	5.3643	0.1143	25.7	0 K
180 Summer	1.9	1.9	5.3718	0.1218	27.4	0 K
240 Summer	2.0	2.0	5.3763	0.1263	28.5	0 K
360 Summer	2.0	2.0	5.3803	0.1303	29.3	0 K
480 Summer	2.0	2.0	5.3808	0.1308	29.4	0 K
600 Summer	2.0	2.0	5.3793	0.1293	29.1	0 K
720 Summer	2.0	2.0	5.3773	0.1273	28.7	0 K
960 Summer	1.9	1.9	5.3723	0.1223	27.5	0 K
1440 Summer	1.8	1.8	5.3613	0.1113	25.0	0 K
2160 Summer	1.7	1.7	5.3468	0.0968	21.8	0 K
2880 Summer	1.5	1.5	5.3363	0.0863	19.4	0 K
4320 Summer	1.3	1.3	5.3238	0.0737	16.6	0 K
5760 Summer	1.1	1.1	5.3168	0.0667	15.0	0 K
7200 Summer	1.0	1.0	5.3108	0.0607	13.7	0 K
8640 Summer	0.9	0.9	5.3068	0.0567	12.8	0 K
10080 Summer	0.8	0.8	5.3038	0.0537	12.1	0 K
15 Winter	1.2	1.2	5.3208	0.0708	15.9	0 K
30 Winter	1.6	1.6	5.3413	0.0913	20.5	0 K
60 Winter	1.8	1.8	5.3618	0.1118	25.2	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	29.65	22
30 Summer	19.73	35
60 Summer	12.80	62
120 Summer	8.16	106
180 Summer	6.24	136
240 Summer	5.15	170
360 Summer	3.90	238
480 Summer	3.20	308
600 Summer	2.74	374
720 Summer	2.42	440
960 Summer	1.98	572
1440 Summer	1.50	824
2160 Summer	1.13	1192
2880 Summer	0.93	1556
4320 Summer	0.70	2252
5760 Summer	0.58	2992
7200 Summer	0.50	3680
8640 Summer	0.44	4416
10080 Summer	0.39	5144
15 Winter	29.65	21
30 Winter	19.73	35
60 Winter	12.80	62

Archibald Shaw Limited		Page 2
One Little London Chichester Sussex PO19 1PP	ELM GROVE HAYLING ISLAND CULVERT STORAGE M1	
Date JAN. 2023 File ELM GROVE BOX CULVERT ST...	Designed By PF Checked By	
Micro Drainage	Source Control W.11.2	

Summary of Results for 1 year Return Period

Storm Duration (mins)	Maximum Control (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
120 Winter	2.0	2.0	5.3788	0.1288	29.0	0 K
180 Winter	2.1	2.1	5.3863	0.1363	30.6	0 K
240 Winter	2.1	2.1	5.3903	0.1403	31.6	0 K
360 Winter	2.1	2.1	5.3918	0.1418	31.8	0 K
480 Winter	2.1	2.1	5.3893	0.1393	31.3	0 K
600 Winter	2.1	2.1	5.3853	0.1353	30.5	0 K
720 Winter	2.0	2.0	5.3813	0.1313	29.5	0 K
960 Winter	1.9	1.9	5.3718	0.1218	27.4	0 K
1440 Winter	1.8	1.8	5.3548	0.1048	23.6	0 K
2160 Winter	1.5	1.5	5.3363	0.0863	19.4	0 K
2880 Winter	1.3	1.3	5.3253	0.0753	17.0	0 K
4320 Winter	1.1	1.1	5.3138	0.0637	14.3	0 K
5760 Winter	0.9	0.9	5.3068	0.0567	12.7	0 K
7200 Winter	0.8	0.8	5.3018	0.0517	11.6	0 K
8640 Winter	0.7	0.7	5.2983	0.0482	10.8	0 K
10080 Winter	0.6	0.6	5.2952	0.0452	10.2	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
120 Winter	8.16	116
180 Winter	6.24	144
240 Winter	5.15	182
360 Winter	3.90	258
480 Winter	3.20	330
600 Winter	2.74	402
720 Winter	2.42	470
960 Winter	1.98	604
1440 Winter	1.50	858
2160 Winter	1.13	1216
2880 Winter	0.93	1564
4320 Winter	0.70	2292
5760 Winter	0.58	3000
7200 Winter	0.50	3744
8640 Winter	0.44	4408
10080 Winter	0.39	5152

Archibald Shaw Limited		Page 3
One Little London Chichester Sussex PO19 1PP	ELM GROVE HAYLING ISLAND CULVERT STORAGE M1	
Date JAN. 2023 File ELM GROVE BOX CULVERT ST...	Designed By PF Checked By	
Micro Drainage	Source Control W.11.2	

Rainfall Details

Region	ENG+WAL	Shortest Storm (mins)	15
Return Period (years)	1	Longest Storm (mins)	10080
M5-60 (mm)	20.000	Summer Storms	Yes
Ratio-R	0.350	Winter Storms	Yes
Cv (Summer)	0.750	Climate Change %	+0
Cv (Winter)	0.840		

Time / Area Diagram

Total Area (ha) = 0.266

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.130	4	8	0.136

Tank/Pond Details

Invert Level (m) 5.250 Ground Level (m) 6.400

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.00	225.0	0.40	225.0	0.80	225.0	1.20	225.0
0.20	225.0	0.60	225.0	1.00	225.0	1.40	225.0

Orifice Outflow Control

Diameter (m) 0.055 Invert Level (m) 5.250
 Discharge Coefficient 0.600