

Archibald Shaw Limited		Page 1
One Little London Chichester Sussex PO19 1PP	ELM GROVE HAYLING ISLAND CULVERT STORAGE M30	
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 30 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
15 Summer	2.2	2.2	5.4043	0.1542	34.7	0 K
30 Summer	2.6	2.6	5.4507	0.2007	45.2	0 K
60 Summer	2.9	2.9	5.4952	0.2452	55.2	0 K
120 Summer	3.2	3.2	5.5287	0.2787	62.7	0 K
180 Summer	3.2	3.2	5.5387	0.2887	65.0	0 K
240 Summer	3.3	3.3	5.5437	0.2937	66.0	0 K
360 Summer	3.3	3.3	5.5472	0.2972	66.8	0 K
480 Summer	3.3	3.3	5.5452	0.2952	66.4	0 K
600 Summer	3.2	3.2	5.5407	0.2907	65.4	0 K
720 Summer	3.2	3.2	5.5342	0.2842	64.0	0 K
960 Summer	3.1	3.1	5.5202	0.2702	60.8	0 K
1440 Summer	2.9	2.9	5.4917	0.2417	54.4	0 K
2160 Summer	2.7	2.7	5.4558	0.2057	46.3	0 K
2880 Summer	2.4	2.4	5.4278	0.1777	40.0	0 K
4320 Summer	2.1	2.1	5.3893	0.1393	31.3	0 K
5760 Summer	1.9	1.9	5.3638	0.1138	25.6	0 K
7200 Summer	1.7	1.7	5.3473	0.0973	21.8	0 K
8640 Summer	1.5	1.5	5.3353	0.0852	19.2	0 K
10080 Summer	1.4	1.4	5.3278	0.0777	17.5	0 K
15 Winter	2.4	2.4	5.4233	0.1732	39.0	0 K
30 Winter	2.8	2.8	5.4757	0.2257	50.8	0 K
60 Winter	3.1	3.1	5.5262	0.2762	62.2	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	72.68	22
30 Summer	48.36	36
60 Summer	30.81	64
120 Summer	19.04	120
180 Summer	14.19	156
240 Summer	11.47	186
360 Summer	8.49	252
480 Summer	6.85	322
600 Summer	5.80	390
720 Summer	5.06	460
960 Summer	4.07	592
1440 Summer	3.00	856
2160 Summer	2.20	1236
2880 Summer	1.77	1612
4320 Summer	1.30	2336
5760 Summer	1.04	3056
7200 Summer	0.88	3752
8640 Summer	0.76	4416
10080 Summer	0.68	5144
15 Winter	72.68	22
30 Winter	48.36	35
60 Winter	30.81	64

Archibald Shaw Limited		Page 2
One Little London Chichester Sussex PO19 1PP	ELM GROVE HAYLING ISLAND CULVERT STORAGE M30	
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 30 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	3.4	3.4	5.5657	0.3157	71.1	0 K
180 Winter	3.5	3.5	5.5777	0.3277	73.7	0 K
240 Winter	3.5	3.5	5.5802	0.3302	74.4	0 K
360 Winter	3.5	3.5	5.5812	0.3312	74.6	0 K
480 Winter	3.4	3.4	5.5752	0.3252	73.2	0 K
600 Winter	3.4	3.4	5.5662	0.3162	71.1	0 K
720 Winter	3.3	3.3	5.5552	0.3052	68.7	0 K
960 Winter	3.2	3.2	5.5327	0.2827	63.7	0 K
1440 Winter	2.9	2.9	5.4907	0.2407	54.2	0 K
2160 Winter	2.6	2.6	5.4418	0.1917	43.2	0 K
2880 Winter	2.3	2.3	5.4068	0.1568	35.3	0 K
4320 Winter	1.8	1.8	5.3628	0.1128	25.4	0 K
5760 Winter	1.6	1.6	5.3383	0.0883	19.8	0 K
7200 Winter	1.4	1.4	5.3258	0.0758	17.0	0 K
8640 Winter	1.2	1.2	5.3188	0.0688	15.4	0 K
10080 Winter	1.1	1.1	5.3138	0.0637	14.3	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
120 Winter	19.04	118
180 Winter	14.19	172
240 Winter	11.47	196
360 Winter	8.49	272
480 Winter	6.85	348
600 Winter	5.80	422
720 Winter	5.06	494
960 Winter	4.07	636
1440 Winter	3.00	908
2160 Winter	2.20	1296
2880 Winter	1.77	1668
4320 Winter	1.30	2380
5760 Winter	1.04	3056
7200 Winter	0.88	3720
8640 Winter	0.76	4416
10080 Winter	0.68	5144

Rainfall Details

Region	ENG+WAL	Shortest Storm (mins)	15
Return Period (years)	30	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

Archibald Shaw Limited		Page 4
One Little London Chichester Sussex PO19 1PP	ELM GROVE HAYLING ISLAND CULVERT STORAGE M30	
Date JAN. 2023 File ELM GROVE BOX CULVERT ST...	Designed By PF Checked By	
Micro Drainage	Source Control W.11.2	

Tank/Pond Details

Invert Level (m)		5.250	Ground Level (m)		6.400		
Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
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		