

T J Booth Associates		Page 1
104 Yorkshire St Rochdale Lancashire OL16 1JY	SW attenuation jamil akhtar 806-810 manchester rd	
Date jul 2023 File CALC-T~1.SRC	Designed By ds Checked By	
Micro Drainage	Source Control W.10.4	

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	2.0	2.0	136.5823	0.0322	0.2	O K
30 Summer	2.0	2.0	136.5782	0.0282	0.2	O K
60 Summer	1.8	1.8	136.5623	0.0123	0.1	O K
120 Summer	1.6	1.6	136.5500	0.0000	0.0	O K
180 Summer	1.3	1.3	136.5500	0.0000	0.0	O K
240 Summer	1.1	1.1	136.5500	0.0000	0.0	O K
360 Summer	0.8	0.8	136.5500	0.0000	0.0	O K
480 Summer	0.7	0.7	136.5500	0.0000	0.0	O K
600 Summer	0.6	0.6	136.5500	0.0000	0.0	O K
720 Summer	0.5	0.5	136.5500	0.0000	0.0	O K
960 Summer	0.4	0.4	136.5500	0.0000	0.0	O K
1440 Summer	0.3	0.3	136.5500	0.0000	0.0	O K
2160 Summer	0.3	0.3	136.5500	0.0000	0.0	O K
2880 Summer	0.2	0.2	136.5500	0.0000	0.0	O K
4320 Summer	0.2	0.2	136.5500	0.0000	0.0	O K
5760 Summer	0.1	0.1	136.5500	0.0000	0.0	O K
7200 Summer	0.1	0.1	136.5500	0.0000	0.0	O K
8640 Summer	0.1	0.1	136.5500	0.0000	0.0	O K
10080 Summer	0.1	0.1	136.5500	0.0000	0.0	O K
15 Winter	2.1	2.1	136.5858	0.0357	0.3	O K
30 Winter	2.0	2.0	136.5737	0.0237	0.2	O K
60 Winter	1.7	1.7	136.5513	0.0013	0.0	O K
120 Winter	1.2	1.2	136.5500	0.0000	0.0	O K
180 Winter	0.9	0.9	136.5500	0.0000	0.0	O K
240 Winter	0.8	0.8	136.5500	0.0000	0.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	28.17	12
30 Summer	19.18	19
60 Summer	12.80	34
120 Summer	8.41	0
180 Summer	6.56	0
240 Summer	5.47	0
360 Summer	4.21	0
480 Summer	3.50	0
600 Summer	3.03	0
720 Summer	2.70	0
960 Summer	2.25	0
1440 Summer	1.73	0
2160 Summer	1.33	0
2880 Summer	1.11	0
4320 Summer	0.85	0
5760 Summer	0.71	0
7200 Summer	0.61	0
8640 Summer	0.54	0
10080 Summer	0.49	0
15 Winter	28.17	12
30 Winter	19.18	20
60 Winter	12.80	34
120 Winter	8.41	0
180 Winter	6.56	0
240 Winter	5.47	0

T J Booth Associates		Page 2
104 Yorkshire St Rochdale Lancashire OL16 1JY	SW attenuation jamil akhtar 806-810 manchester rd	
Date jul 2023 File CALC-T~1.SRC	Designed By ds Checked By	
Micro Drainage	Source Control W.10.4	

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
360 Winter	0.6	0.6	136.5500	0.0000	0.0	O K
480 Winter	0.5	0.5	136.5500	0.0000	0.0	O K
600 Winter	0.4	0.4	136.5500	0.0000	0.0	O K
720 Winter	0.4	0.4	136.5500	0.0000	0.0	O K
960 Winter	0.3	0.3	136.5500	0.0000	0.0	O K
1440 Winter	0.2	0.2	136.5500	0.0000	0.0	O K
2160 Winter	0.2	0.2	136.5500	0.0000	0.0	O K
2880 Winter	0.2	0.2	136.5500	0.0000	0.0	O K
4320 Winter	0.1	0.1	136.5500	0.0000	0.0	O K
5760 Winter	0.1	0.1	136.5500	0.0000	0.0	O K
7200 Winter	0.1	0.1	136.5500	0.0000	0.0	O K
8640 Winter	0.1	0.1	136.5500	0.0000	0.0	O K
10080 Winter	0.1	0.1	136.5500	0.0000	0.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
360 Winter	4.21	0
480 Winter	3.50	0
600 Winter	3.03	0
720 Winter	2.70	0
960 Winter	2.25	0
1440 Winter	1.73	0
2160 Winter	1.33	0
2880 Winter	1.11	0
4320 Winter	0.85	0
5760 Winter	0.71	0
7200 Winter	0.61	0
8640 Winter	0.54	0
10080 Winter	0.49	0

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	0.300	Winter Storms	Yes
Cv (Summer)	0.750	Climate Change %	+0
Cv (Winter)	0.840		

Time / Area Diagram

Total Area (ha) = 0.024

Time	(mins)	Area
from:	to:	(ha)
0	4	0.024

Tank/Pond Details

Invert Level (m) 136.550 Ground Level (m) 137.750

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.00	7.6	0.50	7.6	1.00	7.6	1.50	7.6	2.00	7.6	2.50	7.6
0.10	7.6	0.60	7.6	1.10	7.6	1.60	7.6	2.10	7.6		
0.20	7.6	0.70	7.6	1.20	7.6	1.70	7.6	2.20	7.6		
0.30	7.6	0.80	7.6	1.30	7.6	1.80	7.6	2.30	7.6		
0.40	7.6	0.90	7.6	1.40	7.6	1.90	7.6	2.40	7.6		

Orifice Outflow Control

Diameter (m) 0.055 Invert Level (m) 136.450
Discharge Coefficient 0.600