

T J Booth Associates		Page 1
104 Yorkshire St Rochdale Lancashire OL16 1JY	pond atten'n & control hoyle developments honresfeld littleborough	
Date may 2025 - rev1 File CALC-T~2.SRC	Designed By ds Checked By	
Micro Drainage	Source Control W.10.4	

Summary of Results for 30 year Return Period (+40%)

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	13.3	13.3	177.7217	0.3217	20.4	O K
30 Summer	13.5	13.5	177.7587	0.3587	23.2	O K
60 Summer	13.5	13.5	177.7682	0.3682	24.0	O K
120 Summer	13.4	13.4	177.7312	0.3312	21.1	O K
180 Summer	13.1	13.1	177.6762	0.2762	17.1	O K
240 Summer	12.8	12.8	177.6217	0.2217	13.2	O K
360 Summer	12.3	12.3	177.5277	0.1278	7.2	O K
480 Summer	11.9	11.9	177.4577	0.0578	3.1	O K
600 Summer	11.6	11.6	177.4137	0.0138	0.7	O K
720 Summer	11.0	11.0	177.4000	0.0000	0.0	O K
960 Summer	9.0	9.0	177.4000	0.0000	0.0	O K
1440 Summer	6.7	6.7	177.4000	0.0000	0.0	O K
2160 Summer	5.0	5.0	177.4000	0.0000	0.0	O K
2880 Summer	4.0	4.0	177.4000	0.0000	0.0	O K
4320 Summer	3.0	3.0	177.4000	0.0000	0.0	O K
5760 Summer	2.4	2.4	177.4000	0.0000	0.0	O K
7200 Summer	2.1	2.1	177.4000	0.0000	0.0	O K
8640 Summer	1.8	1.8	177.4000	0.0000	0.0	O K
10080 Summer	1.6	1.6	177.4000	0.0000	0.0	O K
15 Winter	13.5	13.5	177.7677	0.3677	23.9	O K
30 Winter	13.8	13.8	177.8112	0.4112	27.4	FLOOD RISK
60 Winter	13.8	13.8	177.8117	0.4117	27.4	FLOOD RISK
120 Winter	13.4	13.4	177.7442	0.3442	22.1	O K
180 Winter	13.0	13.0	177.6557	0.2557	15.6	O K
240 Winter	12.5	12.5	177.5717	0.1717	10.0	O K
360 Winter	11.7	11.7	177.4388	0.0387	2.1	O K
480 Winter	10.7	10.7	177.4000	0.0000	0.0	O K
600 Winter	9.1	9.1	177.4000	0.0000	0.0	O K
720 Winter	8.0	8.0	177.4000	0.0000	0.0	O K
960 Winter	6.5	6.5	177.4000	0.0000	0.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	68.99	15
30 Summer	47.08	24
60 Summer	30.81	42
120 Summer	19.53	76
180 Summer	14.75	108
240 Summer	12.05	140
360 Summer	9.05	200
480 Summer	7.38	256
600 Summer	6.29	310
720 Summer	5.52	0
960 Summer	4.49	0
1440 Summer	3.35	0
2160 Summer	2.49	0
2880 Summer	2.02	0
4320 Summer	1.50	0
5760 Summer	1.21	0
7200 Summer	1.03	0
8640 Summer	0.90	0
10080 Summer	0.81	0
15 Winter	68.99	16
30 Winter	47.08	26
60 Winter	30.81	46
120 Winter	19.53	82
180 Winter	14.75	116
240 Winter	12.05	146
360 Winter	9.05	200
480 Winter	7.38	0
600 Winter	6.29	0
720 Winter	5.52	0
960 Winter	4.49	0

Summary of Results for 30 year Return Period (+40%)						
Storm Duration (mins)	Maximum Control (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
1440 Winter	4.8	4.8	177.4000	0.0000	0.0	O K
2160 Winter	3.6	3.6	177.4000	0.0000	0.0	O K
2880 Winter	2.9	2.9	177.4000	0.0000	0.0	O K
4320 Winter	2.2	2.2	177.4000	0.0000	0.0	O K
5760 Winter	1.8	1.8	177.4000	0.0000	0.0	O K
7200 Winter	1.5	1.5	177.4000	0.0000	0.0	O K
8640 Winter	1.3	1.3	177.4000	0.0000	0.0	O K
10080 Winter	1.2	1.2	177.4000	0.0000	0.0	O K
Storm Duration (mins)	Rain (mm/hr)		Time-Peak (mins)			
1440 Winter	3.35		0			
2160 Winter	2.49		0			
2880 Winter	2.02		0			
4320 Winter	1.50		0			
5760 Winter	1.21		0			
7200 Winter	1.03		0			
8640 Winter	0.90		0			
10080 Winter	0.81		0			

Rainfall Details

Region	ENG+WAL	Cv (Summer)	0.750	Summer Storms	Yes
Return Period (years)	30	Cv (Winter)	0.840	Winter Storms	Yes
M5-60 (mm)	20.000	Shortest Storm (mins)	15	Climate Change %	+40
Ratio-R	0.300	Longest Storm (mins)	10080		

Time / Area Diagram

Total Area (ha) = 0.175

Time	(mins)	Area
from:	to:	(ha)
	0	4
		0.175

Tank/Pond Details

Invert Level (m) 177.400 Ground Level (m) 178.000

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	52.0	0.50	89.1	1.00	1000.0	1.50	1000.0	2.00	1000.0	2.50	1000.0
0.10	59.0	0.60	97.3	1.10	1000.0	1.60	1000.0	2.10	1000.0		
0.20	66.0	0.70	1000.0	1.20	1000.0	1.70	1000.0	2.20	1000.0		
0.30	73.4	0.80	1000.0	1.30	1000.0	1.80	1000.0	2.30	1000.0		
0.40	81.1	0.90	1000.0	1.40	1000.0	1.90	1000.0	2.40	1000.0		

Orifice Outflow Control

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 176.400