

atten' tank 100yr+cc
units 13-18
hallmark-dexine-rochdale



Designed By ds
Checked By

Source Control W.10.4

Summary of Results for 100 year Return Period (+20%)

Storm Duration (mins)	Maximum Control (l/s)	Maximum Overflow (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Overflow Volume (m³)	Maximum Volume (m³)	Status
15 Summer	43.4	0.0	43.4	125.8323	0.9323	0.0	139.8	O K
30 Summer	48.7	0.0	48.7	126.0848	1.1848	0.0	177.7	O K
60 Summer	52.5	0.0	52.5	126.2762	1.3762	0.0	206.5	O K
120 Summer	53.8	0.0	53.8	126.3477	1.4477	0.0	217.1	FLOOD RISK
180 Summer	52.7	0.0	52.7	126.2907	1.3907	0.0	208.6	O K
240 Summer	51.2	0.0	51.2	126.2113	1.3112	0.0	196.7	O K
360 Summer	48.1	0.0	48.1	126.0548	1.1548	0.0	173.2	O K
480 Summer	45.3	0.0	45.3	125.9188	1.0188	0.0	152.8	O K
600 Summer	42.7	0.0	42.7	125.8058	0.9058	0.0	135.9	O K
720 Summer	40.3	0.0	40.3	125.7128	0.8128	0.0	121.9	O K
960 Summer	36.2	0.0	36.2	125.5678	0.6678	0.0	100.2	O K
1440 Summer	30.0	0.0	30.0	125.3827	0.4827	0.0	72.4	O K
2160 Summer	24.0	0.0	24.0	125.2353	0.3352	0.0	50.3	O K
2880 Summer	20.1	0.0	20.1	125.1588	0.2587	0.0	38.8	O K
4320 Summer	15.3	0.0	15.3	125.0947	0.1948	0.0	29.2	O K
5760 Summer	12.4	0.0	12.4	125.0683	0.1683	0.0	25.2	O K
7200 Summer	10.5	0.0	10.5	125.0513	0.1513	0.0	22.7	O K
8640 Summer	9.1	0.0	9.1	125.0387	0.1388	0.0	20.8	O K
10080 Summer	8.1	0.0	8.1	125.0293	0.1293	0.0	19.4	O K
15 Winter	46.0	0.0	46.0	125.9538	1.0538	0.0	158.0	O K
30 Winter	51.9	0.0	51.9	126.2482	1.3482	0.0	202.3	O K
60 Winter	55.7	0.0	55.7	126.4522	1.5522	0.0	232.8	FLOOD RISK
120 Winter	56.3	0.0	56.3	126.4902	1.5902	0.0	238.6	FLOOD RISK
180 Winter	54.4	0.0	54.4	126.3807	1.4807	0.0	222.1	FLOOD RISK
240 Winter	52.0	0.0	52.0	126.2537	1.3537	0.0	203.1	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	89.23	17
30 Summer	61.54	29
60 Summer	40.51	46
120 Summer	25.63	80
180 Summer	19.23	114
240 Summer	15.63	148
360 Summer	11.65	212
480 Summer	9.44	274
600 Summer	8.01	336
720 Summer	7.00	398
960 Summer	5.65	518
1440 Summer	4.17	752
2160 Summer	3.07	1108
2880 Summer	2.46	1472
4320 Summer	1.81	2200
5760 Summer	1.45	2936
7200 Summer	1.23	3664
8640 Summer	1.07	4368
10080 Summer	0.95	5136
15 Winter	89.23	17
30 Winter	61.54	30
60 Winter	40.51	48
120 Winter	25.63	86
180 Winter	19.23	122
240 Winter	15.63	158

T J Booth Associates		Page 2
104 Yorkshire St Rochdale Lancashire OL16 1JY	atten' tank 100yr+cc units 13-18 hallmark-dexine-rochdale	
Date Nov 2021 - revision1 File CALC-T~1.SRC	Designed By ds Checked By	
Micro Drainage		Source Control W.10.4

Summary of Results for 100 year Return Period (+20%)

Storm Duration (mins)	Maximum Control (l/s)	Maximum Overflow (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Overflow Volume (m ³)	Maximum Volume (m ³)	Status
360 Winter	47.5	0.0	47.5	126.0228	1.1228	0.0	168.4	O K
480 Winter	43.5	0.0	43.5	125.8368	0.9368	0.0	140.5	O K
600 Winter	39.8	0.0	39.8	125.6943	0.7943	0.0	119.1	O K
720 Winter	36.6	0.0	36.6	125.5833	0.6833	0.0	102.5	O K
960 Winter	31.5	0.0	31.5	125.4242	0.5242	0.0	78.6	O K
1440 Winter	24.6	0.0	24.6	125.2482	0.3482	0.0	52.2	O K
2160 Winter	18.6	0.0	18.6	125.1312	0.2312	0.0	34.7	O K
2880 Winter	15.1	0.0	15.1	125.0928	0.1928	0.0	28.9	O K
4320 Winter	11.1	0.0	11.1	125.0568	0.1568	0.0	23.5	O K
5760 Winter	8.9	0.0	8.9	125.0373	0.1373	0.0	20.6	O K
7200 Winter	7.5	0.0	7.5	125.0243	0.1243	0.0	18.6	O K
8640 Winter	6.5	0.0	6.5	125.0133	0.1133	0.0	17.0	O K
10080 Winter	5.8	0.0	5.8	125.0042	0.1043	0.0	15.7	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
360 Winter	11.65	224
480 Winter	9.44	286
600 Winter	8.01	348
720 Winter	7.00	410
960 Winter	5.65	530
1440 Winter	4.17	764
2160 Winter	3.07	1120
2880 Winter	2.46	1468
4320 Winter	1.81	2204
5760 Winter	1.45	2920
7200 Winter	1.23	3592
8640 Winter	1.07	4408
10080 Winter	0.95	5136

T J Booth Associates		Page 3
104 Yorkshire St Rochdale Lancashire OL16 1JY	atten' tank 100yr+cc units 13-18 hallmark-dexine-rochdale	
Date Nov 2021 - revision1 File CALC-T~1.SRC	Designed By ds Checked By	
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Rainfall Details

Region	ENG+WAL	Shortest Storm (mins)	15
Return Period (years)	100	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 %	+20
Cv (Winter)	0.840		

Pipe Network

Volume in Pipe Network (m ³)	10	Dia of Outfall Pipe (m)	0.100
Slope of Outfall Pipe (1:x)	100.0	Roughness of Outfall Pipe	0.600

Time / Area Diagram

Total Area (ha) = 0.867

Time	(mins)	Area
from:	to:	(ha)
0	4	0.867

T J Booth Associates		Page 4
104 Yorkshire St Rochdale Lancashire OL16 1JY	atten' tank 100yr+cc units 13-18 hallmark-dexine-rochdale	
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Tank/Pond Details

Invert Level (m) 124.900 Ground Level (m) 126.500

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	150.0	0.60	150.0	1.20	150.0	1.80	150.0	2.40	150.0
0.10	150.0	0.70	150.0	1.30	150.0	1.90	150.0	2.50	150.0
0.20	150.0	0.80	150.0	1.40	150.0	2.00	150.0		
0.30	150.0	0.90	150.0	1.50	150.0	2.10	150.0		
0.40	150.0	1.00	150.0	1.60	150.0	2.20	150.0		
0.50	150.0	1.10	150.0	1.70	150.0	2.30	150.0		

Pipe Outflow Control

Pipe Diameter (m) 0.150 Entry Loss Coef 0.500
Slope (1:x) 48.0 Coef of Contraction 0.600
Length (m) 8.500 Invert Level (m) 124.900
Roughness (mm) 0.600

Pipe Overflow Control

Pipe Diameter (m) 0.150 Entry Loss Coef 0.500
Slope (1:x) 48.0 Coef of Contraction 0.600
Length (m) 8.500 Invert Level (m) 126.500
Roughness (mm) 0.600