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Monarch House Barton Lane OX14 3NB	New Barn Lane Tank 1 (North)	
Date 13/02/2018 File 5529 TANK 1 (NORTH).SRCX	Designed by S.Smith Checked by	
Innovyze	Source Control 2017.1.2	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 491 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	3.018	0.318	0.0	5.0	5.0	113.2	O K
30 min Summer	3.124	0.424	0.0	5.0	5.0	150.9	O K
60 min Summer	3.233	0.533	0.0	5.0	5.0	189.4	O K
120 min Summer	3.328	0.628	0.0	5.0	5.0	223.4	O K
180 min Summer	3.368	0.668	0.0	5.0	5.0	237.6	O K
240 min Summer	3.384	0.684	0.0	5.0	5.0	243.1	O K
360 min Summer	3.386	0.686	0.0	5.0	5.0	244.0	O K
480 min Summer	3.374	0.674	0.0	5.0	5.0	239.7	O K
600 min Summer	3.360	0.660	0.0	5.0	5.0	234.9	O K
720 min Summer	3.346	0.646	0.0	5.0	5.0	229.9	O K
960 min Summer	3.319	0.619	0.0	5.0	5.0	220.0	O K
1440 min Summer	3.265	0.565	0.0	5.0	5.0	200.9	O K
2160 min Summer	3.182	0.482	0.0	5.0	5.0	171.5	O K
2880 min Summer	3.091	0.391	0.0	5.0	5.0	138.9	O K
4320 min Summer	2.949	0.249	0.0	5.0	5.0	88.6	O K
5760 min Summer	2.852	0.152	0.0	5.0	5.0	54.1	O K
7200 min Summer	2.793	0.093	0.0	4.9	4.9	33.0	O K
8640 min Summer	2.758	0.058	0.0	4.7	4.7	20.6	O K
10080 min Summer	2.743	0.043	0.0	4.4	4.4	15.2	O K
15 min Winter	3.059	0.359	0.0	5.0	5.0	127.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	124.633	0.0	119.7	26
30 min Summer	83.789	0.0	160.9	40
60 min Summer	53.779	0.0	206.8	70
120 min Summer	33.337	0.0	256.3	128
180 min Summer	24.832	0.0	286.5	186
240 min Summer	20.006	0.0	307.7	244
360 min Summer	14.706	0.0	339.4	360
480 min Summer	11.818	0.0	363.6	430
600 min Summer	9.966	0.0	383.4	492
720 min Summer	8.665	0.0	399.9	558
960 min Summer	6.943	0.0	427.2	688
1440 min Summer	5.071	0.0	468.1	968
2160 min Summer	3.696	0.0	511.7	1388
2880 min Summer	2.949	0.0	544.5	1760
4320 min Summer	2.142	0.0	593.2	2468
5760 min Summer	1.705	0.0	629.6	3168
7200 min Summer	1.427	0.0	658.6	3816
8640 min Summer	1.235	0.0	684.0	4488
10080 min Summer	1.093	0.0	706.6	5144
15 min Winter	124.633	0.0	134.1	26

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Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
30 min Winter	3.180	0.480	0.0	5.0	5.0	170.6	O K
60 min Winter	3.303	0.603	0.0	5.0	5.0	214.3	O K
120 min Winter	3.415	0.715	0.0	5.0	5.0	254.2	O K
180 min Winter	3.465	0.765	0.0	5.0	5.0	272.0	O K
240 min Winter	3.487	0.787	0.0	5.1	5.1	279.9	O K
360 min Winter	3.499	0.799	0.0	5.1	5.1	284.1	O K
480 min Winter	3.491	0.791	0.0	5.1	5.1	281.2	O K
600 min Winter	3.472	0.772	0.0	5.1	5.1	274.7	O K
720 min Winter	3.454	0.754	0.0	5.0	5.0	268.3	O K
960 min Winter	3.418	0.718	0.0	5.0	5.0	255.4	O K
1440 min Winter	3.340	0.640	0.0	5.0	5.0	227.5	O K
2160 min Winter	3.218	0.518	0.0	5.0	5.0	184.1	O K
2880 min Winter	3.074	0.374	0.0	5.0	5.0	133.1	O K
4320 min Winter	2.872	0.172	0.0	5.0	5.0	61.3	O K
5760 min Winter	2.770	0.070	0.0	4.8	4.8	25.1	O K
7200 min Winter	2.739	0.039	0.0	4.2	4.2	13.9	O K
8640 min Winter	2.725	0.025	0.0	3.7	3.7	8.8	O K
10080 min Winter	2.715	0.015	0.0	3.3	3.3	5.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
30 min Winter	83.789	0.0	180.3	40
60 min Winter	53.779	0.0	231.6	68
120 min Winter	33.337	0.0	287.1	126
180 min Winter	24.832	0.0	320.9	182
240 min Winter	20.006	0.0	344.7	240
360 min Winter	14.706	0.0	380.1	352
480 min Winter	11.818	0.0	407.4	460
600 min Winter	9.966	0.0	429.4	556
720 min Winter	8.665	0.0	448.0	580
960 min Winter	6.943	0.0	478.6	734
1440 min Winter	5.071	0.0	524.3	1046
2160 min Winter	3.696	0.0	573.3	1500
2880 min Winter	2.949	0.0	609.8	1880
4320 min Winter	2.142	0.0	664.4	2552
5760 min Winter	1.705	0.0	704.9	3120
7200 min Winter	1.427	0.0	737.7	3752
8640 min Winter	1.235	0.0	766.2	4416
10080 min Winter	1.093	0.0	791.3	5152

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Model Details

Storage is Online Cover Level (m) 4.400

Cellular Storage Structure

Invert Level (m) 2.700 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	374.4	374.4	0.801	0.0	436.3
0.800	374.4	436.3			

Hydro-Brake® Optimum Outflow Control

Unit Reference MD-SHE-0108-5000-0825-5000
Design Head (m) 0.825
Design Flow (l/s) 5.0
Flush-Flo™ Calculated
Objective Minimise upstream storage
Application Surface
Sump Available Yes
Diameter (mm) 108
Invert Level (m) 2.625
Minimum Outlet Pipe Diameter (mm) 150
Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.825	5.0
Flush-Flo™	0.247	5.0
Kick-Flo®	0.548	4.1
Mean Flow over Head Range	-	4.3

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.7	1.200	5.9	3.000	9.1	7.000	13.7
0.200	5.0	1.400	6.4	3.500	9.8	7.500	14.2
0.300	5.0	1.600	6.8	4.000	10.5	8.000	14.6
0.400	4.8	1.800	7.2	4.500	11.1	8.500	15.0
0.500	4.5	2.000	7.6	5.000	11.7	9.000	15.4
0.600	4.3	2.200	7.9	5.500	12.2	9.500	15.9
0.800	4.9	2.400	8.2	6.000	12.7		
1.000	5.5	2.600	8.6	6.500	13.2		