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Bold Business Centre Sutton St Helens WA9 4TX	2978 - The Bungalow Rev. 1 Gamford Lane, Rossett Infil Basin 1+40% CC Yr	
Date 06/02/2017	Designed by JAG	
File 2017_02_01-2978-Infiltration Basin SC.srcx	Checked by	
Micro Drainage	Source Control 2015.1	

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

Half Drain Time : 3642 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	11.893	0.393	2.0	322.9	O K
30 min Summer	12.015	0.515	2.2	431.8	O K
60 min Summer	12.142	0.642	2.4	550.4	O K
120 min Summer	12.271	0.771	2.5	676.5	O K
180 min Summer	12.345	0.845	2.6	751.0	O K
240 min Summer	12.395	0.895	2.7	802.3	O K
360 min Summer	12.459	0.959	2.8	869.4	O K
480 min Summer	12.504	1.004	2.9	917.7	O K
600 min Summer	12.538	1.038	2.9	953.5	O K
720 min Summer	12.563	1.063	2.9	981.2	O K
960 min Summer	12.599	1.099	3.0	1020.5	O K
1440 min Summer	12.636	1.136	3.0	1061.8	O K
2160 min Summer	12.650	1.150	3.1	1077.1	O K
2880 min Summer	12.641	1.141	3.1	1067.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	118.498	0.0	27
30 min Summer	79.373	0.0	42
60 min Summer	50.812	0.0	72
120 min Summer	31.483	0.0	132
180 min Summer	23.483	0.0	190
240 min Summer	18.956	0.0	250
360 min Summer	13.897	0.0	370
480 min Summer	11.157	0.0	488
600 min Summer	9.402	0.0	608
720 min Summer	8.170	0.0	728
960 min Summer	6.541	0.0	966
1440 min Summer	4.773	0.0	1444
2160 min Summer	3.476	0.0	2160
2880 min Summer	2.772	0.0	2632

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Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
4320 min Summer	12.615	1.115	3.0	1038.4	O K
5760 min Summer	12.584	1.084	3.0	1004.0	O K
7200 min Summer	12.551	1.051	2.9	968.3	O K
8640 min Summer	12.519	1.019	2.9	933.9	O K
10080 min Summer	12.489	0.989	2.8	901.3	O K
15 min Winter	11.937	0.437	2.1	361.9	O K
30 min Winter	12.071	0.571	2.3	484.0	O K
60 min Winter	12.211	0.711	2.5	617.2	O K
120 min Winter	12.353	0.853	2.7	759.3	O K
180 min Winter	12.434	0.934	2.8	843.6	O K
240 min Winter	12.489	0.989	2.8	901.8	O K
360 min Winter	12.561	1.061	2.9	978.6	O K
480 min Winter	12.612	1.112	3.0	1034.3	O K
600 min Winter	12.649	1.149	3.1	1076.2	O K
720 min Winter	12.678	1.178	3.1	1108.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
4320 min Summer	2.011	0.0	3340
5760 min Summer	1.600	0.0	4144
7200 min Summer	1.339	0.0	4968
8640 min Summer	1.157	0.0	5792
10080 min Summer	1.023	0.0	6568
15 min Winter	118.498	0.0	27
30 min Winter	79.373	0.0	41
60 min Winter	50.812	0.0	70
120 min Winter	31.483	0.0	130
180 min Winter	23.483	0.0	188
240 min Winter	18.956	0.0	246
360 min Winter	13.897	0.0	364
480 min Winter	11.157	0.0	482
600 min Winter	9.402	0.0	598
720 min Winter	8.170	0.0	716

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Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
960 min Winter	12.720	1.220	3.2	1156.1	Flood Risk
1440 min Winter	12.766	1.266	3.2	1209.4	Flood Risk
2160 min Winter	12.790	1.290	3.3	1237.7	Flood Risk
2880 min Winter	12.789	1.289	3.3	1236.2	Flood Risk
4320 min Winter	12.757	1.257	3.2	1198.8	Flood Risk
5760 min Winter	12.723	1.223	3.2	1159.7	Flood Risk
7200 min Winter	12.682	1.182	3.1	1113.5	O K
8640 min Winter	12.639	1.139	3.0	1064.8	O K
10080 min Winter	12.597	1.097	3.0	1017.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
960 min Winter	6.541	0.0	950
1440 min Winter	4.773	0.0	1412
2160 min Winter	3.476	0.0	2084
2880 min Winter	2.772	0.0	2740
4320 min Winter	2.011	0.0	3504
5760 min Winter	1.600	0.0	4384
7200 min Winter	1.339	0.0	5336
8640 min Winter	1.157	0.0	6232
10080 min Winter	1.023	0.0	7160

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Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	18.000	Winter Storms	Yes	Shortest Storm (mins)	15
Return Period (years)	100	Ratio R	0.359	Cv (Summer)	0.750	Longest Storm (mins)	10080
Region	England and Wales	Summer Storms	Yes	Cv (Winter)	0.840	Climate Change %	+40

Time Area Diagram

Total Area (ha) 1.464

Time (mins) Area			Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)	From:	To:	(ha)
0	4	0.488	4	8	0.488	8	12	0.488

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Model Details

Storage is Online Cover Level (m) 13.000

Infiltration Basin Structure

Invert Level (m) 11.500 Infiltration Coefficient Side (m/hr) 0.01330 Porosity 0.90
Infiltration Coefficient Base (m/hr) 0.01330 Safety Factor 2.0

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	850.0	0.400	978.5	0.800	1116.1	1.200	1262.8	1.600	0.0	2.000	0.0	2.400	0.0
0.100	881.3	0.500	1012.1	0.900	1151.9	1.300	1300.9	1.700	0.0	2.100	0.0	2.500	0.0
0.200	913.1	0.600	1046.2	1.000	1188.3	1.400	1339.5	1.800	0.0	2.200	0.0		
0.300	945.6	0.700	1080.9	1.100	1225.3	1.500	1378.7	1.900	0.0	2.300	0.0		