

AEA - Ambiental							Page 1
Science Park Square Brighton East Sussex			Polards Nursery Lake Lane Storm storage calcs				
Date 15/06/2021 File 5877 proposed storage z...			Designed by mn Checked by				
XP Solutions			Source Control 2018.1				
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time exceeds 7 days. Outflow is too low. Design is unsatisfactory.							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	10.286	0.086	0.0	0.0	0.0	9.2	O K
30 min Summer	10.313	0.113	0.0	0.0	0.0	13.3	O K
60 min Summer	10.344	0.144	0.0	0.0	0.0	17.8	O K
120 min Summer	10.377	0.177	0.0	0.0	0.0	22.8	O K
180 min Summer	10.397	0.197	0.0	0.0	0.0	25.8	O K
240 min Summer	10.410	0.210	0.0	0.0	0.0	27.8	O K
360 min Summer	10.431	0.231	0.0	0.0	0.0	31.0	O K
480 min Summer	10.447	0.247	0.0	0.0	0.0	33.3	O K
600 min Summer	10.460	0.260	0.0	0.0	0.0	35.2	O K
720 min Summer	10.470	0.270	0.0	0.0	0.0	36.8	O K
960 min Summer	10.488	0.288	0.0	0.0	0.0	39.4	O K
1440 min Summer	10.512	0.312	0.0	0.0	0.0	43.1	O K
2160 min Summer	10.537	0.337	0.0	0.0	0.0	46.9	O K
2880 min Summer	10.555	0.355	0.0	0.0	0.0	49.5	O K
4320 min Summer	10.578	0.378	0.0	0.0	0.0	53.0	O K
5760 min Summer	10.593	0.393	0.0	0.0	0.0	55.3	O K
7200 min Summer	10.604	0.404	0.0	0.0	0.0	56.9	O K
8640 min Summer	10.612	0.412	0.0	0.0	0.0	58.1	O K
10080 min Summer	10.618	0.418	0.0	0.0	0.0	58.9	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
15 min Summer	124.544	0.0	0.0	19			
30 min Summer	84.215	0.0	0.0	34			
60 min Summer	54.368	0.0	0.0	64			
120 min Summer	33.870	0.0	0.0	124			
180 min Summer	25.280	0.0	0.0	184			
240 min Summer	20.382	0.0	0.0	244			
360 min Summer	15.043	0.0	0.0	364			
480 min Summer	12.112	0.0	0.0	484			
600 min Summer	10.228	0.0	0.0	604			
720 min Summer	8.904	0.0	0.0	724			
960 min Summer	7.147	0.0	0.0	964			
1440 min Summer	5.233	0.0	0.0	1444			
2160 min Summer	3.822	0.0	0.0	2164			
2880 min Summer	3.054	0.0	0.0	2884			
4320 min Summer	2.222	0.0	0.0	4324			
5760 min Summer	1.771	0.0	0.0	5768			
7200 min Summer	1.486	0.0	0.0	7208			
8640 min Summer	1.288	0.0	0.0	8648			
10080 min Summer	1.142	0.0	0.0	10088			
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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 (m³)	Status
15 min Winter	10.295	0.095	0.0	0.0	0.0	10.6	O K
30 min Winter	10.326	0.126	0.0	0.0	0.0	15.2	O K
60 min Winter	10.360	0.160	0.0	0.0	0.0	20.3	O K
120 min Winter	10.397	0.197	0.0	0.0	0.0	25.8	O K
180 min Winter	10.419	0.219	0.0	0.0	0.0	29.2	O K
240 min Winter	10.435	0.235	0.0	0.0	0.0	31.5	O K
360 min Winter	10.459	0.259	0.0	0.0	0.0	35.0	O K
480 min Winter	10.476	0.276	0.0	0.0	0.0	37.7	O K
600 min Winter	10.491	0.291	0.0	0.0	0.0	39.8	O K
720 min Winter	10.503	0.303	0.0	0.0	0.0	41.6	O K
960 min Winter	10.522	0.322	0.0	0.0	0.0	44.5	O K
1440 min Winter	10.550	0.350	0.0	0.0	0.0	48.7	O K
2160 min Winter	10.579	0.379	0.0	0.0	0.0	53.1	O K
2880 min Winter	10.599	0.399	0.0	0.0	0.0	56.1	O K
4320 min Winter	10.627	0.427	0.0	0.0	0.0	60.3	O K
5760 min Winter	10.645	0.445	0.0	0.0	0.0	63.0	O K
7200 min Winter	10.658	0.458	0.0	0.0	0.0	65.0	O K
8640 min Winter	10.669	0.469	0.0	0.0	0.0	66.6	O K
10080 min Winter	10.677	0.477	0.0	0.0	0.0	67.7	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
15 min Winter	124.544	0.0	0.0	19			
30 min Winter	84.215	0.0	0.0	34			
60 min Winter	54.368	0.0	0.0	64			
120 min Winter	33.870	0.0	0.0	124			
180 min Winter	25.280	0.0	0.0	184			
240 min Winter	20.382	0.0	0.0	244			
360 min Winter	15.043	0.0	0.0	364			
480 min Winter	12.112	0.0	0.0	484			
600 min Winter	10.228	0.0	0.0	604			
720 min Winter	8.904	0.0	0.0	722			
960 min Winter	7.147	0.0	0.0	962			
1440 min Winter	5.233	0.0	0.0	1442			
2160 min Winter	3.822	0.0	0.0	2144			
2880 min Winter	3.054	0.0	0.0	2856			
4320 min Winter	2.222	0.0	0.0	4280			
5760 min Winter	1.771	0.0	0.0	5712			
7200 min Winter	1.486	0.0	0.0	7136			
8640 min Winter	1.288	0.0	0.0	8560			
10080 min Winter	1.142	0.0	0.0	9888			
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<u>Model Details</u> Storage is Online Cover Level (m) 10.750 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Width (m)</td> <td>10.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>50.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>138.9</td> <td>Slope (1:X)</td> <td>1000.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>10.200</td> <td>Cap Volume Depth (m)</td> <td>0.500</td> </tr> </table> <u>Weir Outflow Control</u> Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 10.750			Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0	Membrane Percolation (mm/hr)	1000	Length (m)	50.0	Max Percolation (l/s)	138.9	Slope (1:X)	1000.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.200	Cap Volume Depth (m)	0.500
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