

J D P Limited							Page 1
Townfoot Longtown, Carlisle Cumbria CA6 5LY			Mellendene, St Bees 2.5 L/S JDP Project Ref: 2410-35 Tank Size: 5.4 x 2.4 x 0.84m				
Date 7-10-2024 File 2410-35 Mellendene,			Designed by JC Checked by				
Micro Drainage			Source Control 2014.1				
<u>Summary of Results for 100 year Return Period (+40%)</u>							
Half Drain Time : 43 minutes.							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	23.694	0.483	0.0	1.8	1.8	5.9	O K
30 min Summer	23.826	0.615	0.0	2.1	2.1	7.6	O K
60 min Summer	23.930	0.719	0.0	2.3	2.3	8.9	O K
120 min Summer	23.978	0.767	0.0	2.3	2.3	9.5	O K
180 min Summer	23.959	0.748	0.0	2.3	2.3	9.2	O K
240 min Summer	23.920	0.709	0.0	2.2	2.2	8.7	O K
360 min Summer	23.846	0.635	0.0	2.1	2.1	7.8	O K
480 min Summer	23.780	0.569	0.0	2.0	2.0	7.0	O K
600 min Summer	23.722	0.511	0.0	1.9	1.9	6.3	O K
720 min Summer	23.673	0.462	0.0	1.8	1.8	5.7	O K
960 min Summer	23.594	0.383	0.0	1.6	1.6	4.7	O K
1440 min Summer	23.488	0.277	0.0	1.4	1.4	3.4	O K
2160 min Summer	23.400	0.189	0.0	1.1	1.1	2.3	O K
2880 min Summer	23.351	0.140	0.0	0.9	0.9	1.7	O K
4320 min Summer	23.302	0.091	0.0	0.7	0.7	1.1	O K
5760 min Summer	23.278	0.067	0.0	0.6	0.6	0.8	O K
7200 min Summer	23.265	0.054	0.0	0.5	0.5	0.7	O K
8640 min Summer	23.259	0.048	0.0	0.4	0.4	0.6	O K
10080 min Summer	23.255	0.044	0.0	0.4	0.4	0.5	O K
15 min Winter	23.694	0.483	0.0	1.8	1.8	6.0	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
15 min Summer	108.640	0.0	7.1	16			
30 min Summer	76.547	0.0	9.9	29			
60 min Summer	51.705	0.0	13.4	46			
120 min Summer	33.663	0.0	17.5	80			
180 min Summer	25.690	0.0	20.0	114			
240 min Summer	21.015	0.0	21.8	148			
360 min Summer	15.848	0.0	24.7	214			
480 min Summer	12.944	0.0	26.9	276			
600 min Summer	11.050	0.0	28.7	338			
720 min Summer	9.702	0.0	30.3	398			
960 min Summer	7.891	0.0	32.8	520			
1440 min Summer	5.880	0.0	36.7	764			
2160 min Summer	4.366	0.0	40.9	1124			
2880 min Summer	3.528	0.0	44.0	1472			
4320 min Summer	2.617	0.0	49.0	2204			
5760 min Summer	2.118	0.0	52.9	2936			
7200 min Summer	1.799	0.0	56.1	3656			
8640 min Summer	1.576	0.0	59.0	4400			
10080 min Summer	1.410	0.0	61.6	5032			
15 min Winter	108.640	0.0	7.1	16			
©1982-2014 XP Solutions							

J D P Limited		Page 3
Townfoot Longtown, Carlisle Cumbria CA6 5LY	Mellendene, St Bees 2.5 L/S JDP Project Ref: 2410-35 Tank Size: 5.4 x 2.4 x 0.84m	
Date 7-10-2024 File 2410-35 Mellendene,	Designed by JC Checked by	
Micro Drainage Source Control 2014.1		

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	18.300	Shortest Storm (mins)	15
Ratio R	0.266	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.026

Time (mins)	Area
From:	To: (ha)
0	4 0.026

©1982-2014 XP Solutions

J D P Limited		Page 4																		
Townfoot Longtown, Carlisle Cumbria CA6 5LY	Mellendene, St Bees 2.5 L/S JDP Project Ref: 2410-35 Tank Size: 5.4 x 2.4 x 0.84m																			
Date 7-10-2024 File 2410-35 Mellendene,	Designed by JC Checked by																			
Micro Drainage Source Control 2014.1																				
Model Details Storage is Online Cover Level (m) 24.351 Cellular Storage Structure Invert Level (m) 23.211 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.00000 <table><thead><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr></thead><tbody><tr><td>0.000</td><td>13.0</td><td>13.0</td><td>0.841</td><td>0.0</td><td>25.4</td></tr><tr><td>0.840</td><td>13.0</td><td>25.4</td><td></td><td></td><td></td></tr></tbody></table> Orifice Outflow Control Diameter (m) 0.036 Discharge Coefficient 0.600 Invert Level (m) 23.211			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	13.0	13.0	0.841	0.0	25.4	0.840	13.0	25.4			
Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)															
0.000	13.0	13.0	0.841	0.0	25.4															
0.840	13.0	25.4																		
©1982-2014 XP Solutions																				