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Summary of Results for 100 year Return Period (+40%) <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Control (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>2880 min Winter</td><td>33.107</td><td>0.077</td><td>2.7</td><td>6.0</td><td>O K</td></tr><tr><td>4320 min Winter</td><td>33.092</td><td>0.062</td><td>1.9</td><td>4.8</td><td>O K</td></tr><tr><td>5760 min Winter</td><td>33.083</td><td>0.053</td><td>1.5</td><td>4.1</td><td>O K</td></tr><tr><td>7200 min Winter</td><td>33.078</td><td>0.048</td><td>1.3</td><td>3.7</td><td>O K</td></tr><tr><td>8640 min Winter</td><td>33.074</td><td>0.044</td><td>1.1</td><td>3.4</td><td>O K</td></tr><tr><td>10080 min Winter</td><td>33.071</td><td>0.041</td><td>1.0</td><td>3.2</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>2880 min Winter</td><td>2.689</td><td>0.0</td><td>181.0</td><td>1464</td></tr><tr><td>4320 min Winter</td><td>1.947</td><td>0.0</td><td>196.6</td><td>2196</td></tr><tr><td>5760 min Winter</td><td>1.546</td><td>0.0</td><td>208.2</td><td>2992</td></tr><tr><td>7200 min Winter</td><td>1.292</td><td>0.0</td><td>217.5</td><td>3560</td></tr><tr><td>8640 min Winter</td><td>1.116</td><td>0.0</td><td>225.3</td><td>4392</td></tr><tr><td>10080 min Winter</td><td>0.985</td><td>0.0</td><td>232.1</td><td>5008</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status	2880 min Winter	33.107	0.077	2.7	6.0	O K	4320 min Winter	33.092	0.062	1.9	4.8	O K	5760 min Winter	33.083	0.053	1.5	4.1	O K	7200 min Winter	33.078	0.048	1.3	3.7	O K	8640 min Winter	33.074	0.044	1.1	3.4	O K	10080 min Winter	33.071	0.041	1.0	3.2	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	2880 min Winter	2.689	0.0	181.0	1464	4320 min Winter	1.947	0.0	196.6	2196	5760 min Winter	1.546	0.0	208.2	2992	7200 min Winter	1.292	0.0	217.5	3560	8640 min Winter	1.116	0.0	225.3	4392	10080 min Winter	0.985	0.0	232.1	5008
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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Shortest Storm (mins)	15
Ratio R	0.373	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.167

Time (mins)	Area	Time (mins)	Area
From: To: (ha)		From: To: (ha)	
0 4 0.084		4 8 0.083	

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Model Details

Storage is Online Cover Level (m) 34.840

Tank or Pond Structure

Invert Level (m) 33.030

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	78.0	0.800	78.0	0.801	1.0	1.810	1.0

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0104-5000-1100-5000
Design Head (m)	1.100
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	104
Invert Level (m)	33.027
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.100	5.0
Flush-Flo™	0.323	5.0
Kick-Flo®	0.690	4.0
Mean Flow over Head Range	-	4.4

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	3.5	0.600	4.6	1.600	6.0	2.600	7.5
0.200	4.8	0.800	4.3	1.800	6.3	3.000	8.0
0.300	5.0	1.000	4.8	2.000	6.6	3.500	8.6
0.400	5.0	1.200	5.2	2.200	6.9	4.000	9.2
0.500	4.8	1.400	5.6	2.400	7.2	4.500	9.7

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