

Cole Easdon Consultants				Page 1	
160 Aztec, Aztec West Almondsbury Bristol, BS32 4TU		8417 Renaissance Proposed Runoff Vol - 100y Catchment 1			
Date 09/03/2022 16:26 File 8417 RT INITIAL CALCS.SRCX		Designed by JP (CE) Checked by DF (CE)			
Innovyze		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period</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 Volume (m³)	Status
15 min Summer	10.348	0.148	0.0	42.3	O K
30 min Summer	10.399	0.199	0.0	56.7	O K
60 min Summer	10.455	0.255	0.0	72.6	O K
120 min Summer	10.516	0.316	0.0	90.0	O K
180 min Summer	10.553	0.353	0.0	100.6	O K
240 min Summer	10.580	0.380	0.0	108.3	O K
360 min Summer	10.618	0.418	0.0	119.1	O K
480 min Summer	10.647	0.447	0.0	127.5	O K
600 min Summer	10.671	0.471	0.0	134.3	O K
720 min Summer	10.691	0.491	0.0	140.1	O K
960 min Summer	10.725	0.525	0.0	149.5	O K
1440 min Summer	10.774	0.574	0.0	163.6	O K
2160 min Summer	10.827	0.627	0.0	178.7	O K
2880 min Summer	10.867	0.667	0.0	190.1	O K
4320 min Summer	10.926	0.726	0.0	206.9	O K
5760 min Summer	10.970	0.770	0.0	219.5	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
15 min Summer	84.641	0.0	19		
30 min Summer	56.695	0.0	34		
60 min Summer	36.294	0.0	64		
120 min Summer	22.488	0.0	124		
180 min Summer	16.773	0.0	184		
240 min Summer	13.540	0.0	244		
360 min Summer	9.927	0.0	364		
480 min Summer	7.969	0.0	484		
600 min Summer	6.715	0.0	604		
720 min Summer	5.836	0.0	724		
960 min Summer	4.672	0.0	964		
1440 min Summer	3.409	0.0	1444		
2160 min Summer	2.483	0.0	2164		
2880 min Summer	1.980	0.0	2884		
4320 min Summer	1.437	0.0	4324		
5760 min Summer	1.143	0.0	5768		
©1982-2020 Innovyze					

Cole Easdon Consultants				Page 2	
160 Aztec, Aztec West Almondsbury Bristol, BS32 4TU		8417 Renaissance Proposed Runoff Vol - 100y Catchment 1			
Date 09/03/2022 16:26 File 8417 RT INITIAL CALCS.SRCX		Designed by JP (CE) Checked by DF (CE)			
Innovyze		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
7200 min Summer	11.006	0.806	0.0	229.6	O K
8640 min Summer	11.035	0.835	0.0	238.1	O K
10080 min Summer	11.061	0.861	0.0	245.4	O K
15 min Winter	10.348	0.148	0.0	42.3	O K
30 min Winter	10.399	0.199	0.0	56.7	O K
60 min Winter	10.455	0.255	0.0	72.6	O K
120 min Winter	10.516	0.316	0.0	90.0	O K
180 min Winter	10.553	0.353	0.0	100.6	O K
240 min Winter	10.580	0.380	0.0	108.3	O K
360 min Winter	10.618	0.418	0.0	119.1	O K
480 min Winter	10.647	0.447	0.0	127.5	O K
600 min Winter	10.671	0.471	0.0	134.3	O K
720 min Winter	10.691	0.491	0.0	140.1	O K
960 min Winter	10.725	0.525	0.0	149.5	O K
1440 min Winter	10.774	0.574	0.0	163.6	O K
2160 min Winter	10.827	0.627	0.0	178.7	O K
2880 min Winter	10.867	0.667	0.0	190.1	O K
4320 min Winter	10.926	0.726	0.0	206.9	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
7200 min Summer	0.957	0.0	7208		
8640 min Summer	0.827	0.0	8648		
10080 min Summer	0.730	0.0	10088		
15 min Winter	84.641	0.0	19		
30 min Winter	56.695	0.0	34		
60 min Winter	36.294	0.0	64		
120 min Winter	22.488	0.0	124		
180 min Winter	16.773	0.0	184		
240 min Winter	13.540	0.0	244		
360 min Winter	9.927	0.0	364		
480 min Winter	7.969	0.0	484		
600 min Winter	6.715	0.0	604		
720 min Winter	5.836	0.0	724		
960 min Winter	4.672	0.0	964		
1440 min Winter	3.409	0.0	1444		
2160 min Winter	2.483	0.0	2164		
2880 min Winter	1.980	0.0	2884		
4320 min Winter	1.437	0.0	4324		
©1982-2020 Innovyze					

Cole Easdon Consultants				Page 3																																																			
160 Aztec, Aztec West Almondsbury Bristol, BS32 4TU		8417 Renaissance Proposed Runoff Vol - 100y Catchment 1																																																					
Date 09/03/2022 16:26 File 8417 RT INITIAL CALCS.SRCX		Designed by JP (CE) Checked by DF (CE)																																																					
Innovyze		Source Control 2020.1																																																					
<u>Summary of Results for 100 year Return Period</u> <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>5760 min Winter</td><td>10.970</td><td>0.770</td><td>0.0</td><td>219.5</td><td>O K</td></tr><tr><td>7200 min Winter</td><td>11.006</td><td>0.806</td><td>0.0</td><td>229.6</td><td>O K</td></tr><tr><td>8640 min Winter</td><td>11.035</td><td>0.835</td><td>0.0</td><td>238.1</td><td>O K</td></tr><tr><td>10080 min Winter</td><td>11.061</td><td>0.861</td><td>0.0</td><td>245.4</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>5760 min Winter</td><td>1.143</td><td>0.0</td><td>5768</td></tr><tr><td>7200 min Winter</td><td>0.957</td><td>0.0</td><td>7208</td></tr><tr><td>8640 min Winter</td><td>0.827</td><td>0.0</td><td>8648</td></tr><tr><td>10080 min Winter</td><td>0.730</td><td>0.0</td><td>10088</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	5760 min Winter	10.970	0.770	0.0	219.5	O K	7200 min Winter	11.006	0.806	0.0	229.6	O K	8640 min Winter	11.035	0.835	0.0	238.1	O K	10080 min Winter	11.061	0.861	0.0	245.4	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	5760 min Winter	1.143	0.0	5768	7200 min Winter	0.957	0.0	7208	8640 min Winter	0.827	0.0	8648	10080 min Winter	0.730	0.0	10088
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																		
5760 min Winter	10.970	0.770	0.0	219.5	O K																																																		
7200 min Winter	11.006	0.806	0.0	229.6	O K																																																		
8640 min Winter	11.035	0.835	0.0	238.1	O K																																																		
10080 min Winter	11.061	0.861	0.0	245.4	O K																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																				
5760 min Winter	1.143	0.0	5768																																																				
7200 min Winter	0.957	0.0	7208																																																				
8640 min Winter	0.827	0.0	8648																																																				
10080 min Winter	0.730	0.0	10088																																																				
©1982-2020 Innovyze																																																							

Cole Easdon Consultants		Page 4
160 Aztec, Aztec West Almondsbury Bristol, BS32 4TU	8417 Renaissance Proposed Runoff Vol - 100y Catchment 1	
Date 09/03/2022 16:26 File 8417 RT INITIAL CALCS.SRCX	Designed by JP (CE) Checked by DF (CE)	
Innovyze Source Control 2020.1		

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)	18.000	Shortest Storm (mins)	15
Ratio R	0.359	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.200

Time (mins)	Area
From:	To: (ha)
0	4 0.200

©1982-2020 Innovyze

Cole Easdon Consultants		Page 5
160 Aztec, Aztec West Almondsbury Bristol, BS32 4TU	8417 Renaissance Proposed Runoff Vol - 100y Catchment 1	
Date 09/03/2022 16:26 File 8417 RT INITIAL CALCS.SRCX	Designed by JP (CE) Checked by DF (CE)	
Innovyze Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 12.000

Cellular Storage Structure

Invert Level (m) 10.200 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	300.0	300.0	1.100	0.0	380.0
1.000	300.0	380.0			

©1982-2020 Innovyze