

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	0.350
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
RE1	0.003	5.00	26.850	100	1339.465	179.463	0.450
S1	0.003	5.00	26.850	300	1339.465	166.265	0.672
S2			26.850	450	1343.925	161.558	0.781
SAT			26.750	100	1345.817	159.640	0.727

Links (Input)

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	RE1	S1	13.198	0.600	26.400	26.178	0.222	59.5	100	5.22	50.0
1.001	S1	S2	6.484	0.600	26.178	26.069	0.109	59.5	100	5.33	50.0
1.002	S2	SAT	2.694	0.600	26.069	26.023	0.046	58.6	100	5.37	50.0

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	240
Ratio-R	0.400	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
10	0	0	0
30	0	0	0
100	40	0	0

Node SAT Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	25.750	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.21168	Time to half empty (mins)	323	Inf Depth (m)	
Safety Factor	3.0	Pit Width (m)	1.000	Number Required	1
Porosity	0.95	Pit Length (m)	4.000		

Results for 10 year Critical Storm Duration. Lowest mass balance: 85.21%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	RE1	11	26.422	0.022	0.8	0.0030	0.0000	OK
15 minute winter	S1	11	26.210	0.032	1.6	0.0051	0.0000	OK
600 minute winter	S2	390	26.106	0.037	0.2	0.0059	0.0000	OK
600 minute winter	SAT	390	26.107	0.084	0.5	1.3582	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	RE1	1.000	S1	0.8	0.480	0.102	0.0222
15 minute winter	S1	1.001	S2	1.6	0.732	0.204	0.0142
600 minute winter	S2	1.002	SAT	0.5	0.420	0.069	0.0131
600 minute winter	SAT	Infiltration		0.1			

Results for 30 year Critical Storm Duration. Lowest mass balance: 85.21%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	RE1	11	26.424	0.024	1.0	0.0034	0.0000	OK
15 minute winter	S1	11	26.214	0.036	2.0	0.0057	0.0000	OK
120 minute winter	S2	116	26.165	0.096	0.8	0.0153	0.0000	OK
120 minute winter	SAT	116	26.165	0.142	0.8	1.5230	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	RE1	1.000	S1	1.0	0.509	0.127	0.0261
15 minute winter	S1	1.001	S2	2.0	0.771	0.255	0.0169
120 minute winter	S2	1.002	SAT	0.8	0.575	0.099	0.0210
120 minute winter	SAT	Infiltration		0.1			

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 85.21%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	RE1	232	26.634	0.234	0.4	0.0330	0.0000	FLOOD RISK
240 minute winter	S1	232	26.634	0.456	0.8	0.0730	0.0000	FLOOD RISK
240 minute winter	S2	232	26.634	0.565	0.8	0.0899	0.0000	FLOOD RISK
240 minute winter	SAT	232	26.634	0.611	0.6	1.5268	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
240 minute winter	RE1	1.000	S1	0.4	0.370	0.049	0.1033
240 minute winter	S1	1.001	S2	0.6	0.582	0.076	0.0507
240 minute winter	S2	1.002	SAT	0.6	0.557	0.077	0.0211
240 minute winter	SAT	Infiltration		0.1			