

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Depth (m)	Invert Level (m)
S2	0.007	5.00	65.650	Manhole	0.650	65.000
S3			64.100	Manhole	0.900	63.200
RE1	0.008	5.00	66.000	Manhole	0.600	65.400
S1			64.100	Manhole	0.900	63.200
S4			64.100	Manhole	1.200	62.900
Raingarden	0.001		63.800	Junction	0.625	63.175

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
2.000	S2	S3	9.100	0.600	65.000	63.500	1.500	6.1	100
2.001	S3	S4	7.250	0.600	63.500	63.200	0.300	24.2	100
1.000	RE1	S1	16.200	0.600	65.400	63.500	1.900	8.5	100
1.001	S1	S4	7.250	0.600	63.500	63.200	0.300	24.2	100
1.002	S4	Raingarden	2.000	0.600	63.200	63.175	0.025	80.0	100

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	Σ Area (ha)
2.000	3.159	24.8	1.8	0.007
2.001	1.577	12.4	1.8	0.007
1.000	2.663	20.9	2.1	0.008
1.001	1.577	12.4	2.1	0.008
1.002	0.861	6.8	3.9	0.015

Simulation Settings

Rainfall Methodology	FSR	Summer CV	1.000	Additional Storage (m³/ha)	0.0
Rainfall Events	Singular	Winter CV	1.000	Starting Level (m)	
FSR Region	England and Wales	Analysis Speed	Normal	Check Discharge Rate(s)	x
M5-60 (mm)	20.000	Skip Steady State	x	Check Discharge Volume	x
Ratio-R	0.343	Drain Down Time (mins)	2880		

Storm Durations														
15 30 60 120 180 240 360 480 600 720 960 1440 2160 2880														
Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)							
1	0	0	0	100	45	0	0							
30	40	0	0											

Node S4 Online Orifice Control

Flap Valve	x	Replaces Downstream Link	x	Diameter (m)	0.011
Downstream Link	1.002	Invert Level (m)	63.200	Discharge Coefficient	0.600

Node S4 Online Weir Control

Flap Valve	x	Replaces Downstream Link	x	Width (m)	0.500
Downstream Link	1.002	Invert Level (m)	63.900	Discharge Coefficient	0.590

Node S4 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	63.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	1605

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	29.0	29.0	0.450	29.0	37.6	0.460	0.0	37.6

Node Raingarden Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.03100	Safety Factor	2.0	Invert Level (m)	62.500
Side Inf Coefficient (m/hr)	0.03100	Porosity	0.30	Time to half empty (mins)	362

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	8.6	8.6	0.500	8.6	13.8	1.100	8.6	20.0	1.110	0.0	20.0

Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	10	65.015	0.015	1.2	0.0024	0.0000	OK
15 minute summer	S3	10	63.523	0.023	1.2	0.0044	0.0000	OK
15 minute summer	RE1	10	65.418	0.018	1.4	0.0004	0.0000	OK
15 minute summer	S1	10	63.525	0.025	1.4	0.0039	0.0000	OK
1440 minute winter	S4	930	63.315	0.115	0.2	3.1927	0.0000	SURCHARGED
1440 minute winter	Raingarden	1380	62.904	-0.271	0.1	1.0432	0.0000	OK

US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)
S2	2.000	S3	1.2	1.196
S3	2.001	S4	1.2	1.250
RE1	1.000	S1	1.4	1.174
S1	1.001	S4	1.4	1.335
S4	1.002	Raingarden	0.1	0.291
Raingarden	Infiltration		0.1	

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	10	65.028	0.028	4.1	0.0044	0.0000	OK
960 minute winter	S3	870	63.557	0.057	0.3	0.0111	0.0000	OK
15 minute summer	RE1	10	65.432	0.032	4.7	0.0008	0.0000	OK
960 minute winter	S1	870	63.557	0.057	0.3	0.0090	0.0000	OK
960 minute winter	S4	870	63.557	0.357	0.6	9.8997	0.0000	SURCHARGED
960 minute winter	Raingarden	1140	63.419	0.244	0.2	2.3718	0.0000	OK

US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)
S2	2.000	S3	4.1	1.774
S3	2.001	S4	0.3	0.280
RE1	1.000	S1	4.7	1.742
S1	1.001	S4	0.3	0.784
S4	1.002	Raingarden	0.2	0.345
Raingarden	Infiltration		0.1	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	10	65.032	0.032	5.5	0.0051	0.0000	OK
960 minute summer	S3	930	63.902	0.402	0.6	0.0788	0.0000	FLOOD RISK
15 minute summer	RE1	10	65.438	0.038	6.3	0.0009	0.0000	OK
960 minute summer	S1	930	63.902	0.402	0.6	0.0640	0.0000	FLOOD RISK
960 minute summer	S4	930	63.902	0.702	1.2	12.6729	0.0000	FLOOD RISK
960 minute summer	Raingarden	975	63.785	0.610	0.3	2.8509	0.0000	OK

US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)
S2	2.000	S3	5.5	1.918
S3	2.001	S4	0.6	0.425
RE1	1.000	S1	6.3	1.886
S1	1.001	S4	0.6	0.681
S4	1.002	Raingarden	0.2	0.348
Raingarden	Infiltration		0.1	