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)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	4.00	Enforce best practice design rules	✓

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
S1.000	12.200	81.3	100	Circular	118.500	118.000	0.400	118.600	117.850	0.650
S1.001	10.040	83.7	100	Circular	118.600	117.850	0.650	118.700	117.730	0.870
S1.002	6.640	83.0	100	Circular	118.700	117.730	0.870	118.700	117.650	0.950
S1.003	16.350	81.8	100	Circular	118.700	117.650	0.950	118.500	117.450	0.950
S1.004	5.450	77.9	100	Circular	118.500	117.450	0.950	118.250	117.380	0.770

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
S1.000	S1	450	Manhole	Adoptable	S2	450	Manhole	Adoptable
S1.001	S2	450	Manhole	Adoptable	S3	450	Manhole	Adoptable
S1.002	S3	450	Manhole	Adoptable	S4	450	Manhole	Adoptable
S1.003	S4	450	Manhole	Adoptable	S5	450	Manhole	Adoptable
S1.004	S5	450	Manhole	Adoptable	F3	450	Manhole	Adoptable

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1	118.500	0.500	450	0	S1.000	118.000	100
S2	118.600	0.750	450	1	S1.000	117.850	100
				0	S1.001	117.850	100
S3	118.700	0.970	450	1	S1.001	117.730	100
				0	S1.002	117.730	100
S4	118.700	1.050	450	1	S1.002	117.650	100
				0	S1.003	117.650	100
S5	118.500	1.050	450	1	S1.003	117.450	100
				0	S1.004	117.450	100
F3	118.250	0.870	450	1	S1.004	117.380	100

Node S5 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.800	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Flow (l/s)	5.0		
Invert Level (m)	117.450	Diameter (m)	0.050		

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 winter	S1	10	118.025	0.025	0.9	0.0099	0.0000	OK
15 minute winter	S2	10	117.884	0.034	1.6	0.0098	0.0000	OK
15 minute winter	S3	10	117.771	0.041	2.2	0.0100	0.0000	OK
15 minute winter	S4	12	117.706	0.056	2.8	0.0130	0.0000	OK
15 minute winter	S5	12	117.688	0.238	3.3	0.0558	0.0000	SURCHARGED
15 minute summer	F3	1	117.380	0.000	2.4	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	S1.000	S2	0.9	0.474	0.134	0.0232	
15 minute winter	S2	S1.001	S3	1.6	0.596	0.241	0.0268	
15 minute winter	S3	S1.002	S4	2.2	0.678	0.326	0.0232	
15 minute winter	S4	S1.003	S5	2.7	0.419	0.406	0.1004	
15 minute winter	S5	Orifice	F3	2.4				1.5

Results for 30 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 winter	S1	13	118.046	0.046	2.2	0.0185	0.0000	OK
15 minute winter	S2	13	118.044	0.194	4.0	0.0567	0.0000	SURCHARGED
15 minute winter	S3	13	118.033	0.303	5.3	0.0733	0.0000	SURCHARGED
15 minute winter	S4	13	118.019	0.369	5.1	0.0867	0.0000	SURCHARGED
15 minute winter	S5	13	117.970	0.520	4.5	0.1223	0.0000	SURCHARGED
15 minute summer	F3	1	117.380	0.000	3.5	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	S1.000	S2	2.2	0.591	0.328	0.0693	
15 minute winter	S2	S1.001	S3	3.8	0.691	0.579	0.0786	
15 minute winter	S3	S1.002	S4	3.9	0.711	0.582	0.0520	
15 minute summer	S4	S1.003	S5	3.6	0.522	0.541	0.1279	
15 minute winter	S5	Orifice	F3	3.7				3.6

Results for 100 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 winter	S1	14	118.498	0.498	4.0	0.1989	0.0000	FLOOD RISK
15 minute winter	S2	14	118.492	0.642	6.0	0.1874	0.0000	FLOOD RISK
15 minute winter	S3	14	118.472	0.742	5.8	0.1797	0.0000	FLOOD RISK
15 minute winter	S4	14	118.447	0.797	5.7	0.1873	0.0000	FLOOD RISK
15 minute winter	S5	14	118.359	0.909	6.2	0.2136	0.0000	FLOOD RISK
15 minute summer	F3	1	117.380	0.000	4.6	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	S1.000	S2	3.2	0.596	0.476	0.0955	
15 minute summer	S2	S1.001	S3	4.3	0.687	0.652	0.0786	
15 minute summer	S3	S1.002	S4	3.7	0.698	0.561	0.0520	
15 minute winter	S4	S1.003	S5	4.1	0.523	0.612	0.1279	
15 minute winter	S5	Orifice	F3	4.9				6.7