

26/01/2025

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	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)	17.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.300	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Circular Link Type

Shape	Circular	Auto Increment (mm)	75
Barrels	1	Follow Ground	x

Available Diameters (mm)

100 | 150

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
OB1	0.004	5.00	118.540	300	379417.433	405261.231	0.610
OB2	0.004	5.00	118.450	300	379406.133	405252.105	0.610
SW01	0.002	5.00	118.720	450	379420.403	405256.891	0.856
SW02	0.011	5.00	118.780	450	379422.939	405254.214	0.953
SW03	0.002	5.00	118.720	450	379432.889	405241.550	1.054
SW04			118.720	450	379427.669	405236.953	1.262
SW05	0.015	5.00	118.710	450	379409.096	405248.530	0.928
SW06	0.002	5.00	118.720	100	379422.030	405232.811	1.142
RE	0.003	5.00	118.750	100	379416.770	405253.790	0.750
SOAKAWAY			119.720	100	379432.175	405231.383	2.310

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)
1.000	5.259	80.0	100	Circular	118.540	117.930	0.510	118.720	117.864	0.756
1.001	3.687	100.0	100	Circular	118.720	117.864	0.756	118.780	117.827	0.853
1.002	16.105	100.0	100	Circular	118.780	117.827	0.853	118.720	117.666	0.954
1.003	6.956	100.0	100	Circular	118.720	117.666	0.954	118.720	117.596	1.024
1.004	7.164	150.0	150	Circular	118.720	117.458	1.112	119.720	117.410	2.160
3.000	4.643	80.0	100	Circular	118.450	117.840	0.510	118.710	117.782	0.828
3.001	20.356	100.0	100	Circular	118.710	117.782	0.828	118.720	117.578	1.042

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	OB1	300	Manhole	Adoptable	SW01	450	Manhole	Adoptable
1.001	SW01	450	Manhole	Adoptable	SW02	450	Manhole	Adoptable
1.002	SW02	450	Manhole	Adoptable	SW03	450	Manhole	Adoptable
1.003	SW03	450	Manhole	Adoptable	SW04	450	Manhole	Adoptable
1.004	SW04	450	Manhole	Adoptable	SOAKAWAY	100	Manhole	Adoptable
3.000	OB2	300	Manhole	Adoptable	SW05	450	Manhole	Adoptable
3.001	SW05	450	Manhole	Adoptable	SW06	100	Manhole	Adoptable

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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)
3.002	6.997	100.0	100	Circular	118.720	117.578	1.042	118.720	117.508	1.112
2.000	4.776	35.1	100	Circular	118.750	118.000	0.650	118.720	117.864	0.756

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
3.002	SW06	100	Manhole	Adoptable	SW04	450	Manhole	Adoptable
2.000	RE	100	Manhole	Adoptable	SW01	450	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
OB1	379417.433	405261.231	118.540	0.610	300	 0	1.000	117.930	100
OB2	379406.133	405252.105	118.450	0.610	300	 0	3.000	117.840	100
SW01	379420.403	405256.891	118.720	0.856	450	 1	2.000	117.864	100
						2	1.000	117.864	100
						0	1.001	117.864	100
SW02	379422.939	405254.214	118.780	0.953	450	 1 0	1.001	117.827	100
SW03	379432.889	405241.550	118.720	1.054	450	 1 0	1.002	117.666	100
SW04	379427.669	405236.953	118.720	1.262	450	 1 2 0	3.002	117.508	100
SW05	379409.096	405248.530	118.710	0.928	450	 1 0	3.000	117.782	100
						3.001	117.782	100	
SW06	379422.030	405232.811	118.720	1.142	100	 1 0	3.001	117.578	100
RE	379416.770	405253.790	118.750	0.750	100	 0	2.000	118.000	100
						1.004	117.410	150	
SOAKAWAY	379432.175	405231.383	119.720	2.310	100	 1	1.004	117.410	150

Node SOAKAWAY Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.36000	Safety Factor	2.0	Invert Level (m)	117.160
Side Inf Coefficient (m/hr)	0.36000	Porosity	0.95	Time to half empty (mins)	0

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	20.0	20.0	0.400	20.0	27.2	0.401	0.0	27.2

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Results for 1 year Critical Storm Duration. Lowest mass balance: 99.10%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	OB1	11	117.947	0.017	0.4	0.0033	0.0000	OK
15 minute summer	OB2	11	117.857	0.017	0.4	0.0033	0.0000	OK
15 minute winter	SW01	11	117.890	0.026	0.9	0.0054	0.0000	OK
15 minute winter	SW02	10	117.868	0.041	2.1	0.0158	0.0000	OK
15 minute winter	SW03	11	117.710	0.044	2.2	0.0087	0.0000	OK
15 minute winter	SW04	11	117.518	0.060	4.4	0.0095	0.0000	OK
15 minute winter	SW05	10	117.821	0.039	2.0	0.0190	0.0000	OK
15 minute winter	SW06	11	117.621	0.043	2.1	0.0019	0.0000	OK
15 minute winter	RE	11	118.012	0.012	0.3	0.0010	0.0000	OK
60 minute winter	SOAKAWAY	46	117.253	-0.157	2.5	1.7636	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	OB1	1.000	SW01	0.4	0.403	0.059	0.0065
15 minute summer	OB2	3.000	SW05	0.4	0.228	0.059	0.0084
15 minute winter	SW01	1.001	SW02	0.9	0.403	0.149	0.0084
15 minute winter	SW02	1.002	SW03	2.0	0.656	0.337	0.0506
15 minute winter	SW03	1.003	SW04	2.2	0.694	0.371	0.0225
15 minute winter	SW04	1.004	SOAKAWAY	4.4	0.694	0.302	0.0451
15 minute winter	SW05	3.001	SW06	1.9	0.651	0.323	0.0617
15 minute winter	SW06	3.002	SW04	2.2	0.685	0.356	0.0220
15 minute winter	RE	2.000	SW01	0.3	0.317	0.029	0.0051
60 minute winter	SOAKAWAY	Infiltration		1.0			

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Results for 30 year Critical Storm Duration. Lowest mass balance: 99.10%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	OB1	10	117.957	0.027	1.1	0.0054	0.0000	OK
15 minute winter	OB2	10	117.867	0.027	1.1	0.0055	0.0000	OK
15 minute winter	SW01	11	117.912	0.048	2.4	0.0098	0.0000	OK
15 minute winter	SW02	11	117.899	0.072	5.1	0.0282	0.0000	OK
15 minute winter	SW03	11	117.749	0.083	5.6	0.0164	0.0000	OK
15 minute winter	SW04	11	117.565	0.107	11.0	0.0170	0.0000	OK
15 minute winter	SW05	10	117.852	0.070	5.1	0.0339	0.0000	OK
15 minute winter	SW06	11	117.659	0.081	5.4	0.0035	0.0000	OK
15 minute winter	RE	10	118.019	0.019	0.8	0.0016	0.0000	OK
120 minute winter	SOAKAWAY	92	117.486	0.076	4.3	6.1970	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	OB1	1.000	SW01	1.1	0.409	0.159	0.0140
15 minute winter	OB2	3.000	SW05	1.1	0.284	0.159	0.0176
15 minute winter	SW01	1.001	SW02	2.3	0.470	0.382	0.0180
15 minute winter	SW02	1.002	SW03	5.1	0.790	0.845	0.1049
15 minute winter	SW03	1.003	SW04	5.5	0.836	0.919	0.0462
15 minute winter	SW04	1.004	SOAKAWAY	10.9	0.856	0.754	0.0911
15 minute winter	SW05	3.001	SW06	4.9	0.794	0.816	0.1276
15 minute winter	SW06	3.002	SW04	5.4	0.832	0.898	0.0455
15 minute winter	RE	2.000	SW01	0.8	0.401	0.076	0.0111
120 minute winter	SOAKAWAY	Infiltration		1.3			

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.10%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	OB1	144	118.376	0.446	0.5	0.0900	0.0000	FLOOD RISK
120 minute winter	OB2	112	118.376	0.536	1.0	0.1082	0.0000	FLOOD RISK
180 minute winter	SW01	144	118.376	0.512	1.2	0.1054	0.0000	SURCHARGED
180 minute winter	SW02	144	118.376	0.548	2.7	0.2139	0.0000	SURCHARGED
180 minute winter	SW03	144	118.374	0.708	3.0	0.1394	0.0000	SURCHARGED
120 minute winter	SW04	112	118.372	0.914	7.8	0.1454	0.0000	SURCHARGED
120 minute winter	SW05	112	118.376	0.594	3.4	0.2861	0.0000	SURCHARGED
120 minute winter	SW06	112	118.373	0.795	3.8	0.0342	0.0000	SURCHARGED
180 minute winter	RE	144	118.376	0.376	0.4	0.0331	0.0000	SURCHARGED
120 minute winter	SOAKAWAY	112	118.372	0.962	7.5	7.6172	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	OB1	1.000	SW01	1.8	0.425	0.260	0.0411
15 minute summer	OB2	3.000	SW05	2.3	0.301	0.341	0.0363
15 minute winter	SW01	1.001	SW02	3.8	0.497	0.627	0.0288
15 minute winter	SW02	1.002	SW03	6.9	0.880	1.141	0.1260
15 minute winter	SW03	1.003	SW04	7.6	0.971	1.256	0.0525
15 minute winter	SW04	1.004	SOAKAWAY	15.2	0.940	1.052	0.1261
15 minute winter	SW05	3.001	SW06	7.1	0.906	1.174	0.1593
15 minute winter	SW06	3.002	SW04	7.7	0.985	1.277	0.0542
15 minute winter	RE	2.000	SW01	1.4	0.369	0.135	0.0339
15 minute winter	SOAKAWAY	Infiltration		1.4			