



Design Settings

Rainfall Methodology	FEH-13	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	1.000
CV	0.750	Preferred Cover Depth (m)	0.500
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)
S1	0.015	5.00	63.900	450	0.800
S2	0.010	5.00	63.900	450	1.100
S3	0.005	5.00	63.900	450	0.900
S4	0.010	5.00	63.900	450	1.350
NODE			63.980	100	1.595
S5	0.012	5.00	63.980	450	1.630
S6	0.014	5.00	63.910	450	1.610
S7	0.010	5.00	63.980	450	1.930
S8	0.012	5.00	64.000	450	2.000
ATT	0.027		64.000	10	2.050

Links

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	S3	S4	37.000	0.600	63.000	62.550	0.450	82.2	150	5.56	50.0
1.001	S4	NODE	14.400	0.600	62.550	62.385	0.165	87.3	150	5.78	50.0
2.000	S1	S2	14.400	0.600	63.100	62.800	0.300	48.0	150	5.16	50.0
2.001	S2	NODE	15.690	0.600	62.800	62.385	0.415	37.8	150	5.32	50.0
1.002	NODE	S5	2.600	0.600	62.385	62.350	0.035	74.3	150	5.82	50.0
1.003	S5	S6	4.090	0.600	62.350	62.300	0.050	81.8	150	5.88	50.0
1.004	S6	S7	26.150	0.600	62.300	62.050	0.250	104.6	150	6.32	50.0
1.005	S7	S8	4.800	0.600	62.050	62.000	0.050	96.0	150	6.40	50.0
1.006	S8	ATT	4.000	0.600	62.000	61.950	0.050	80.0	150	6.46	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.109	19.6	0.7	0.750	1.200	0.005	0.0	19	0.514
1.001	1.076	19.0	2.0	1.200	1.445	0.015	0.0	33	0.703
2.000	1.456	25.7	2.0	0.650	0.950	0.015	0.0	28	0.869
2.001	1.642	29.0	3.4	0.950	1.445	0.025	0.0	34	1.097
1.002	1.168	20.6	5.4	1.445	1.480	0.040	0.0	52	0.986
1.003	1.112	19.7	7.0	1.480	1.460	0.052	0.0	62	1.020
1.004	0.982	17.4	8.9	1.460	1.780	0.066	0.0	76	0.990
1.005	1.026	18.1	10.3	1.780	1.850	0.076	0.0	81	1.058
1.006	1.125	19.9	11.9	1.850	1.900	0.088	0.0	84	1.176



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File: 539121-1a.pfd
Network: Storm Network
Andrew Bird
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Hevercourt
Goodwood Crescent
Gravesend DA12 5EY

Simulation Settings

Rainfall Methodology	FEH-13	Analysis Speed	Normal	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	0.840	Drain Down Time (mins)	240	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 %)
2	35	0	0
30	35	0	0
100	0	0	0
100	45	0	0

Node ATT Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.03800	Safety Factor	2.0	Invert Level (m)	61.950
Side Inf Coefficient (m/hr)	0.03800	Porosity	1.00	Time to half empty (mins)	879

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	70.0	70.0	1.200	70.0	240.0	1.201	0.0	240.0

Results for 2 year +35% CC Critical Storm Duration. Lowest mass balance: 96.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	63.133	0.033	2.8	0.0178	0.0000	OK
15 minute winter	S2	10	62.841	0.041	4.7	0.0138	0.0000	OK
15 minute winter	S3	11	63.022	0.022	0.9	0.0059	0.0000	OK
15 minute winter	S4	11	62.588	0.038	2.8	0.0117	0.0000	OK
15 minute winter	NODE	11	62.464	0.079	7.3	0.0006	0.0000	OK
15 minute winter	S5	11	62.438	0.088	9.4	0.0269	0.0000	OK
15 minute winter	S6	11	62.392	0.092	11.9	0.0308	0.0000	OK
360 minute winter	S7	344	62.289	0.239	2.5	0.0629	0.0000	SURCHARGED
360 minute winter	S8	344	62.289	0.289	2.8	0.0807	0.0000	SURCHARGED
360 minute winter	ATT	344	62.289	0.339	4.0	23.8325	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	S1	2.000	S2	2.8	0.827	0.108	0.0486
15 minute winter	S2	2.001	NODE	4.6	0.744	0.160	0.1034
15 minute winter	S3	1.000	S4	0.9	0.357	0.046	0.0946
15 minute winter	S4	1.001	NODE	2.7	0.429	0.143	0.0931
15 minute winter	NODE	1.002	S5	7.3	0.727	0.355	0.0262
15 minute winter	S5	1.003	S6	9.4	0.855	0.481	0.0452
15 minute winter	S6	1.004	S7	12.0	0.912	0.694	0.3433
15 minute winter	S7	1.005	S8	13.8	0.952	0.762	0.0696
15 minute winter	S8	1.006	ATT	15.9	1.606	0.800	0.0535
360 minute winter	ATT	Infiltration		0.6			

Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 96.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	63.157	0.057	7.9	0.0304	0.0000	OK
15 minute winter	S2	13	63.071	0.271	13.2	0.0925	0.0000	SURCHARGED
15 minute winter	S3	14	63.037	0.037	2.6	0.0099	0.0000	OK
15 minute winter	S4	13	63.041	0.491	10.5	0.1506	0.0000	SURCHARGED
15 minute winter	NODE	13	63.030	0.645	14.7	0.0052	0.0000	SURCHARGED
15 minute winter	S5	13	63.002	0.651	17.1	0.1994	0.0000	SURCHARGED
15 minute winter	S6	13	62.939	0.639	21.8	0.2128	0.0000	SURCHARGED
480 minute winter	S7	456	62.743	0.693	4.3	0.1823	0.0000	SURCHARGED
480 minute winter	S8	456	62.743	0.743	4.9	0.2073	0.0000	SURCHARGED
480 minute winter	ATT	456	62.743	0.793	6.3	55.7218	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	S1	2.000	S2	7.9	1.076	0.307	0.1679
15 minute summer	S2	2.001	NODE	12.2	0.872	0.421	0.2762
15 minute winter	S3	1.000	S4	2.5	0.447	0.130	0.3870
15 minute summer	S4	1.001	NODE	6.9	0.478	0.364	0.2535
15 minute summer	NODE	1.002	S5	13.6	0.773	0.660	0.0458
15 minute winter	S5	1.003	S6	16.9	0.958	0.858	0.0720
15 minute winter	S6	1.004	S7	21.3	1.207	1.225	0.4604
15 minute winter	S7	1.005	S8	24.7	1.403	1.363	0.0845
15 minute winter	S8	1.006	ATT	29.4	1.712	1.479	0.0704
480 minute winter	ATT	Infiltration		0.9			

Results for 100 year Critical Storm Duration. Lowest mass balance: 96.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	63.156	0.056	7.6	0.0300	0.0000	OK
15 minute winter	S2	13	63.025	0.225	12.7	0.0768	0.0000	SURCHARGED
15 minute winter	S3	10	63.036	0.036	2.5	0.0097	0.0000	OK
15 minute winter	S4	13	63.002	0.452	8.3	0.1389	0.0000	SURCHARGED
15 minute winter	NODE	13	62.988	0.603	15.2	0.0048	0.0000	SURCHARGED
15 minute winter	S5	13	62.960	0.610	17.2	0.1866	0.0000	SURCHARGED
15 minute winter	S6	13	62.899	0.599	21.4	0.1995	0.0000	SURCHARGED
480 minute winter	S7	456	62.755	0.705	4.3	0.1855	0.0000	SURCHARGED
480 minute winter	S8	456	62.755	0.755	4.9	0.2107	0.0000	SURCHARGED
480 minute winter	ATT	456	62.755	0.805	6.3	56.5579	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	S1	2.000	S2	7.6	1.069	0.294	0.1630
15 minute summer	S2	2.001	NODE	11.9	0.874	0.409	0.2724
15 minute winter	S3	1.000	S4	2.4	0.442	0.125	0.3851
15 minute winter	S4	1.001	NODE	6.9	0.460	0.364	0.2535
15 minute summer	NODE	1.002	S5	13.6	0.771	0.658	0.0458
15 minute winter	S5	1.003	S6	16.6	0.941	0.843	0.0720
15 minute winter	S6	1.004	S7	20.8	1.181	1.198	0.4604
15 minute winter	S7	1.005	S8	24.2	1.375	1.335	0.0845
15 minute winter	S8	1.006	ATT	28.8	1.711	1.449	0.0704
480 minute winter	ATT	Infiltration		1.0			

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 96.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	13	63.569	0.469	11.0	0.2506	0.0000	SURCHARGED
15 minute winter	S2	13	63.549	0.749	17.1	0.2555	0.0000	SURCHARGED
15 minute winter	S3	13	63.514	0.514	6.1	0.1387	0.0000	SURCHARGED
15 minute winter	S4	13	63.506	0.956	13.0	0.2936	0.0000	SURCHARGED
15 minute winter	NODE	13	63.488	1.103	15.5	0.0088	0.0000	SURCHARGED
15 minute winter	S5	13	63.449	1.099	20.3	0.3364	0.0000	SURCHARGED
15 minute winter	S6	13	63.363	1.063	26.5	0.3539	0.0000	SURCHARGED
480 minute winter	S7	464	63.186	1.136	5.9	0.2987	0.0000	SURCHARGED
480 minute winter	S8	464	63.186	1.186	6.9	0.3308	0.0000	SURCHARGED
480 minute winter	ATT	464	63.186	1.236	9.1	84.3599	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	S1	2.000	S2	10.4	1.099	0.404	0.2535
15 minute summer	S2	2.001	NODE	14.1	0.882	0.486	0.2762
15 minute summer	S3	1.000	S4	-5.6	0.469	-0.285	0.6514
15 minute winter	S4	1.001	NODE	8.7	0.496	0.459	0.2535
15 minute winter	NODE	1.002	S5	16.2	0.920	0.785	0.0458
15 minute winter	S5	1.003	S6	20.3	1.153	1.032	0.0720
15 minute winter	S6	1.004	S7	25.4	1.441	1.462	0.4604
15 minute winter	S7	1.005	S8	29.6	1.683	1.635	0.0845
15 minute winter	S8	1.006	ATT	36.0	2.048	1.814	0.0704
480 minute winter	ATT	Infiltration		1.3			