

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
PS27-RE	0.006	180	Type E	17.388	17.201	0.087	494850.392	106269.391
PS28	0.002	450	Type D	17.423	17.007	0.266	494845.242	106259.072
PS29-DIF	0.014	300x300	Type E	17.496	16.887	0.460	494853.862	106254.780
PS22-RE	0.004	180	Type E	17.536	17.237	0.199	494877.237	106257.498
PS43-ACO	0.001	180	Type E	17.708	17.558	0.050	494869.919	106241.809
PS44-ACO	0.000	180	Type E	17.725	17.526	0.099	494871.366	106244.670
PS23	0.005	450	Type D	17.654	17.101	0.453	494872.336	106247.805
PS30-RE	0.006	180	Type E	17.451	17.109	0.242	494858.977	106265.592
PS45-ACO	0.004	180	Type E	17.364	17.214	0.050	494864.975	106261.641
PS46-ACO	0.000	180	Type E	17.443	17.182	0.161	494867.768	106260.189
PS31	0.004	450	Type D	17.450	16.957	0.343	494866.333	106261.964
PS24	0.000	450	Type D	17.594	16.831	0.613	494861.838	106253.007
PS25-DIF	0.000	300x300	Type E	17.612	16.807	0.655	494861.083	106251.796
PP3-Dummy Outfall	0.000	100	Unknown	17.734	16.775	0.809	494858.621	106246.615

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (mm)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	PS27-RE	17.201	PS28	17.057	Circ	100	11.533	80	0.600	0.087	0.266
1.001	PS28	17.007	PS29-DIF	16.887	Circ	150	9.630	80	0.600	0.266	0.460
1.002	PS29-DIF	16.887	PS25-DIF	16.807	Circ	150	7.813	98	0.600	0.460	0.655
2.000	PS22-RE	17.237	PS23	17.101	Circ	100	10.862	80	0.600	0.199	0.453
3.000	PS43-ACO	17.558	PS44-ACO	17.526	Circ	100	3.206	99	0.600	0.050	0.099
3.001	PS44-ACO	17.526	PS23	17.101	Circ	100	3.282	8	0.600	0.099	0.453
2.001	PS23	17.101	PS24	16.881	Circ	100	11.716	53	0.600	0.453	0.613
4.000	PS30-RE	17.109	PS31	17.007	Circ	100	8.202	80	0.600	0.242	0.343
5.000	PS45-ACO	17.214	PS46-ACO	17.182	Circ	100	3.149	99	0.600	0.050	0.161
5.001	PS46-ACO	17.182	PS31	17.007	Circ	100	2.283	13	0.600	0.161	0.343
4.001	PS31	16.957	PS24	16.831	Circ	150	10.022	80	0.600	0.343	0.613
2.002	PS24	16.831	PS25-DIF	16.807	Circ	150	1.427	59	0.600	0.613	0.655
1.003	PS25-DIF	16.807	PP3-Dummy Outfall	16.775	Circ	150	5.736	179	0.600	0.655	0.809

Outfall Details

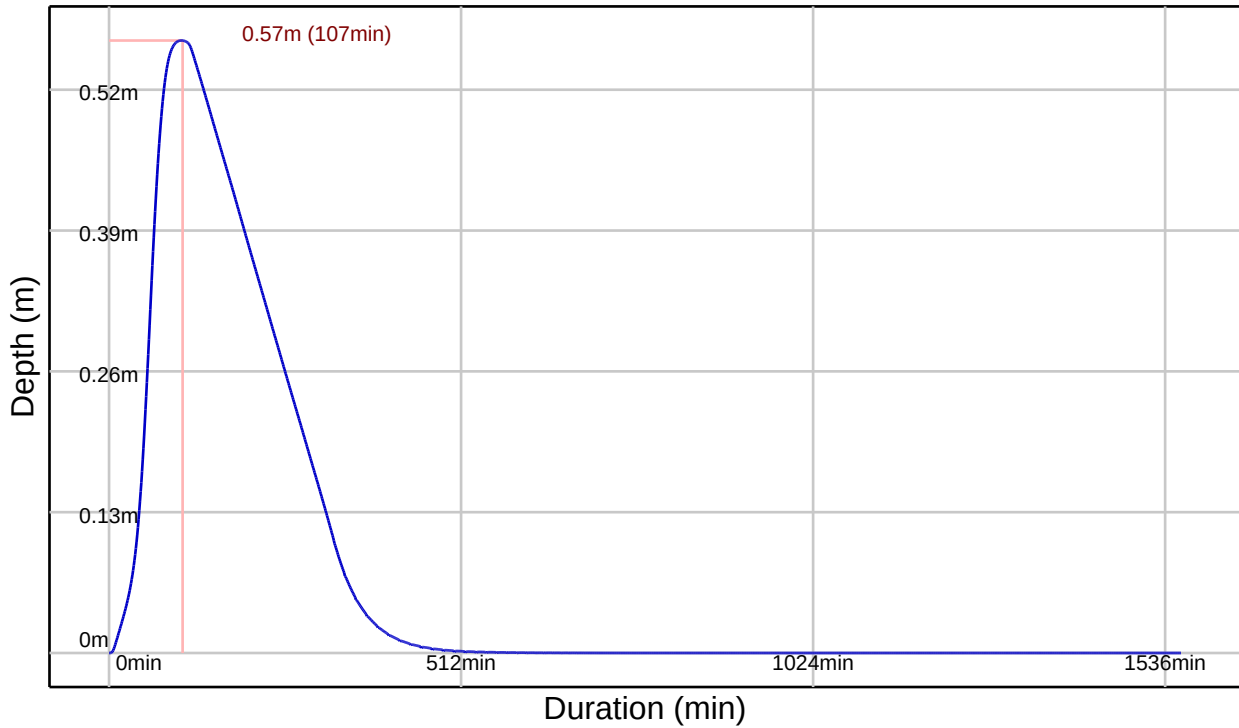
Outfall Manhole PP3-Dummy Outfall : Free Discharge

Flow Control Details

Tank Structure at Manhole PS25-DIF

Tank Invert (m)	Tank Height (m)	Porosity Ratio (%)	Area (m2)	Effective Area (m2) Area x Porosity Ratio	Max Storage (m3) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
16.680	0.675	30.00	140.745	42.224	28.501	0.07812000	0.07812000	2.00

Permeable Paving 3 at PS25-DIF (100Yr+45% 120Min Winter)



Controls within Manhole PP3-Dummy Outfall

Orifice Control

Invert Offset (m)	Orifice Diameter (m)	Discharge Coeff
0.000	0.001	0.600

Simulation Settings

FEH2022 (point): Filename=FEH_Point_Descriptors_494812_106233_v5_1_0.xml

Summer (Cv: 1.00), Winter (Cv: 1.00)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440

Return Periods (yrs) + Climate Change: (1, +0%), (30, +40%), (100, +45%)

Manhole Flood Risk Freeboard: 0.300m

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
1Yr 15Min Winter	15.628	0.00	0.00	30Yr+40% 360Min Summer	12.891	0.00	0.00
1Yr 15Min Summer	15.628	0.00	0.00	30Yr+40% 360Min Winter	12.891	0.00	0.00
1Yr 30Min Winter	10.316	0.00	0.00	30Yr+40% 480Min Summer	10.228	0.00	0.00
1Yr 30Min Summer	10.316	0.00	0.00	30Yr+40% 480Min Winter	10.228	0.00	0.00
1Yr 60Min Winter	6.595	0.00	0.00	30Yr+40% 600Min Summer	8.522	0.00	0.00
1Yr 60Min Summer	6.595	0.00	0.00	30Yr+40% 600Min Winter	8.522	0.00	0.00
1Yr 120Min Summer	5.323	0.00	0.00	30Yr+40% 720Min Summer	7.326	0.00	0.00
1Yr 120Min Winter	5.323	0.00	0.00	30Yr+40% 720Min Winter	7.326	0.00	0.00
1Yr 180Min Winter	4.511	0.00	0.00	30Yr+40% 960Min Summer	5.766	0.00	0.00
1Yr 180Min Summer	4.511	0.00	0.00	30Yr+40% 960Min Winter	5.766	0.00	0.00
1Yr 240Min Winter	3.753	0.00	0.00	30Yr+40% 1440Min Summer	4.126	0.00	0.00
1Yr 240Min Summer	3.753	0.00	0.00	30Yr+40% 1440Min Winter	4.126	0.00	0.00
1Yr 360Min Winter	2.919	0.00	0.00	100Yr+45% 15Min Summer	149.272	0.00	0.00
1Yr 360Min Summer	2.919	0.00	0.00	100Yr+45% 15Min Winter	149.272	0.00	0.00
1Yr 480Min Summer	2.427	0.00	0.00	100Yr+45% 30Min Summer	100.198	0.00	0.00
1Yr 480Min Winter	2.427	0.00	0.00	100Yr+45% 30Min Winter	100.198	0.00	0.00
1Yr 600Min Winter	2.074	0.00	0.00	100Yr+45% 60Min Summer	64.450	0.00	0.00
1Yr 600Min Summer	2.074	0.00	0.00	100Yr+45% 60Min Winter	64.450	0.00	0.00
1Yr 720Min Summer	1.811	0.00	0.00	100Yr+45% 120Min Summer	38.652	0.00	0.00
1Yr 720Min Winter	1.811	0.00	0.00	100Yr+45% 120Min Winter	38.652	0.00	0.00
1Yr 960Min Summer	1.465	0.00	0.00	100Yr+45% 180Min Summer	28.339	0.00	0.00
1Yr 960Min Winter	1.465	0.00	0.00	100Yr+45% 180Min Winter	28.339	0.00	0.00
1Yr 1440Min Winter	1.102	0.00	0.00	100Yr+45% 240Min Summer	22.782	0.00	0.00
1Yr 1440Min Summer	1.102	0.00	0.00	100Yr+45% 240Min Winter	22.782	0.00	0.00
30Yr+40% 15Min Winter	115.253	0.00	0.00	100Yr+45% 360Min Summer	16.530	0.00	0.00
30Yr+40% 15Min Summer	115.253	0.00	0.00	100Yr+45% 360Min Winter	16.530	0.00	0.00
30Yr+40% 30Min Summer	76.731	0.00	0.00	100Yr+45% 480Min Summer	13.117	0.00	0.00
30Yr+40% 30Min Winter	76.731	0.00	0.00	100Yr+45% 480Min Winter	13.117	0.00	0.00
30Yr+40% 60Min Summer	48.847	0.00	0.00	100Yr+45% 600Min Summer	10.952	0.00	0.00
30Yr+40% 60Min Winter	48.847	0.00	0.00	100Yr+45% 600Min Winter	10.952	0.00	0.00
30Yr+40% 120Min Summer	29.859	0.00	0.00	100Yr+45% 720Min Summer	9.434	0.00	0.00
30Yr+40% 120Min Winter	29.859	0.00	0.00	100Yr+45% 720Min Winter	9.434	0.00	0.00
30Yr+40% 180Min Winter	22.126	0.00	0.00	100Yr+45% 960Min Summer	7.431	0.00	0.00
30Yr+40% 180Min Summer	22.126	0.00	0.00	100Yr+45% 960Min Winter	7.431	0.00	0.00
30Yr+40% 240Min Summer	17.757	0.00	0.00	100Yr+45% 1440Min Winter	5.311	0.00	0.00
30Yr+40% 240Min Winter	17.757	0.00	0.00	100Yr+45% 1440Min Summer	5.311	0.00	0.00

Simulation Results

Return Period (yrs) + Climate Change (%):

1yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PS27-RE	15 min Summer	8	17.221	0.020	0.601		OK
PS28	15 min Summer	9	17.027	0.020	0.787		OK
PS29-DIF	15 min Summer	8	16.922	0.035	2.100		OK
PS22-RE	15 min Summer	8	17.253	0.016	0.376		OK
PS43-ACO	15 min Summer	9	17.568	0.009	0.095		OK
PS44-ACO	15 min Summer	9	17.531	0.005	0.095		OK
PS23	15 min Summer	9	17.123	0.022	0.888		OK
PS30-RE	15 min Summer	8	17.128	0.019	0.555		OK
PS45-ACO	15 min Summer	8	17.231	0.018	0.396		OK
PS46-ACO	15 min Summer	9	17.192	0.010	0.385		OK
PS31	15 min Summer	9	16.982	0.026	1.307		OK
PS24	15 min Summer	9	16.866	0.035	2.206		OK
PS25-DIF	180 min Summer	108	16.745	0.065	1.053		OK
PP3-Dummy Outfall	15 min Winter	0	16.775	0.000	0.000		OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	PS27-RE	PS28	0.020	0.533	0.591	0.088	OK
1.001	15 min Summer	9	PS28	PS29-DIF	0.028	0.353	0.794	0.040	OK
1.002	15 min Summer	8	PS29-DIF	PS25-DIF	0.035	0.670	2.072	0.116	OK
2.000	15 min Summer	9	PS22-RE	PS23	0.019	0.361	0.367	0.054	OK
3.000	15 min Summer	9	PS43-ACO	PS44-ACO	0.007	0.400	0.095	0.016	OK
3.001	15 min Summer	9	PS44-ACO	PS23	0.013	0.163	0.092	0.004	OK
2.001	15 min Summer	9	PS23	PS24	0.022	0.698	0.892	0.108	OK
4.000	15 min Summer	8	PS30-RE	PS31	0.019	0.522	0.545	0.081	OK
5.000	15 min Summer	9	PS45-ACO	PS46-ACO	0.014	0.582	0.387	0.064	OK
5.001	15 min Summer	9	PS46-ACO	PS31	0.010	0.923	0.388	0.023	OK
4.001	15 min Summer	9	PS31	PS24	0.030	0.525	1.314	0.066	OK
2.002	15 min Summer	9	PS24	PS25-DIF	0.032	0.811	2.212	0.096	OK
1.003	15 min Winter	0	PS25-DIF	PP3-Dummy Outfall	0.000	0.000	0.000	0.000	OK

Return Period (yrs) + Climate Change (%):

30yr+40%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PS27-RE	15 min Summer	8	17.261	0.060	4.432		OK
PS28	120 min Winter	98	17.104	0.098	0.342		OK
PS29-DIF	120 min Winter	98	17.104	0.218	0.884		Surcharged
PS22-RE	15 min Summer	8	17.281	0.044	2.769		OK
PS43-ACO	15 min Summer	8	17.582	0.024	0.735		OK
PS44-ACO	15 min Summer	8	17.538	0.012	0.724		OK
PS23	15 min Summer	8	17.171	0.070	6.784		OK
PS30-RE	15 min Summer	8	17.166	0.057	4.091		OK
PS45-ACO	15 min Summer	8	17.262	0.048	2.920		OK
PS46-ACO	15 min Summer	8	17.211	0.029	2.898		OK
PS31	120 min Winter	98	17.104	0.148	0.569		OK
PS24	120 min Winter	98	17.104	0.273	0.966		Surcharged
PS25-DIF	120 min Winter	98	17.104	0.424	1.866		Surcharged
PP3-Dummy Outfall	120 min Winter	99	17.104	0.329	0.010		OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	PS27-RE	PS28	0.059	0.913	4.399	0.652	OK
1.001	120 min Winter	98	PS28	PS29-DIF	0.124	0.464	1.810	0.091	OK
1.002	60 min Winter	40	PS29-DIF	PS25-DIF	0.150	0.926	7.585	0.424	Surcharged
2.000	15 min Summer	8	PS22-RE	PS23	0.057	0.597	2.748	0.407	OK
3.000	15 min Summer	8	PS43-ACO	PS44-ACO	0.018	0.751	0.724	0.119	OK
3.001	15 min Summer	8	PS44-ACO	PS23	0.041	0.255	0.718	0.033	OK
2.001	60 min Summer	34	PS23	PS24	0.072	1.080	4.642	0.559	OK
4.000	15 min Summer	8	PS30-RE	PS31	0.056	0.896	4.059	0.601	OK
5.000	15 min Summer	8	PS45-ACO	PS46-ACO	0.038	1.042	2.898	0.479	OK
5.001	120 min Winter	97	PS46-ACO	PS31	0.052	1.165	0.880	0.052	OK
4.001	120 min Winter	98	PS31	PS24	0.149	0.612	2.995	0.151	OK
2.002	30 min Winter	21	PS24	PS25-DIF	0.150	1.222	11.964	0.519	Surcharged
1.003	15 min Summer	15	PS25-DIF	PP3-Dummy Outfall	0.150	0.491	3.358	0.254	Surcharged

Return Period (yrs) + Climate Change (%):

100yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PS27-RE	15 min Summer	8	17.273	0.072	5.741		OK
PS28	120 min Winter	105	17.246	0.239	0.359		Flood Risk
PS29-DIF	120 min Winter	105	17.246	0.359	0.935		Flood Risk
PS22-RE	15 min Summer	8	17.288	0.051	3.586		OK
PS43-ACO	15 min Summer	8	17.586	0.027	0.952		OK
PS44-ACO	15 min Summer	8	17.540	0.014	0.940		OK
PS23	120 min Winter	105	17.246	0.145	0.412		Surcharged
PS30-RE	120 min Winter	106	17.246	0.137	0.239		Flood Risk
PS45-ACO	15 min Summer	8	17.269	0.056	3.782		OK
PS46-ACO	120 min Winter	106	17.246	0.064	0.173		OK
PS31	120 min Winter	102	17.246	0.289	0.649		Flood Risk
PS24	120 min Winter	105	17.246	0.415	0.982		Surcharged
PS25-DIF	120 min Winter	105	17.245	0.565	1.884		Surcharged
PP3-Dummy Outfall	120 min Winter	104	17.246	0.471	0.003		OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	120 min Winter	105	PS27-RE	PS28	0.072	0.723	1.729	0.256	OK
1.001	60 min Winter	40	PS28	PS29-DIF	0.150	0.507	3.812	0.192	Surcharged
1.002	15 min Winter	15	PS29-DIF	PS25-DIF	0.150	1.094	18.188	1.016	Surcharged
2.000	15 min Summer	8	PS22-RE	PS23	0.071	0.613	3.560	0.527	OK
3.000	15 min Summer	8	PS43-ACO	PS44-ACO	0.020	0.814	0.940	0.155	OK
3.001	120 min Winter	79	PS44-ACO	PS23	0.053	0.209	0.287	0.013	OK
2.001	60 min Winter	46	PS23	PS24	0.100	1.037	4.330	0.522	Surcharged
4.000	60 min Winter	49	PS30-RE	PS31	0.100	0.804	2.597	0.385	Surcharged
5.000	120 min Winter	106	PS45-ACO	PS46-ACO	0.048	0.812	1.139	0.188	OK
5.001	120 min Winter	106	PS46-ACO	PS31	0.082	1.253	1.149	0.068	OK
4.001	30 min Winter	23	PS31	PS24	0.150	0.805	9.267	0.466	Surcharged
2.002	15 min Winter	11	PS24	PS25-DIF	0.150	1.378	19.717	0.855	Surcharged
1.003	30 min Winter	17	PS25-DIF	PP3-Dummy Outfall	0.150	0.589	3.137	0.238	Surcharged