Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
PSW61	0.002	110	Unknown	61.523	60.948	0.475	384104.355	400700.281
PSW62	0.000	450	Type E	61.540	60.839	0.601	384104.579	400689.412
Manhole (17)	0.013	110	Unknown	61.657	61.049	0.508	384115.629	400700.371
PSW63	0.000	450	Type E	61.519	60.717	0.702	384116.786	400689.648
PS5	0.000	450	Type E	60.876	60.289	0.486	384117.007	400678.965
PSW64	0.002	110	Unknown	60.504	60.005	0.400	384104.736	400677.702
PSW65	0.006	450	Type E	60.408	59.943	0.365	384104.871	400671.546
MH10	0.000	450	Type E	60.489	59.835	0.555	384115.671	400671.655
PSW67	0.000	110	Unknown	59.990	59.390	0.500	384105.972	400658.584
PS4	0.006	450	Type E	60.021	59.287	0.634	384116.281	400658.620
PS3	0.002	180	Type E	59.828	59.466	0.262	384107.880	400651.046
MH11	0.000	450	Type E	60.186	59.213	0.873	384116.336	400651.236
MH12	0.000	450	Type E	59.982	58.692	1.140	384115.624	400639.049
Manhole (1)	0.000	450	Type E	59.982	58.626	1.206	384113.444	400632.867
Manhole (2)	0.000	450	Type E	59.532	58.549	0.833	384110.854	400625.596
Manhole (3)	0.000	450	Type E	59.082	58.480	0.452	384108.556	400619.106
Manhole (4)	0.000	450	Type E	59.083	58.411	0.522	384106.169	400612.618
MH13	0.000	450	Type E	59.082	58.335	0.597	384103.697	400605.386
Manhole (6)	0.016	450	Type E	60.138	59.550	0.488	384101.909	400636.366
Manhole (7)	0.011	450	Type E	59.857	59.100	0.657	384099.514	400629.570
Manhole (8)	0.009	450	Type E	59.258	58.650	0.508	384097.254	400622.707
Manhole (9)	0.009	450	Type E	59.242	58.441	0.701	384095.129	400616.821
Manhole (10)	0.003	450	Type E	59.045	58.215	0.680	384092.469	400609.499
Manhole (12)	0.000	180	Type E	59.475	59.002	0.373	384109.778	400593.276
Manhole (11)	0.000	450	Type E	59.025	58.295	0.581	384098.322	400597.395
Manhole (13)	0.009	450	Type E	58.926	57.750	1.026	384089.153	400600.621
Manhole (15)	0.007	110	Unknown	59.501	58.976	0.425	384106.908	400587.367
Manhole (16)	0.000	450	Type E	59.139	58.259	0.780	384096.735	400591.126
PS38	0.000	600	Type E	59.022	57.684	1.188	384086.774	400594.441
PS40	0.000	1200	Type B	58.990	56.588	2.178	384090.234	400587.867
PS39	0.000	1500	Type B	58.847	56.551	2.145	384086.789	400589.021
PR DIV 03	0.000	1200	Type B	58.400	56.233	1.867	384082.028	400583.195
EX UU0508	0.000	1050	Unknown	58.500	56.080	2.120	384074.646	400580.892

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	PSW61	60.948	PSW62	60.839	Circ	100	10.872	100	0.600	0.475	0.601
1.001	PSW62	60.839	PSW63	60.717	Circ	100	12.210	100	0.600	0.601	0.702
2.000	Manhole (17)	61.049	PSW63	60.717	Circ	100	10.786	32	0.600	0.508	0.702
1.002	PSW63	60.717	PS5	60.289	Circ	100	10.685	25	0.600	0.702	0.486
1.003	PS5	60.289	MH10	59.835	Circ	100	7.430	16	0.600	0.486	0.555
3.000	PSW64	60.005	PSW65	59.943	Circ	100	6.157	100	0.600	0.400	0.365
3.001	PSW65	59.943	MH10	59.835	Circ	100	10.800	100	0.600	0.365	0.555
1.004	MH10	59.835	PS4	59.287	Circ	100	13.050	24	0.600	0.555	0.634
4.000	PSW67	59.390	PS4	59.287	Circ	100	10.309	100	0.600	0.500	0.634
1.005	PS4	59.287	MH11	59.213	Circ	100	7.384	100	0.600	0.634	0.873
5.000	PS3	59.466	MH11	59.213	Circ	100	8.459	33	0.600	0.262	0.873
1.006	MH11	59.213	MH12	58.692	Circ	150	12.208	23	0.600	0.823	1.140
1.007	MH12	58.692	Manhole (1)	58.626	Circ	150	6.555	100	0.600	1.140	1.206
1.008	Manhole (1)	58.626	Manhole (2)	58.549	Circ	150	7.718	100	0.600	1.206	0.833
1.009	Manhole (2)	58.549	Manhole (3)	58.480	Circ	150	6.885	100	0.600	0.833	0.452
1.010	Manhole (3)	58.480	Manhole (4)	58.411	Circ	150	6.914	100	0.600	0.452	0.522
1.011	Manhole (4)	58.411	MH13	58.335	Circ	150	7.642	100	0.600	0.522	0.597
1.012	MH13	58.335	Manhole (10)	58.215	Circ	150	11.959	100	0.600	0.597	0.680
6.000	Manhole (6)	59.550	Manhole (7)	59.100	Circ	100	7.206	16	0.600	0.488	0.657
6.001	Manhole (7)	59.100	Manhole (8)	58.650	Circ	100	7.226	16	0.600	0.657	0.508
6.002	Manhole (8)	58.650	Manhole (9)	58.441	Circ	100	6.257	30	0.600	0.508	0.701
6.003	Manhole (9)	58.441	Manhole (10)	58.265	Circ	100	7.791	44	0.600	0.701	0.680
1.013	Manhole (10)	58.215	Manhole (13)	57.750	Circ	150	9.477	20	0.600	0.680	1.026
7.000	Manhole (12)	59.002	Manhole (11)	58.345	Circ	100	12.175	19	0.600	0.373	0.581

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)
7.001	Manhole (11)	58.295	Manhole (13)	57.750	Circ	150	9.720	18	0.600	0.581	1.026
1.014	Manhole (13)	57.750	PS38	57.684	Circ	150	6.622	100	0.600	1.026	1.188
8.000	Manhole (15)	58.976	Manhole (16)	58.259	Circ	100	10.845	15	0.600	0.425	0.780
8.001	Manhole (16)	58.259	PS38	57.734	Circ	100	10.498	20	0.600	0.780	1.188
1.015	PS38	57.684	PS39	57.630	Circ	150	5.420	100	0.600	1.188	1.067
9.000	PS40	56.588	PS39	56.551	Circ	225	3.633	100	0.600	2.178	2.070
1.016	PS39	56.551	PR DIV 03	56.383	Circ	150	7.525	45	0.600	2.145	1.867
1.017	PR DIV 03	56.233	EX UU0508	56.080	Circ	300	7.733	51	0.600	1.867	2.120

Permeable Paving Schedule

Permeable Paving	Assigned Manhole	Effective Storage Volume (m3)	CL (m)	IL (m)	Storage Infil Rate (m/hr)	Safety Factor	Easting (m)	Northing (m)
Permeable Paving 96	PSW61	2.697	61.523	61.073	0.00000000	2.00	384106.072	400704.007
Permeable Paving 97	Manhole (17)	2.821	61.657	61.207	0.00000000	2.00	384117.551	400694.826
Permeable Paving 98	PSW64	2.838	60.504	60.054	0.00000000	2.00	384101.544	400677.160
Permeable Paving 99	PS3	1.883	59.828	59.448	0.00000000	2.00	384106.064	400648.965
Permeable Paving 100	Manhole (6)	3.526	60.138	59.688	0.00000000	2.00	384094.171	400642.110
Permeable Paving 101	Manhole (6)	3.532	60.138	59.688	0.00000000	2.00	384089.383	400636.953
Permeable Paving 102	Manhole (7)	3.606	59.857	59.407	0.00000000	2.00	384089.981	400629.390
Permeable Paving 103	Manhole (8)	3.506	59.258	58.808	0.00000000	2.00	384093.083	400622.938
Permeable Paving 104	Manhole (10)	3.524	59.045	58.595	0.00000000	2.00	384091.363	400607.030
Permeable Paving 105	Manhole (13)	2.678	58.926	58.476	0.00000000	2.00	384090.025	400601.959
Permeable Paving 106	Manhole (15)	2.526	59.501	59.051	0.00000000	2.00	384103.953	400583.091

Outfall Details

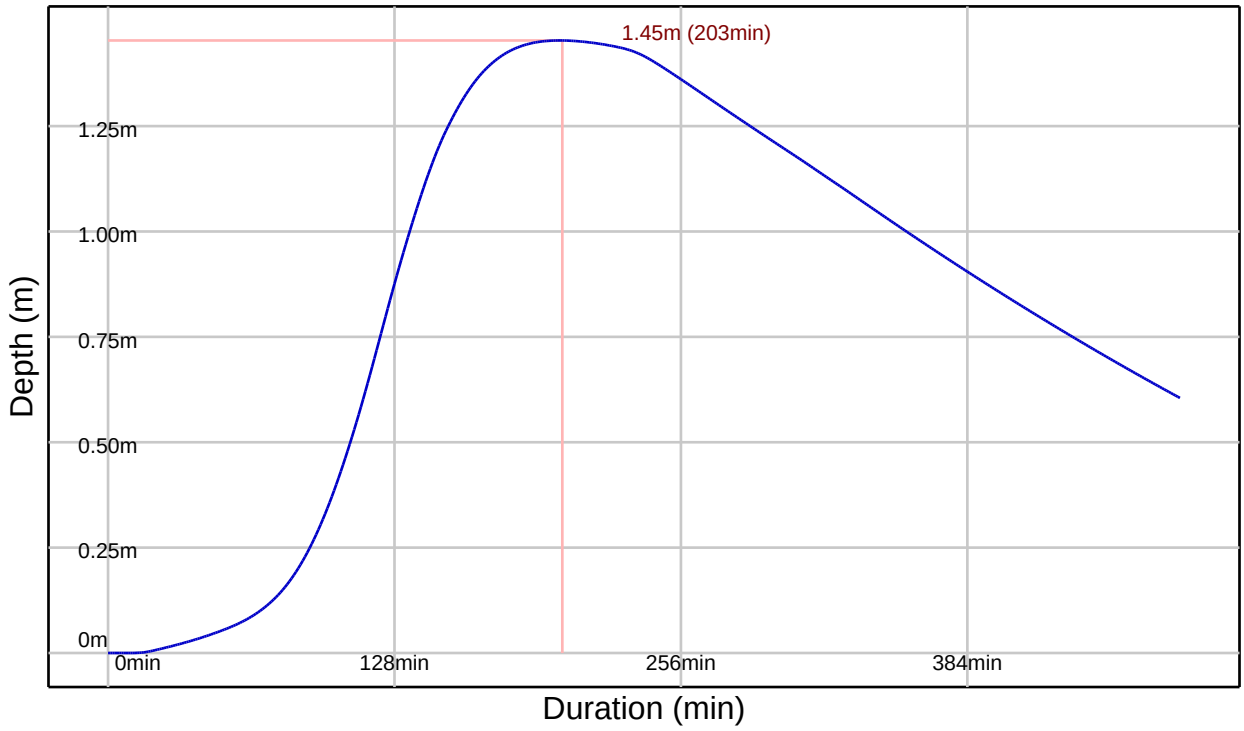
Outfall Manhole EX UU0508 : Free Discharge

Flow Control Details

Tank Structure at Manhole PS40

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
56.588	1.500	100.00	31.248	31.248	46.872	0.00000000	0.00000000	2.00

Tank 2 at PS40 (100Yr+45% 240Min Winter)

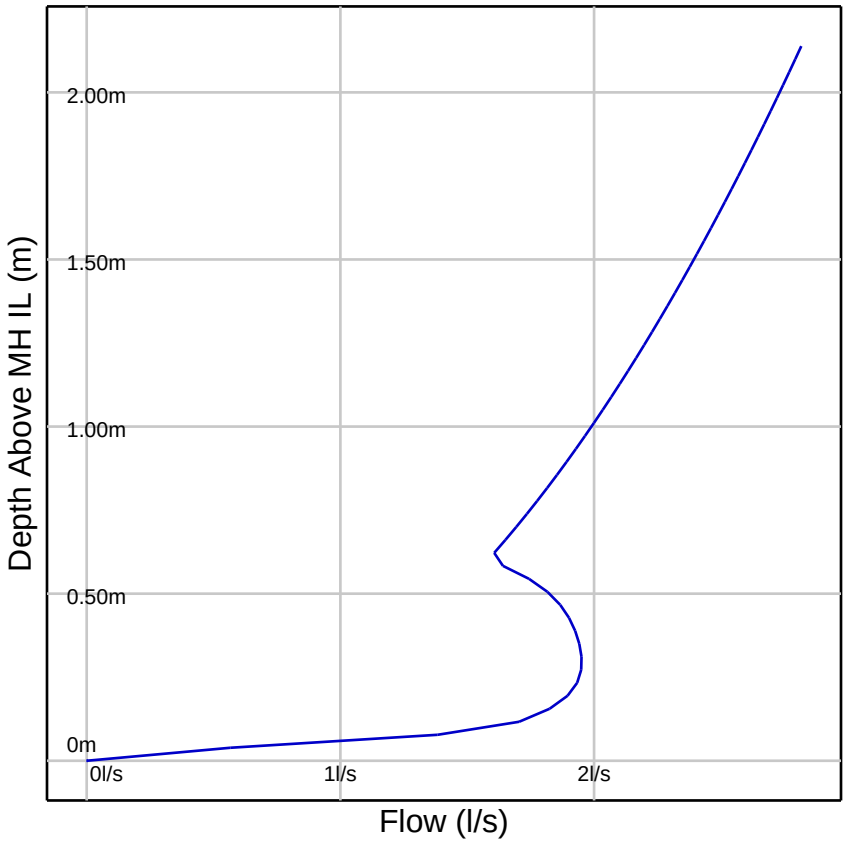


Controls within Manhole PS39

Hydro-Brake® Optimum Control

Model Ref	Design Depth (m)	Design Flow (l/s)	Invert Offset (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0067-2600-1800-2600	1.800	2.600	0.000	0.295	1.951	0.600	1.581

Hydro-Brake® Optimum Control from PS39 to PR DIV 03



Simulation Settings

FSR: M5-60=18.00, R=0.36, Locale=England and Wales

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, 2160, 2880, 4320, 5760, 7200, 8640, 10080

Return Periods (yrs) + Climate Change: (2, +0%), (30, +0%), (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 %
2Yr 15Min Winter	36.942	0.00	0.46	30Yr 720Min Winter	4.528	0.00	0.00
2Yr 15Min Summer	36.942	0.00	0.46	30Yr 960Min Summer	3.643	0.00	0.00
2Yr 30Min Winter	23.956	0.00	0.37	30Yr 960Min Winter	3.643	0.00	0.00
2Yr 30Min Summer	23.956	0.00	0.36	30Yr 1440Min Summer	2.677	0.00	0.00
2Yr 60Min Winter	15.001	0.00	0.31	30Yr 1440Min Winter	2.677	0.00	0.00
2Yr 60Min Summer	15.001	0.00	0.28	30Yr 2160Min Summer	1.965	0.00	0.00
2Yr 120Min Winter	9.225	0.00	0.00	30Yr 2160Min Winter	1.965	0.00	0.00
2Yr 120Min Summer	9.225	0.00	0.00	30Yr 2880Min Summer	1.577	0.00	0.00
2Yr 180Min Summer	6.915	0.00	0.00	30Yr 2880Min Winter	1.577	0.00	0.00
2Yr 180Min Winter	6.915	0.00	0.00	30Yr 4320Min Summer	1.155	0.00	0.00
2Yr 240Min Summer	5.634	0.00	0.00	30Yr 4320Min Winter	1.155	0.00	0.00
2Yr 240Min Winter	5.634	0.00	0.00	30Yr 5760Min Summer	0.925	0.00	0.00
2Yr 360Min Summer	4.221	0.00	0.00	30Yr 5760Min Winter	0.925	0.00	0.00
2Yr 360Min Winter	4.221	0.00	0.00	30Yr 7200Min Summer	0.778	0.00	0.00
2Yr 480Min Summer	3.435	0.00	0.00	30Yr 7200Min Winter	0.778	0.00	0.00
2Yr 480Min Winter	3.435	0.00	0.00	30Yr 8640Min Summer	0.676	0.00	0.00
2Yr 600Min Summer	2.927	0.00	0.00	30Yr 8640Min Winter	0.676	0.00	0.00
2Yr 600Min Winter	2.927	0.00	0.00	30Yr 10080Min Summer	0.600	0.00	0.00
2Yr 720Min Summer	2.568	0.00	0.00	30Yr 10080Min Winter	0.600	0.00	0.00
2Yr 720Min Winter	2.568	0.00	0.00	100Yr+45% 15Min Summer	122.849	0.00	0.34
2Yr 960Min Summer	2.089	0.00	0.00	100Yr+45% 15Min Winter	122.849	0.00	0.35
2Yr 960Min Winter	2.089	0.00	0.00	100Yr+45% 30Min Summer	82.249	0.00	0.34
2Yr 1440Min Winter	1.561	0.00	0.00	100Yr+45% 30Min Winter	82.249	0.00	0.36
2Yr 1440Min Summer	1.561	0.00	0.00	100Yr+45% 60Min Summer	52.627	0.00	0.33
2Yr 2160Min Winter	1.167	0.00	0.00	100Yr+45% 60Min Winter	52.627	0.00	0.34
2Yr 2160Min Summer	1.167	0.00	0.00	100Yr+45% 120Min Summer	32.592	0.00	0.24
2Yr 2880Min Summer	0.949	0.00	0.00	100Yr+45% 120Min Winter	32.592	0.00	0.24
2Yr 2880Min Winter	0.949	0.00	0.00	100Yr+45% 180Min Summer	24.304	0.00	0.16
2Yr 4320Min Summer	0.710	0.00	0.00	100Yr+45% 180Min Winter	24.304	0.00	0.16
2Yr 4320Min Winter	0.710	0.00	0.00	100Yr+45% 240Min Summer	19.616	0.00	0.10
2Yr 5760Min Summer	0.578	0.00	0.00	100Yr+45% 240Min Winter	19.616	0.00	0.10
2Yr 5760Min Winter	0.578	0.00	0.00	100Yr+45% 360Min Summer	14.378	0.00	0.00
2Yr 7200Min Summer	0.492	0.00	0.00	100Yr+45% 360Min Winter	14.378	0.00	0.00
2Yr 7200Min Winter	0.492	0.00	0.00	100Yr+45% 480Min Summer	11.541	0.00	0.00
2Yr 8640Min Summer	0.432	0.00	0.00	100Yr+45% 480Min Winter	11.541	0.00	0.00
2Yr 8640Min Winter	0.432	0.00	0.00	100Yr+45% 600Min Summer	9.724	0.00	0.00
2Yr 10080Min Winter	0.387	0.00	0.00	100Yr+45% 600Min Winter	9.724	0.00	0.00
2Yr 10080Min Summer	0.387	0.00	0.00	100Yr+45% 720Min Summer	8.449	0.00	0.00
30Yr 15Min Summer	65.624	0.00	0.27	100Yr+45% 720Min Winter	8.449	0.00	0.00
30Yr 15Min Winter	65.624	0.00	0.27	100Yr+45% 960Min Summer	6.764	0.00	0.00
30Yr 30Min Summer	43.507	0.00	0.26	100Yr+45% 960Min Winter	6.764	0.00	0.00
30Yr 30Min Winter	43.507	0.00	0.28	100Yr+45% 1440Min Summer	4.934	0.00	0.00
30Yr 60Min Summer	27.653	0.00	0.28	100Yr+45% 1440Min Winter	4.934	0.00	0.00
30Yr 60Min Winter	27.653	0.00	0.29	100Yr+45% 2160Min Summer	3.592	0.00	0.00
30Yr 120Min Summer	17.088	0.00	0.12	100Yr+45% 2160Min Winter	3.592	0.00	0.00
30Yr 120Min Winter	17.088	0.00	0.12	100Yr+45% 2880Min Summer	2.864	0.00	0.00
30Yr 180Min Summer	12.763	0.00	0.00	100Yr+45% 2880Min Winter	2.864	0.00	0.00
30Yr 180Min Winter	12.763	0.00	0.00	100Yr+45% 4320Min Summer	2.078	0.00	0.00
30Yr 240Min Summer	10.331	0.00	0.00	100Yr+45% 4320Min Winter	2.078	0.00	0.00
30Yr 240Min Winter	10.331	0.00	0.00	100Yr+45% 5760Min Summer	1.653	0.00	0.00
30Yr 360Min Summer	7.624	0.00	0.00	100Yr+45% 5760Min Winter	1.653	0.00	0.00
30Yr 360Min Winter	7.624	0.00	0.00	100Yr+45% 7200Min Summer	1.383	0.00	0.00
30Yr 480Min Summer	6.146	0.00	0.00	100Yr+45% 7200Min Winter	1.383	0.00	0.00
30Yr 480Min Winter	6.146	0.00	0.00	100Yr+45% 8640Min Summer	1.196	0.00	0.00

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
30Yr 600Min Summer	5.196	0.00	0.00	100Yr+45% 8640Min Winter	1.196	0.00	0.00
30Yr 600Min Winter	5.196	0.00	0.00	100Yr+45% 10080Min Winter	1.056	0.00	0.00
30Yr 720Min Summer	4.528	0.00	0.00	100Yr+45% 10080Min Summer	1.056	0.00	0.00

Simulation Results

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

2yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PSW61	30 min Summer	20	60.960	0.013	0.207		OK
PSW62	30 min Summer	21	60.851	0.012	0.207		OK
Manhole (17)	15 min Summer	8	61.081	0.032	2.332		OK
PSW63	15 min Summer	8	60.747	0.030	2.316		OK
PS5	15 min Summer	8	60.315	0.026	2.302		OK
PSW64	30 min Summer	21	60.017	0.013	0.208		OK
PSW65	15 min Summer	8	59.974	0.031	1.336		OK
MH10	15 min Summer	9	59.871	0.036	3.583		OK
PSW67	15 min Winter	0	59.390	0.000	0.000		OK
PS4	15 min Summer	9	59.356	0.069	4.945		OK
PS3	240 min Summer	142	59.471	0.005	0.057		OK
MH11	15 min Summer	9	59.250	0.037	4.982		OK
MH12	15 min Summer	9	58.748	0.056	4.993		OK
Manhole (1)	15 min Summer	9	58.682	0.056	5.006		OK
Manhole (2)	15 min Summer	9	58.605	0.056	5.011		OK
Manhole (3)	15 min Summer	9	58.536	0.056	5.008		OK
Manhole (4)	15 min Summer	9	58.467	0.055	4.999		OK
MH13	15 min Summer	9	58.390	0.055	4.984		OK
Manhole (6)	15 min Summer	8	59.576	0.026	2.372		OK
Manhole (7)	15 min Summer	8	59.135	0.035	4.206		OK
Manhole (8)	15 min Summer	8	58.700	0.050	5.709		OK
Manhole (9)	15 min Summer	8	58.514	0.073	7.724		OK
Manhole (10)	15 min Summer	9	58.273	0.057	12.623		OK
Manhole (12)	15 min Winter	0	59.002	0.000	0.000		OK
Manhole (11)	15 min Winter	0	58.295	0.000	0.000		OK
Manhole (13)	15 min Summer	9	57.858	0.108	14.117		OK
Manhole (15)	15 min Summer	8	58.994	0.019	1.243		OK
Manhole (16)	15 min Summer	9	58.279	0.020	1.223		OK
PS38	15 min Summer	9	57.792	0.108	15.310		OK
PS40	120 min Summer	87	56.839	0.251	0.036		Surcharged
PS39	120 min Summer	87	56.839	0.287	1.983		Surcharged
PR DIV 03	120 min Summer	88	56.256	0.023	1.945		OK
EX UU0508	120 min Summer	88	56.102	0.022	1.945		Outfall

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	30 min Summer	21	PSW61	PSW62	0.012	0.409	0.207	0.034	OK
1.001	60 min Summer	37	PSW62	PSW63	0.018	0.246	0.192	0.032	OK
2.000	15 min Summer	8	Manhole (17)	PSW63	0.032	1.083	2.316	0.217	OK
1.002	15 min Summer	8	PSW63	PS5	0.028	1.273	2.302	0.189	OK
1.003	15 min Summer	9	PS5	MH10	0.031	1.097	2.290	0.152	OK
3.000	30 min Summer	21	PSW64	PSW65	0.018	0.257	0.209	0.035	OK
3.001	15 min Summer	8	PSW65	MH10	0.034	0.565	1.322	0.219	OK
1.004	15 min Summer	9	MH10	PS4	0.053	0.860	3.601	0.289	OK
4.000	15 min Summer	9	PSW67	PS4	0.034	0.000	0.000	0.000	OK
1.005	15 min Summer	9	PS4	MH11	0.053	1.183	4.982	0.827	OK
5.000	15 min Summer	9	PS3	MH11	0.018	0.000	0.000	0.000	OK
1.006	15 min Summer	9	MH11	MH12	0.046	1.078	4.993	0.135	OK
1.007	15 min Summer	9	MH12	Manhole (1)	0.056	0.840	5.006	0.282	OK
1.008	15 min Summer	9	Manhole (1)	Manhole (2)	0.056	0.841	5.011	0.283	OK
1.009	15 min Summer	9	Manhole (2)	Manhole (3)	0.056	0.839	5.008	0.282	OK
1.010	15 min Summer	9	Manhole (3)	Manhole (4)	0.056	0.840	4.999	0.282	OK
1.011	15 min Summer	9	Manhole (4)	MH13	0.055	0.847	4.984	0.281	OK
1.012	15 min Summer	10	MH13	Manhole (10)	0.056	0.849	4.959	0.280	OK
6.000	15 min Summer	8	Manhole (6)	Manhole (7)	0.031	1.151	2.358	0.155	OK
6.001	15 min Summer	8	Manhole (7)	Manhole (8)	0.043	1.305	4.188	0.275	OK
6.002	15 min Summer	8	Manhole (8)	Manhole (9)	0.062	1.120	5.677	0.511	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
6.003	15 min Summer	8	Manhole (9)	Manhole (10)	0.071	1.293	7.670	0.843	OK
1.013	15 min Summer	9	Manhole (10)	Manhole (13)	0.083	1.264	12.617	0.319	OK
7.000	15 min Winter	0	Manhole (12)	Manhole (11)	0.000	0.000	0.000	0.000	OK
7.001	15 min Summer	9	Manhole (11)	Manhole (13)	0.054	0.000	0.000	0.000	OK
1.014	15 min Summer	9	Manhole (13)	PS38	0.108	1.035	14.085	0.796	OK
8.000	15 min Summer	8	Manhole (15)	Manhole (16)	0.019	1.149	1.233	0.079	OK
8.001	15 min Summer	9	Manhole (16)	PS38	0.039	0.959	1.225	0.090	OK
1.015	15 min Summer	9	PS38	PS39	0.103	1.182	15.269	0.860	OK
9.000	120 min Winter	176	PS40	PS39	0.225	0.384	3.816	0.073	OK
1.016	120 min Summer	88	PS39	PR DIV 03	0.026	0.933	1.945	0.073	OK
1.017	120 min Summer	88	PR DIV 03	EX UU0508	0.023	0.804	1.945	0.012	OK

Permeable Paving Storage

Permeable Paving	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Surface Runoff (m3)	Status
Permeable Paving 96	30 min Summer	20	61.086	0.013	0.211			OK
Permeable Paving 97	30 min Summer	20	61.219	0.013	0.221			OK
Permeable Paving 98	30 min Summer	20	60.067	0.013	0.222			OK
Permeable Paving 99	240 min Summer	142	59.473	0.025	0.057			OK
Permeable Paving 100	30 min Summer	21	59.702	0.014	0.196			OK
Permeable Paving 101	30 min Summer	21	59.702	0.014	0.197			OK
Permeable Paving 102	30 min Summer	21	59.421	0.014	0.201			OK
Permeable Paving 103	30 min Summer	21	58.821	0.014	0.195			OK
Permeable Paving 104	30 min Summer	21	58.609	0.014	0.196			OK
Permeable Paving 105	30 min Summer	20	58.489	0.013	0.209			OK
Permeable Paving 106	30 min Summer	20	59.063	0.012	0.198			OK

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

30yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PSW61	30 min Summer	21	60.966	0.019	0.452		OK
PSW62	30 min Summer	21	60.857	0.018	0.460		OK
Manhole (17)	15 min Summer	8	61.093	0.044	4.180		OK
PSW63	15 min Summer	8	60.758	0.041	4.152		OK
PS5	15 min Summer	9	60.325	0.035	4.105		OK
PSW64	30 min Summer	21	60.023	0.019	0.469		OK
PSW65	15 min Summer	8	59.986	0.043	2.375		OK
MH10	15 min Summer	9	59.885	0.050	6.427		OK
PSW67	15 min Summer	10	59.443	0.054	0.000		OK
PS4	15 min Summer	10	59.442	0.155	8.127		Surcharged
PS3	60 min Summer	40	59.477	0.010	0.244		OK
MH11	15 min Summer	10	59.261	0.048	8.351		OK
MH12	15 min Summer	10	58.767	0.075	8.367		OK
Manhole (1)	15 min Summer	10	58.702	0.075	8.386		OK
Manhole (2)	15 min Summer	10	58.625	0.075	8.393		OK
Manhole (3)	15 min Summer	10	58.556	0.075	8.393		OK
Manhole (4)	15 min Summer	10	58.486	0.075	8.386		OK
MH13	15 min Summer	10	58.409	0.074	8.374		OK
Manhole (6)	15 min Summer	9	59.586	0.036	4.278		OK
Manhole (7)	15 min Summer	9	59.150	0.050	7.541		OK
Manhole (8)	15 min Summer	9	58.843	0.193	10.106		Surcharged
Manhole (9)	15 min Summer	9	58.697	0.256	12.469		Surcharged
Manhole (10)	15 min Summer	10	58.300	0.084	20.760		OK
Manhole (12)	15 min Summer	0	59.002	0.000	0.000		OK
Manhole (11)	15 min Summer	0	58.295	0.000	0.000		OK
Manhole (13)	15 min Summer	10	58.010	0.260	23.150		Surcharged
Manhole (15)	15 min Summer	8	59.001	0.025	2.244		OK
Manhole (16)	15 min Summer	9	58.286	0.027	2.231		OK
PS38	15 min Summer	10	57.883	0.199	25.093		Surcharged
PS40	120 min Winter	114	57.230	0.642	0.000		Surcharged
PS39	120 min Winter	114	57.230	0.678	1.641		Surcharged
PR DIV 03	720 min Winter	439	56.256	0.023	1.950		OK
EX UU0508	720 min Winter	439	56.102	0.022	1.950		Outfall

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	30 min Summer	21	PSW61	PSW62	0.019	0.461	0.460	0.076	OK
1.001	30 min Summer	21	PSW62	PSW63	0.026	0.337	0.459	0.076	OK
2.000	15 min Summer	8	Manhole (17)	PSW63	0.044	1.265	4.152	0.390	OK
1.002	15 min Summer	8	PSW63	PS5	0.038	1.493	4.127	0.339	OK
1.003	15 min Summer	9	PS5	MH10	0.043	1.283	4.113	0.273	OK
3.000	30 min Summer	21	PSW64	PSW65	0.027	0.338	0.474	0.079	OK
3.001	15 min Summer	8	PSW65	MH10	0.047	0.653	2.353	0.390	OK
1.004	15 min Summer	9	MH10	PS4	0.075	1.017	6.447	0.517	OK
4.000	15 min Summer	11	PSW67	PS4	0.077	0.167	0.876	0.145	OK
1.005	15 min Summer	10	PS4	MH11	0.074	1.340	8.351	1.386	OK
5.000	15 min Summer	17	PS3	MH11	0.024	0.173	0.096	0.009	OK
1.006	15 min Summer	10	MH11	MH12	0.062	1.221	8.367	0.227	OK
1.007	15 min Summer	10	MH12	Manhole (1)	0.075	0.945	8.386	0.473	OK
1.008	15 min Summer	10	Manhole (1)	Manhole (2)	0.075	0.946	8.393	0.473	OK
1.009	15 min Summer	10	Manhole (2)	Manhole (3)	0.075	0.944	8.393	0.473	OK
1.010	15 min Summer	10	Manhole (3)	Manhole (4)	0.075	0.947	8.386	0.473	OK
1.011	15 min Summer	10	Manhole (4)	MH13	0.075	0.955	8.374	0.472	OK
1.012	15 min Summer	10	MH13	Manhole (10)	0.079	0.916	8.352	0.471	OK
6.000	15 min Summer	9	Manhole (6)	Manhole (7)	0.043	1.351	4.275	0.281	OK
6.001	15 min Summer	9	Manhole (7)	Manhole (8)	0.075	1.384	7.548	0.496	OK
6.002	30 min Summer	17	Manhole (8)	Manhole (9)	0.100	1.164	9.018	0.812	Surcharged
6.003	30 min Summer	17	Manhole (9)	Manhole (10)	0.100	1.507	11.840	1.301	Surcharged
1.013	15 min Summer	10	Manhole (10)	Manhole (13)	0.117	1.400	20.732	0.524	OK
7.000	15 min Summer	0	Manhole (12)	Manhole (11)	0.000	0.000	0.000	0.000	OK
7.001	15 min Summer	8	Manhole (11)	Manhole (13)	0.075	0.000	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
1.014	30 min Summer	18	Manhole (13)	PS38	0.150	1.257	22.216	1.255	Surcharged
8.000	15 min Summer	9	Manhole (15)	Manhole (16)	0.026	1.362	2.231	0.142	OK
8.001	15 min Summer	9	Manhole (16)	PS38	0.064	0.892	2.231	0.164	OK
1.015	15 min Summer	10	PS38	PS39	0.144	1.435	25.044	1.411	OK
9.000	360 min Summer	478	PS40	PS39	0.225	0.366	3.783	0.073	OK
1.016	720 min Winter	439	PS39	PR DIV 03	0.026	0.934	1.950	0.073	OK
1.017	720 min Winter	439	PR DIV 03	EX UU0508	0.023	0.804	1.950	0.012	OK

Permeable Paving Storage

Permeable Paving	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Surface Runoff (m3)	Status
Permeable Paving 96	30 min Summer	20	61.094	0.021	0.514			OK
Permeable Paving 97	30 min Summer	20	61.229	0.022	0.538			OK
Permeable Paving 98	30 min Summer	20	60.076	0.022	0.541			OK
Permeable Paving 99	60 min Summer	39	59.483	0.035	0.277			OK
Permeable Paving 100	30 min Summer	21	59.712	0.024	0.425			OK
Permeable Paving 101	30 min Summer	21	59.712	0.024	0.426			OK
Permeable Paving 102	30 min Summer	21	59.431	0.024	0.436			OK
Permeable Paving 103	15 min Summer	12	58.837	0.029	0.691			OK
Permeable Paving 104	30 min Summer	21	58.619	0.024	0.425			OK
Permeable Paving 105	30 min Summer	20	58.498	0.021	0.510			OK
Permeable Paving 106	30 min Summer	20	59.072	0.021	0.481			OK

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

100yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PSW61	30 min Summer	20	60.975	0.027	0.981		OK
PSW62	30 min Summer	20	60.866	0.027	0.987		OK
Manhole (17)	15 min Summer	8	61.115	0.066	7.900		OK
PSW63	15 min Summer	8	60.778	0.061	7.849		OK
PS5	15 min Summer	9	60.342	0.052	7.807		OK
PSW64	30 min Summer	18	60.085	0.081	0.434		OK
PSW65	30 min Summer	18	60.084	0.141	3.216		Surcharged
MH10	15 min Summer	10	60.060	0.225	10.101		Surcharged
PSW67	15 min Summer	10	59.700	0.310	0.215		Flood Risk
PS4	15 min Summer	10	59.699	0.413	13.678		Surcharged
PS3	60 min Summer	39	59.482	0.016	0.614		OK
MH11	15 min Summer	10	59.274	0.061	13.275		OK
MH12	30 min Summer	19	58.795	0.103	13.195		OK
Manhole (1)	30 min Summer	19	58.729	0.103	13.199		OK
Manhole (2)	30 min Summer	20	58.657	0.108	13.039		OK
Manhole (3)	30 min Summer	20	58.614	0.134	13.042		OK
Manhole (4)	30 min Summer	20	58.580	0.168	12.957		Surcharged
MH13	30 min Summer	20	58.534	0.199	12.913		Surcharged
Manhole (6)	15 min Summer	10	59.613	0.063	7.452		OK
Manhole (7)	15 min Summer	10	59.433	0.333	12.689		Surcharged
Manhole (8)	15 min Summer	10	59.098	0.448	16.732		Flood Risk
Manhole (9)	15 min Summer	10	58.934	0.493	14.943		Surcharged
Manhole (10)	30 min Summer	19	58.467	0.251	27.409		Surcharged
Manhole (12)	15 min Summer	0	59.002	0.000	0.000		OK
Manhole (11)	15 min Summer	0	58.295	0.000	0.000		OK
Manhole (13)	15 min Summer	10	58.223	0.473	30.851		Surcharged
Manhole (15)	15 min Summer	9	59.011	0.036	4.264		OK
Manhole (16)	15 min Summer	9	58.297	0.038	4.261		OK
PS38	240 min Winter	202	58.042	0.358	2.364		Surcharged
PS40	240 min Winter	202	58.041	1.453	0.001		Surcharged
PS39	240 min Winter	202	58.041	1.490	2.365		Surcharged
PR DIV 03	240 min Winter	202	56.258	0.025	2.364		OK
EX UU0508	240 min Winter	202	56.105	0.025	2.364		Outfall

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	30 min Summer	20	PSW61	PSW62	0.027	0.573	0.987	0.164	OK
1.001	30 min Summer	20	PSW62	PSW63	0.039	0.413	0.979	0.162	OK
2.000	15 min Summer	8	Manhole (17)	PSW63	0.064	1.466	7.848	0.737	OK
1.002	15 min Summer	9	PSW63	PS5	0.056	1.745	7.807	0.642	OK
1.003	15 min Summer	9	PS5	MH10	0.076	1.386	7.777	0.516	OK
3.000	30 min Summer	20	PSW64	PSW65	0.090	0.440	1.785	0.296	OK
3.001	30 min Summer	17	PSW65	MH10	0.100	0.699	4.166	0.691	Surcharged
1.004	30 min Summer	16	MH10	PS4	0.100	1.320	10.085	0.809	Surcharged
4.000	30 min Summer	22	PSW67	PS4	0.100	0.286	2.247	0.373	Surcharged
1.005	15 min Summer	10	PS4	MH11	0.081	1.955	13.275	2.203	OK
5.000	30 min Summer	24	PS3	MH11	0.037	0.358	0.581	0.055	OK
1.006	15 min Summer	10	MH11	MH12	0.082	1.339	13.261	0.359	OK
1.007	30 min Summer	19	MH12	Manhole (1)	0.103	1.025	13.199	0.744	OK
1.008	30 min Summer	20	Manhole (1)	Manhole (2)	0.105	1.022	13.185	0.744	OK
1.009	30 min Summer	20	Manhole (2)	Manhole (3)	0.121	1.013	13.131	0.741	OK
1.010	30 min Summer	21	Manhole (3)	Manhole (4)	0.142	1.020	12.986	0.732	OK
1.011	30 min Summer	21	Manhole (4)	MH13	0.150	1.028	13.138	0.741	Surcharged
1.012	30 min Summer	22	MH13	Manhole (10)	0.150	0.879	13.415	0.757	Surcharged
6.000	15 min Summer	10	Manhole (6)	Manhole (7)	0.082	1.402	8.029	0.527	OK
6.001	30 min Summer	17	Manhole (7)	Manhole (8)	0.100	1.607	12.622	0.830	Surcharged
6.002	30 min Summer	22	Manhole (8)	Manhole (9)	0.100	1.436	11.277	1.015	Surcharged
6.003	15 min Winter	9	Manhole (9)	Manhole (10)	0.100	1.853	14.555	1.599	Surcharged
1.013	30 min Summer	22	Manhole (10)	Manhole (13)	0.150	1.586	28.032	0.708	Surcharged
7.000	15 min Summer	0	Manhole (12)	Manhole (11)	0.000	0.000	0.000	0.000	OK
7.001	15 min Summer	6	Manhole (11)	Manhole (13)	0.075	0.000	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
1.014	30 min Summer	19	Manhole (13)	PS38	0.150	1.747	30.877	1.745	Surcharged
8.000	15 min Summer	9	Manhole (15)	Manhole (16)	0.037	1.627	4.261	0.272	OK
8.001	15 min Summer	9	Manhole (16)	PS38	0.069	0.950	4.259	0.313	OK
1.015	30 min Summer	18	PS38	PS39	0.150	1.943	34.338	1.934	Surcharged
9.000	600 min Winter	891	PS40	PS39	0.225	0.385	3.939	0.076	OK
1.016	240 min Winter	202	PS39	PR DIV 03	0.029	0.986	2.364	0.089	OK
1.017	240 min Winter	202	PR DIV 03	EX UU0508	0.025	0.853	2.364	0.015	OK

Permeable Paving Storage

Permeable Paving	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Surface Runoff (m3)	Status
Permeable Paving 96	30 min Summer	20	61.108	0.035	0.838			OK
Permeable Paving 97	30 min Summer	20	61.243	0.036	0.876			OK
Permeable Paving 98	15 min Summer	12	60.095	0.041	1.408			OK
Permeable Paving 99	60 min Summer	38	59.496	0.047	0.638			OK
Permeable Paving 100	30 min Summer	20	59.728	0.040	1.095			OK
Permeable Paving 101	30 min Summer	20	59.728	0.040	1.097			OK
Permeable Paving 102	30 min Summer	20	59.448	0.040	1.120			OK
Permeable Paving 103	30 min Summer	21	59.089	0.281	0.841			OK
Permeable Paving 104	30 min Summer	20	58.635	0.040	1.094			OK
Permeable Paving 105	30 min Summer	20	58.511	0.035	0.832			OK
Permeable Paving 106	30 min Summer	20	59.085	0.034	0.785			OK