

241 The Broadway
London
SW19 1SD

2180501 Great Wolf, Bicester
SW Network Summary
and Results



Date 15/06/2022

Designed by HH

File 2180501-EWP-ZZ-XX-CA-C-0001.MDX

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Network 2020.1.3

Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SSW23	455008.898	221804.551	455008.898	221804.551	Required	
SPP10	455054.337	221813.233	455054.337	221813.233	Required	
SFC10	455055.944	221811.462	455055.944	221811.462	Required	
SPP08	455028.827	221796.589	455028.827	221796.589	Required	
SFC08	455027.198	221795.296	455027.198	221795.296	Required	
S13	455029.371	221789.783			No Entry	
SSW24	455024.366	221785.633	455024.366	221785.633	Required	
SPP03	455023.038	221778.446	455023.038	221778.446	Required	
SFC03	455025.424	221780.342	455025.424	221780.342	Required	
S7	455027.382	221782.002			No Entry	
SPP11	455039.547	221783.250	455039.547	221783.250	Required	
SFC11	455037.908	221781.918	455037.908	221781.918	Required	
S7	455034.059	221773.920			No Entry	
SPP14	455035.471	221763.068	455035.471	221763.068	Required	
SFC14	455036.854	221763.812	455036.854	221763.812	Required	
S6	455040.689	221765.782			No Entry	
SPP16	455050.711	221770.614	455050.711	221770.614	Required	
SFC16	455048.748	221769.007	455048.748	221769.007	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SSW25	455044.675	221760.887	455044.675	221760.887	Required	
SPP17	455036.987	221745.821	455036.987	221745.821	Required	
SFC17	455036.102	221746.924	455036.102	221746.924	Required	
S17	455032.688	221751.073			No Entry	
SPP01	455001.606	221766.613	455001.606	221766.613	Required	
SFC01	455002.575	221765.382	455002.575	221765.382	Required	
SPP02	455011.682	221771.580	455011.682	221771.580	Required	
SFC02	455013.306	221769.609	455013.306	221769.609	Required	
SSW26	455009.265	221765.510	455009.265	221765.510	Required	
SPP13	455024.435	221755.849	455024.435	221755.849	Required	
SFC13	455025.202	221754.897	455025.202	221754.897	Required	
S27	455021.795	221750.395			No Entry	
SSW27	455025.777	221745.520	455025.777	221745.520	Required	
SPP12	455032.688	221727.402	455032.688	221727.402	Required	
SFC12	455034.062	221728.539	455034.062	221728.539	Required	
SPP18	455086.488	221775.083	455086.488	221775.083	Required	
SFC18	455088.216	221772.844	455088.216	221772.844	Required	
SPP19	455042.427	221741.702	455042.427	221741.702	Required	

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SFC19	455041.010	221740.539	455041.010	221740.539	Required	
SSW28	455044.119	221737.043	455044.119	221737.043	Required	
SSW29	455037.475	221731.230	455037.475	221731.230	Required	
SPP20	455044.246	221729.753	455044.246	221729.753	Required	
SFC20	455042.534	221728.333	455042.534	221728.333	Required	
S25	455041.827	221727.254			No Entry	
SPP21	455043.493	221711.264	455043.493	221711.264	Required	
SFC21	455045.344	221712.480	455045.344	221712.480	Required	
SRAIN GARDEN	455053.572	221722.398	455053.572	221722.398	Required	
SRG FC	455052.328	221721.439	455052.328	221721.439	Required	
S27	455052.240	221717.807			No Entry	
SPP26	455064.625	221711.773	455064.625	221711.773	Required	
SFC26	455062.728	221710.222	455062.728	221710.222	Required	
SSW30	455063.692	221707.277	455063.692	221707.277	Required	
SPP28	455076.202	221707.709	455076.202	221707.709	Required	
SFC28	455075.117	221706.857	455075.117	221706.857	Required	
SSW31	455071.105	221698.230	455071.105	221698.230	Required	
SPP30	455080.975	221702.940	455080.975	221702.940	Required	

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SFC30	455079.158	221701.483	455079.158	221701.483	Required	
S66	455075.828	221692.883			No Entry	
SPP32	455086.891	221694.700	455086.891	221694.700	Required	
SFC32	455085.943	221693.643	455085.943	221693.643	Required	
S45	455081.974	221685.135			No Entry	
SPP35	455091.217	221689.491	455091.217	221689.491	Required	
SFC35	455089.806	221688.164	455089.806	221688.164	Required	
S70	455086.809	221679.297			No Entry	
SPP34	455084.240	221672.100	455084.240	221672.100	Required	
SFC34	455085.677	221672.792	455085.677	221672.792	Required	
S46	455090.360	221674.830			No Entry	
S47	455092.831	221671.890			No Entry	
SPP27	455112.451	221751.131	455112.451	221751.131	Required	
SFC27	455110.966	221749.898	455110.966	221749.898	Required	
SSW32	455115.444	221736.060	455115.444	221736.060	Required	
SPP31	455123.978	221738.285	455123.978	221738.285	Required	
SFC31	455121.819	221736.499	455121.819	221736.499	Required	
S80	455120.401	221730.089			No Entry	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S56	455126.282	221722.833			No Entry	
SPP36	455133.880	221724.388	455133.880	221724.388	Required	
SFC36	455132.648	221723.419	455132.648	221723.419	Required	
S84	455131.268	221716.850			No Entry	
SPP41	455145.010	221711.540	455145.010	221711.540	Required	
SFC41	455143.325	221710.154	455143.325	221710.154	Required	
SSW33	455142.704	221702.791	455142.704	221702.791	Required	
SPP40	455101.968	221676.241	455101.968	221676.241	Required	
SFC40	455100.767	221675.242	455100.767	221675.242	Required	
S91	455102.893	221670.242			No Entry	
SPP39	455089.043	221665.324	455089.043	221665.324	Required	
SFC39	455090.378	221666.534	455090.378	221666.534	Required	
SSW34	455097.697	221665.914	455097.697	221665.914	Required	
S53	455103.666	221658.666			No Entry	
SPP47	455113.329	221663.387	455113.329	221663.387	Required	
SFC47	455111.851	221662.081	455111.851	221662.081	Required	
S96	455108.312	221653.190			No Entry	
S53	455114.502	221645.438			No Entry	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SPP55	455123.697	221649.923	455123.697	221649.923	Required	
SFC55	455122.419	221648.837	455122.419	221648.837	Required	
S100	455118.944	221640.236			No Entry	
SPP46	455119.600	221630.771	455119.600	221630.771	Required	
SFC46	455120.710	221631.739	455120.710	221631.739	Required	
SSW35	455125.960	221631.566	455125.960	221631.566	Required	
SPP61	455135.176	221636.945	455135.176	221636.945	Required	
SFC61	455133.455	221635.461	455133.455	221635.461	Required	
SSW36	455130.314	221626.300	455130.314	221626.300	Required	
SPP44	455094.573	221634.306	455094.573	221634.306	Required	
SFC44	455095.633	221633.040	455095.633	221633.040	Required	
SHE-SW-14	455051.148	221595.618	455051.148	221595.618	Required	
SHE-SW-15	455102.822	221637.882	455102.822	221637.882	Required	
SPP45	455116.815	221629.064	455116.815	221629.064	Required	
SFC45	455118.025	221627.688	455118.025	221627.688	Required	
S145	455113.980	221624.367			No Entry	
SPP60	455108.949	221617.645	455108.949	221617.645	Required	
SFC60	455110.165	221616.227	455110.165	221616.227	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S146	455117.774	221619.694			No Entry	
SSW11	454824.415	221610.245	454824.415	221610.245	Required	
SSW12	454803.499	221593.163	454803.499	221593.163	Required	
SSW13	454794.243	221574.504	454794.243	221574.504	Required	
STANK 3	454814.393	221540.088	454814.393	221540.088	Required	
SHB 3	454816.942	221541.765	454816.942	221541.765	Required	
S148	454819.642	221543.616			No Entry	
SPP67	454824.062	221528.074	454824.062	221528.074	Required	
SFC67	454825.590	221529.306	454825.590	221529.306	Required	
S148	454830.421	221530.164			No Entry	
SSW15	454833.334	221526.677	454833.334	221526.677	Required	
SPP68	454833.548	221515.356	454833.548	221515.356	Required	
SFC68	454835.287	221516.804	454835.287	221516.804	Required	
S150	454840.730	221517.402			No Entry	
SPP69	454841.791	221508.066	454841.791	221508.066	Required	
SFC69	454844.344	221510.132	454844.344	221510.132	Required	
S151	454847.818	221510.434			No Entry	
SSW16	454869.102	221488.850	454869.102	221488.850	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SPP66	454939.079	221524.003	454939.079	221524.003	Required	
SFC66	454941.014	221524.825	454941.014	221524.825	Required	
SPP65	454933.197	221529.680	454933.197	221529.680	Required	
SFC65	454935.266	221530.588	454935.266	221530.588	Required	
STANK 2	454943.763	221534.610	454943.763	221534.610	Required	
SHB 2	454939.784	221532.289	454939.784	221532.289	Required	
SSW17	454941.131	221527.147	454941.131	221527.147	Required	
SFEC-SW-20	454907.925	221581.756	454907.925	221581.756	Required	
SFEC-SW-21	454924.014	221562.084	454924.014	221562.084	Required	
SFEC-SW-22	454939.848	221575.033	454939.848	221575.033	Required	
SFEC-SW-23	454946.245	221567.208	454946.245	221567.208	Required	
SFEC-SW-18	454930.298	221534.849	454930.298	221534.849	Required	
SFEC-SW-19	454943.506	221541.792	454943.506	221541.792	Required	
SFEC-SW-15	454967.059	221581.209	454967.059	221581.209	Required	
SFEC-SW-16	454961.927	221577.071	454961.927	221577.071	Required	
SFEC-SW-17	454971.923	221565.438	454971.923	221565.438	Required	
SFEC-SW-24	454957.778	221553.567	454957.778	221553.567	Required	
SFEC-SW-25	454964.174	221546.219	454964.174	221546.219	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SFEC-SW-26	454966.862	221543.132	454966.862	221543.132	Required	
SSW18	454990.554	221533.337	454990.554	221533.337	Required	
SSW19	455024.846	221536.771	455024.846	221536.771	Required	
SHE-SW-16	455005.001	221545.202	455005.001	221545.202	Required	
SHE-SW-17	455047.615	221579.203	455047.615	221579.203	Required	
S154	455065.688	221575.807			No Entry	
SPP31	454824.316	221473.856	454824.316	221473.856	Required	
SFC31	454826.390	221472.717	454826.390	221472.717	Required	
SSwale In 1	454826.861	221467.748			No Entry	
SSwale 2	454886.528	221475.941			No Entry	
SSwale in 3	454912.706	221491.975			No Entry	
SSwale 4	454965.976	221515.588			No Entry	
SSW PUMP OUTFALL	454990.671	221530.108	454990.671	221530.108	Required	
SSwale in 5	455004.910	221525.565			No Entry	
SSwale 6	455035.198	221537.718			No Entry	
SSwale in 7	455067.380	221569.392			No Entry	
SSwale out	455071.006	221572.804			No Entry	
SSWALE FC70	455072.688	221580.104			No Entry	

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SSW20	455076.991	221586.463	455076.991	221586.463	Required	
SPP53	455067.832	221604.267	455067.832	221604.267	Required	
SFC53	455065.829	221602.277	455065.829	221602.277	Required	
SPP57	455079.890	221601.456	455079.890	221601.456	Required	
SFC57	455078.254	221599.788	455078.254	221599.788	Required	
S170	455073.725	221594.523			No Entry	
S167	455079.897	221588.622			No Entry	
SSW22	455119.910	221617.095	455119.910	221617.095	Required	
SPP48	455169.375	221709.521	455169.375	221709.521	Required	
SFC48	455171.170	221710.953	455171.170	221710.953	Required	
SPP50	455163.714	221695.127	455163.714	221695.127	Required	
SFC50	455165.344	221696.524	455165.344	221696.524	Required	
SSW36	455174.628	221704.796	455174.628	221704.796	Required	
Spp56	455189.405	221703.587	455189.405	221703.587	Required	
SFC56	455187.269	221701.922	455187.269	221701.922	Required	
S187	455186.712	221697.241			No Entry	
SPP59	455199.335	221698.210	455199.335	221698.210	Required	
SFC59	455197.983	221697.019	455197.983	221697.019	Required	

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SPP63	455207.213	221696.019	455207.213	221696.019	Required	
SFC63	455205.713	221694.899	455205.713	221694.899	Required	
SPP62	455193.238	221689.750	455193.238	221689.750	Required	
SFC62	455195.602	221688.791	455195.602	221688.791	Required	
SSW37	455200.367	221688.575	455200.367	221688.575	Required	
SPP64	455138.381	221623.715	455138.381	221623.715	Required	
SFC64	455137.873	221621.756	455137.873	221621.756	Required	
SFEC-SW-06	454866.684	221619.424	454866.684	221619.424	Required	
SFEC-SW-07	454876.751	221607.140	454876.751	221607.140	Required	
SFEC-SW-08	454901.224	221627.121	454901.224	221627.121	Required	
SFEC-SW-09	454927.800	221648.891	454927.800	221648.891	Required	
SFEC-SW-10	454931.831	221622.869	454931.831	221622.869	Required	
SFEC-SW-12	454946.195	221644.904	454946.195	221644.904	Required	
SFEC-SW-13	454937.398	221656.877	454937.398	221656.877	Required	
SFEC-SW-14	454948.121	221666.081	454948.121	221666.081	Required	
SSW05	454949.782	221678.507	454949.782	221678.507	Required	
SFEC-SW-01	454903.679	221653.068	454903.679	221653.068	Required	
SFEC-SW-02	454898.273	221659.777	454898.273	221659.777	Required	

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SHW-SW-01	454914.078	221662.050	454914.078	221662.050	Required	
SHW-SW-02	454898.090	221681.628	454898.090	221681.628	Required	
SHW-SW-03	454892.676	221691.036	454892.676	221691.036	Required	
SFEC-SW-03	454883.880	221677.381	454883.880	221677.381	Required	
SFEC-SW-04	454856.599	221654.993	454856.599	221654.993	Required	
SFEC-SW-05	454877.357	221672.053	454877.357	221672.053	Required	
SSW01	454854.338	221700.337	454854.338	221700.337	Required	
SSW02	454921.968	221752.963	454921.968	221752.963	Required	
SSW03	454971.590	221789.673	454971.590	221789.673	Required	
SHW-SW-04	454926.940	221743.920	454926.940	221743.920	Required	
SSWALE2 IN	454930.356	221748.300	454930.356	221748.300	Required	
SSWALE 2 FC	454964.415	221775.664	454964.415	221775.664	Required	
SSW04	454975.668	221784.743	454975.668	221784.743	Required	
SHW-SW-09	454933.843	221688.834	454933.843	221688.834	Required	
SHW-SW-05	454968.868	221738.521	454968.868	221738.521	Required	
SHW-SW-06	454956.104	221728.297	454956.104	221728.297	Required	
SHW-SW-07	454935.414	221718.350	454935.414	221718.350	Required	
SHW-SW-08	454916.900	221709.928	454916.900	221709.928	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SHW-SW-10	454955.570	221676.656	454955.570	221676.656	Required	
SBASIN 1	454948.891	221703.948	454948.891	221703.948	Required	
SBASIN 1 OUT	454972.465	221723.644	454972.465	221723.644	Required	
S238	455004.298	221749.599			No Entry	
SSW06	455017.135	221734.099	455017.135	221734.099	Required	
SHE-SW-01	454983.133	221622.611	454983.133	221622.611	Required	
SSW07	455025.535	221658.616	455025.535	221658.616	Required	
SFEATURE POND	455038.810	221684.218	455038.810	221684.218	Required	
SFP FC	455042.895	221682.601	455042.895	221682.601	Required	
SSW08	455060.205	221680.962	455060.205	221680.962	Required	
SSW09	455077.906	221695.511	455077.906	221695.511	Required	
SHE-SW-10	455054.081	221634.424	455054.081	221634.424	Required	
SHE-SW-11	455031.745	221616.873	455031.745	221616.873	Required	
SHE-SW-03	454987.174	221678.499	454987.174	221678.499	Required	
SHE-SW-04	455016.769	221642.579	455016.769	221642.579	Required	
SHE-SW-02	454984.439	221626.967	454984.439	221626.967	Required	
SHW-SW-06	455000.709	221600.962	455000.709	221600.962	Required	
SHE-SW-05	454991.491	221610.378	454991.491	221610.378	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SHE-SW-07	454999.468	221608.206	454999.468	221608.206	Required	
SHE-SW-08	455009.648	221588.178	455009.648	221588.178	Required	
SHE-SW-09	455022.261	221598.274	455022.261	221598.274	Required	
SBASIN 2	455017.095	221626.268	455017.095	221626.268	Required	
SBASIN 2 OUT	455039.312	221638.997	455039.312	221638.997	Required	
SHE-SW-12	455063.308	221658.496	455063.308	221658.496	Required	
SHE-SW-13	455068.169	221657.207	455068.169	221657.207	Required	
S241	455093.018	221677.147			No Entry	
SSW10	455132.862	221628.440	455132.862	221628.440	Required	
STANK	455137.769	221617.737	455137.769	221617.737	Required	
SFC71	455145.302	221610.151	455145.302	221610.151	Required	
S	455180.195	221581.735			No Entry	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	100	SPP05	83.720	83.110	0.510	Open Manhole	450
S1.001	o	100	SFC05	83.720	82.720	0.900	Open Manhole	450
S2.000	o	100	SPP04	83.800	83.190	0.510	Open Manhole	450
S2.001	o	100	SFC04	83.800	82.800	0.900	Open Manhole	450
S3.000	o	100	SPP06	83.620	83.010	0.510	Open Manhole	450
S3.001	o	100	SFC06	83.620	82.620	0.900	Open Manhole	450
S1.002	o	100	SSW23	83.540	82.190	1.250	Open Manhole	450
S4.000	o	100	SPP10	83.530	82.755	0.675	Open Manhole	450
S4.001	o	100	SFC10	83.530	82.530	0.900	Open Manhole	450
S5.000	o	100	SPP08	83.450	82.470	0.880	Open Manhole	450
S5.001	o	100	SFC08	83.450	82.450	0.900	Open Manhole	450
S4.002	o	100	S13	83.350	82.187	1.063	Junction	
S1.003	o	100	SSW24	83.270	81.946	1.224	Open Manhole	450
S6.000	o	100	SPP03	83.200	82.470	0.630	Open Manhole	450
S6.001	o	100	SFC03	83.200	82.200	0.900	Open Manhole	450
S1.004	o	100	S7	83.240	81.899	1.241	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	1.626	32.5	SFC05	83.720	83.060	0.560	Open Manhole	450
S1.001	9.938	18.8	SSW23	83.540	82.190	1.250	Open Manhole	450
S2.000	2.221	44.4	SFC04	83.800	83.140	0.560	Open Manhole	450
S2.001	18.655	30.6	SSW23	83.540	82.190	1.250	Open Manhole	450
S3.000	2.223	44.5	SFC06	83.620	82.960	0.560	Open Manhole	450
S3.001	8.148	18.9	SSW23	83.540	82.190	1.250	Open Manhole	450
S1.002	24.436	152.7	SSW24	83.270	82.030	1.140	Open Manhole	450
S4.000	2.392	47.8	SFC10	83.530	82.705	0.725	Open Manhole	450
S4.001	34.295	100.0	S13	83.350	82.187	1.063	Junction	
S5.000	2.080	104.0	SFC08	83.450	82.450	0.900	Open Manhole	450
S5.001	5.927	22.5	S13	83.350	82.187	1.063	Junction	
S4.002	6.502	27.0	SSW24	83.270	81.946	1.224	Open Manhole	450
S1.003	4.720	100.0	S7	83.240	81.899	1.241	Junction	
S6.000	3.047	60.9	SFC03	83.200	82.420	0.680	Open Manhole	450
S6.001	2.567	25.4	S7	83.240	82.099	1.041	Junction	
S1.004	10.484	100.0	S7	83.180	81.794	1.286	Junction	

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PIPELINE SCHEDULES for Storm

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S7.000	o	100	SPP11	83.300	82.400	0.800	Open Manhole	450
S7.001	o	100	SFC11	83.300	82.300	0.900	Open Manhole	450
S1.005	o	100	S7	83.180	81.794	1.286	Junction	
S8.000	o	100	SPP14	82.985	82.235	0.650	Open Manhole	450
S8.001	o	100	SFC14	82.985	81.985	0.900	Open Manhole	450
S1.006	o	100	S6	83.060	81.689	1.271	Junction	
S9.000	o	100	SPP16	83.160	82.220	0.840	Open Manhole	450
S9.001	o	100	SFC16	83.160	82.160	0.900	Open Manhole	450
S1.007	o	100	SSW25	83.000	81.626	1.274	Open Manhole	450
S10.000	o	100	SPP17	82.820	82.000	0.720	Open Manhole	450
S10.001	o	100	SFC17	82.820	81.820	0.900	Open Manhole	450
S1.008	o	100	S17	82.875	81.471	1.304	Junction	
S11.000	o	100	SPP01	83.000	82.160	0.740	Open Manhole	450
S11.001	o	100	SFC01	83.000	82.000	0.900	Open Manhole	450
S12.000	o	100	SPP02	83.070	82.340	0.630	Open Manhole	450

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S7.000	2.112	21.1	SFC11	83.300	82.300	0.900	Open Manhole	450
S7.001	8.876	17.5	S7	83.180	81.794	1.286	Junction	
S1.005	10.497	100.0	S6	83.060	81.689	1.271	Junction	
S8.000	1.570	31.4	SFC14	82.985	82.185	0.700	Open Manhole	450
S8.001	4.311	14.6	S6	83.060	81.689	1.271	Junction	
S1.006	6.312	100.0	SSW25	83.000	81.626	1.274	Open Manhole	450
S9.000	2.537	42.3	SFC16	83.160	82.160	0.900	Open Manhole	450
S9.001	9.084	17.0	SSW25	83.000	81.626	1.274	Open Manhole	450
S1.007	15.492	100.0	S17	82.875	81.471	1.304	Junction	
S10.000	1.414	28.3	SFC17	82.820	81.950	0.770	Open Manhole	450
S10.001	5.374	15.4	S17	82.875	81.471	1.304	Junction	
S1.008	8.865	100.0	SSW27	82.750	81.382	1.268	Open Manhole	450
S11.000	1.567	31.3	SFC01	83.000	82.110	0.790	Open Manhole	450
S11.001	6.692	19.1	SSW26	83.000	81.650	1.250	Open Manhole	450
S12.000	2.554	51.1	SFC02	83.070	82.290	0.680	Open Manhole	450

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S12.001	o	100	SFC02	83.070	82.070	0.900	Open Manhole	450
S11.002	o	100	SSW26	83.000	81.650	1.250	Open Manhole	450
S13.000	o	100	SPP13	82.900	82.290	0.510	Open Manhole	450
S13.001	o	100	SFC13	82.900	81.900	0.900	Open Manhole	450
S11.003	o	100	S27	82.875	81.450	1.325	Junction	
S1.009	o	100	SSW27	82.750	81.382	1.268	Open Manhole	450
S14.000	o	100	SPP12	82.550	81.780	0.670	Open Manhole	450
S14.001	o	100	SFC12	82.550	81.550	0.900	Open Manhole	450
S15.000	o	100	SPP18	83.100	82.300	0.700	Open Manhole	450
S15.001	o	100	SFC18	83.100	82.100	0.900	Open Manhole	450
S16.000	o	100	SPP19	82.700	81.970	0.630	Open Manhole	450
S16.001	o	100	SFC19	82.700	81.700	0.900	Open Manhole	450
S15.002	o	100	SSW28	82.600	81.250	1.250	Open Manhole	450
S1.010	o	150	SSW29	82.500	81.197	1.153	Open Manhole	450
S17.000	o	100	SPP20	82.550	81.740	0.710	Open Manhole	450

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S12.001	5.756	13.7	SSW26	83.000	81.650	1.250	Open Manhole	450
S11.002	19.633	98.2	S27	82.875	81.450	1.325	Junction	
S13.000	1.223	24.5	SFC13	82.900	82.240	0.560	Open Manhole	450
S13.001	5.646	12.5	S27	82.875	81.450	1.325	Junction	
S11.003	6.294	92.6	SSW27	82.750	81.382	1.268	Open Manhole	450
S1.009	18.467	100.0	SSW29	82.500	81.197	1.203	Open Manhole	450
S14.000	1.784	35.7	SFC12	82.550	81.730	0.720	Open Manhole	450
S14.001	4.346	12.3	SSW29	82.500	81.197	1.203	Open Manhole	450
S15.000	2.828	56.6	SFC18	83.100	82.250	0.750	Open Manhole	450
S15.001	56.799	66.8	SSW28	82.600	81.250	1.250	Open Manhole	450
S16.000	1.833	36.7	SFC19	82.700	81.920	0.680	Open Manhole	450
S16.001	4.679	10.4	SSW28	82.600	81.250	1.250	Open Manhole	450
S15.002	8.828	26.4	SSW29	82.500	80.915	1.485	Open Manhole	450
S1.010	5.895	100.0	S25	82.500	81.138	1.212	Junction	
S17.000	2.224	44.5	SFC20	82.550	81.690	0.760	Open Manhole	450

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S17.001	o	100	SFC20	82.550	81.550	0.900	Open Manhole	450
S1.011	o	225	S25	82.500	81.088	1.187	Junction	
S18.000	o	100	SPP21	82.400	81.790	0.510	Open Manhole	450
S18.001	o	100	SFC21	82.400	81.400	0.900	Open Manhole	450
S19.000	o	225	SRAIN GARDEN	82.600	81.200	1.175	Open Manhole	450
S19.001	o	225	SRG FC	82.600	81.175	1.200	Open Manhole	1200
S1.012	o	225	S27	82.600	80.994	1.381	Junction	
S20.000	o	100	SPP26	82.525	81.845	0.580	Open Manhole	450
S20.001	o	100	SFC26	82.525	81.525	0.900	Open Manhole	450
S1.013	o	225	SSW30	82.500	80.890	1.385	Open Manhole	450
S21.000	o	100	SPP28	82.600	81.780	0.720	Open Manhole	450
S21.001	o	100	SFC28	82.600	81.600	0.900	Open Manhole	450
S1.014	o	225	SSW31	82.500	80.812	1.463	Open Manhole	1200
S22.000	o	100	SPP30	82.500	81.865	0.535	Open Manhole	450
S22.001	o	100	SFC30	82.500	81.500	0.900	Open Manhole	450

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S17.001	1.289	3.1	S25	82.500	81.138	1.262	Junction	
S1.011	14.060	150.0	S27	82.600	80.994	1.381	Junction	
S18.000	2.215	44.3	SFC21	82.400	81.740	0.560	Open Manhole	450
S18.001	8.714	24.5	S27	82.600	81.044	1.456	Junction	
S19.000	1.571	62.8	SRG FC	82.600	81.175	1.200	Open Manhole	1200
S19.001	3.633	20.1	S27	82.600	80.994	1.381	Junction	
S1.012	15.557	150.0	SSW30	82.500	80.890	1.385	Open Manhole	450
S20.000	2.450	49.0	SFC26	82.525	81.795	0.630	Open Manhole	450
S20.001	3.098	100.0	SSW30	82.500	81.494	0.906	Open Manhole	450
S1.013	11.696	150.0	SSW31	82.500	80.812	1.463	Open Manhole	1200
S21.000	1.379	27.6	SFC28	82.600	81.730	0.770	Open Manhole	450
S21.001	9.515	12.9	SSW31	82.500	80.862	1.538	Open Manhole	1200
S1.014	7.134	146.2	S66	82.500	80.763	1.512	Junction	
S22.000	2.329	46.6	SFC30	82.500	81.815	0.585	Open Manhole	450
S22.001	9.223	13.4	S66	82.500	80.813	1.587	Junction	

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.015	o	225	S66	82.500	80.763	1.512	Junction	
S23.000	o	100	SPP32	82.485	81.605	0.780	Open Manhole	450
S23.001	o	100	SFC32	82.485	81.485	0.900	Open Manhole	450
S1.016	o	225	S45	82.500	80.698	1.577	Junction	
S24.000	o	100	SPP35	82.500	81.690	0.710	Open Manhole	450
S24.001	o	100	SFC35	82.500	81.500	0.900	Open Manhole	450
S1.017	o	225	S70	82.450	80.647	1.578	Junction	
S25.000	o	150	SPP34	82.400	81.640	0.610	Open Manhole	450
S25.001	o	100	SFC34	82.400	81.400	0.900	Open Manhole	450
S1.018	o	225	S46	82.400	80.609	1.566	Junction	
S1.019	o	225	S47	82.400	80.583	1.592	Junction	
S26.000	o	100	SPP27	83.150	82.540	0.510	Open Manhole	450
S26.001	o	100	SFC27	83.150	82.150	0.900	Open Manhole	450
S26.002	o	100	SSW32	82.950	81.600	1.250	Open Manhole	450
S27.000	o	100	SPP31	82.910	81.890	0.920	Open Manhole	450
S27.001	o	100	SFC31	82.910	81.890	0.920	Open Manhole	450

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.015	9.890	152.9	S45	82.500	80.698	1.577	Junction	
S23.000	1.419	28.4	SFC32	82.485	81.555	0.830	Open Manhole	450
S23.001	9.388	12.7	S45	82.500	80.748	1.652	Junction	
S1.016	7.580	150.0	S70	82.450	80.647	1.578	Junction	
S24.000	1.937	38.7	SFC35	82.500	81.640	0.760	Open Manhole	450
S24.001	9.359	11.7	S70	82.450	80.697	1.653	Junction	
S1.017	5.707	150.0	S46	82.400	80.609	1.566	Junction	
S25.000	1.595	31.9	SFC34	82.400	81.590	0.660	Open Manhole	450
S25.001	5.107	6.9	S46	82.400	80.659	1.641	Junction	
S1.018	3.840	150.0	S47	82.400	80.583	1.592	Junction	
S1.019	7.707	100.0	SSW34	82.370	80.506	1.639	Open Manhole	1200
S26.000	1.930	38.6	SFC27	83.150	82.490	0.560	Open Manhole	450
S26.001	14.545	26.4	SSW32	82.950	81.600	1.250	Open Manhole	450
S26.002	7.761	91.3	S80	82.865	81.515	1.250	Junction	
S27.000	2.802	0.0	SFC31	82.910	81.890	0.920	Open Manhole	450
S27.001	6.565	17.5	S80	82.865	81.515	1.250	Junction	

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S26.003	o	100	S80	82.865	81.515	1.250	Junction	
S26.004	o	100	S56	82.780	81.430	1.250	Junction	
S28.000	o	100	SPP36	82.710	81.610	1.000	Open Manhole	450
S28.001	o	100	SFC36	82.710	81.610	1.000	Open Manhole	450
S26.005	o	100	S84	82.670	81.320	1.250	Junction	
S29.000	o	100	SPP41	82.570	81.530	0.940	Open Manhole	450
S29.001	o	100	SFC41	82.570	81.530	0.940	Open Manhole	450
S26.006	o	100	SSW33	82.485	81.122	1.263	Open Manhole	1200
S30.000	o	100	SPP40	82.425	81.440	0.885	Open Manhole	450
S30.001	o	100	SFC40	82.425	81.425	0.900	Open Manhole	450
S26.007	o	150	S91	82.435	80.608	1.677	Junction	
S31.000	o	100	SPP39	82.375	81.575	0.700	Open Manhole	450
S31.001	o	100	SFC39	82.375	81.375	0.900	Open Manhole	450
S1.020	o	225	SSW34	82.370	80.506	1.639	Open Manhole	1200
S1.021	o	225	S53	82.370	80.443	1.702	Junction	
S32.000	o	100	SPP47	82.380	81.350	0.930	Open Manhole	450

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S26.003	9.339	109.9	S56	82.780	81.430	1.250	Junction	
S26.004	7.788	70.8	S84	82.670	81.320	1.250	Junction	
S28.000	1.568	0.0	SFC36	82.710	81.610	1.000	Open Manhole	450
S28.001	6.712	23.1	S84	82.670	81.320	1.250	Junction	
S26.005	18.122	164.7	SSW33	82.485	81.210	1.175	Open Manhole	1200
S29.000	2.183	0.0	SFC41	82.570	81.530	0.940	Open Manhole	450
S29.001	7.388	18.1	SSW33	82.485	81.122	1.263	Open Manhole	1200
S26.006	51.423	100.0	S91	82.435	80.608	1.727	Junction	
S30.000	1.562	104.1	SFC40	82.425	81.425	0.900	Open Manhole	450
S30.001	5.433	6.7	S91	82.435	80.608	1.727	Junction	
S26.007	6.763	100.0	SSW34	82.370	80.540	1.680	Open Manhole	1200
S31.000	1.802	36.0	SFC39	82.375	81.525	0.750	Open Manhole	450
S31.001	7.345	100.0	SSW34	82.370	81.302	0.968	Open Manhole	1200
S1.020	9.389	150.0	S53	82.370	80.443	1.702	Junction	
S1.021	7.181	150.0	S96	82.345	80.395	1.725	Junction	
S32.000	1.972	0.0	SFC47	82.380	81.350	0.930	Open Manhole	450

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Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S32.001	o	100	SFC47	82.380	81.350	0.930	Open Manhole	450
S1.022	o	225	S96	82.345	80.395	1.725	Junction	
S1.023	o	225	S53	82.320	80.329	1.766	Junction	
S33.000	o	100	SPP55	82.333	81.360	0.873	Open Manhole	450
S33.001	o	100	SFC55	82.333	81.330	0.903	Open Manhole	450
S1.024	o	225	S100	82.285	80.283	1.777	Junction	
S34.000	o	100	SPP46	82.255	81.420	0.735	Open Manhole	450
S34.001	o	100	SFC46	82.255	81.255	0.900	Open Manhole	450
S1.025	o	225	SSW35	82.250	80.209	1.816	Open Manhole	1200
S35.000	o	100	SPP61	82.250	81.270	0.880	Open Manhole	450
S35.001	o	100	SFC61	82.250	81.270	0.880	Open Manhole	450
S1.026	o	225	SSW36	82.180	80.163	1.792	Open Manhole	1200
S36.000	o	100	SPP44	82.320	81.570	0.650	Open Manhole	450
S36.001	o	100	SFC44	82.320	81.320	0.900	Open Manhole	450
S37.000	o	300	SHE-SW-14	82.550	81.900	0.350	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S32.001	9.570	10.6	S96	82.345	80.445	1.800	Junction	
S1.022	9.920	150.0	S53	82.320	80.329	1.766	Junction	
S1.023	6.840	150.0	S100	82.285	80.283	1.777	Junction	
S33.000	1.676	55.9	SFC55	82.333	81.330	0.903	Open Manhole	450
S33.001	9.277	9.3	S100	82.285	80.333	1.852	Junction	
S1.024	11.154	150.0	SSW35	82.250	80.209	1.816	Open Manhole	1200
S34.000	1.473	29.5	SFC46	82.255	81.370	0.785	Open Manhole	450
S34.001	5.254	4.2	SSW35	82.250	79.998	2.152	Open Manhole	1200
S1.025	6.833	150.0	SSW36	82.180	80.163	1.792	Open Manhole	1200
S35.000	2.273	0.0	SFC61	82.250	81.270	0.880	Open Manhole	450
S35.001	9.684	82.8	SSW36	82.180	81.153	0.927	Open Manhole	1200
S1.026	11.353	150.0	STANK	82.000	80.087	1.688	Open Manhole	1800
S36.000	1.650	33.0	SFC44	82.320	81.520	0.700	Open Manhole	450
S36.001	8.668	20.6	SHE-SW-15	82.300	80.900	1.300	Open Manhole	1200
S37.000	66.756	66.8	SHE-SW-15	82.300	80.900	1.100	Open Manhole	1200

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S36.002	o	300	SHE-SW-15	82.300	80.900	1.100	Open Manhole	1200
S38.000	o	100	SPP45	82.270	81.495	0.675	Open Manhole	450
S38.001	o	100	SFC45	82.270	81.270	0.900	Open Manhole	450
S36.003	o	300	S145	82.300	80.725	1.275	Junction	
S39.000	o	100	SPP60	82.270	81.510	0.660	Open Manhole	450
S39.001	o	100	SFC60	82.270	81.270	0.900	Open Manhole	450
S36.004	o	300	S146	82.200	80.665	1.235	Junction	
S40.000	o	300	SSW11	82.550	80.800	1.450	Open Manhole	1200
S40.001	o	300	SSW12	82.550	80.620	1.630	Open Manhole	1200
S40.002	o	300	SSW13	82.550	80.481	1.769	Open Manhole	1200
S41.000	o	300	STANK 3	82.500	80.350	1.850	Open Manhole	1200
S41.001	o	100	SHB 3	82.500	80.332	2.068	Open Manhole	1200
S40.003	o	300	S148	82.550	80.214	2.036	Junction	
S42.000	o	100	SPP67	82.250	81.440	0.710	Open Manhole	450
S42.001	o	100	SFC67	82.250	81.250	0.900	Open Manhole	450
S40.004	o	300	S148	82.550	80.099	2.151	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S36.002	17.525	157.3	S145	82.300	80.789	1.211	Junction	
S38.000	1.832	36.6	SFC45	82.270	81.445	0.725	Open Manhole	450
S38.001	5.234	9.6	S145	82.300	80.725	1.475	Junction	
S36.003	6.021	100.0	S146	82.200	80.665	1.235	Junction	
S39.000	1.868	62.3	SFC60	82.270	81.480	0.690	Open Manhole	450
S39.001	8.362	13.8	S146	82.200	80.665	1.435	Junction	
S36.004	3.364	8.4	SSW22	82.200	80.265	1.635	Open Manhole	1800
S40.000	27.006	150.0	SSW12	82.550	80.620	1.630	Open Manhole	1200
S40.001	20.828	150.0	SSW13	82.550	80.481	1.769	Open Manhole	1200
S40.002	39.990	150.0	S148	82.550	80.214	2.036	Junction	
S41.000	3.050	80.3	SHB 3	82.500	80.312	1.888	Open Manhole	1200
S41.001	3.274	100.0	S148	82.550	80.299	2.151	Junction	
S40.003	17.237	150.0	S148	82.550	80.099	2.151	Junction	
S42.000	1.963	39.3	SFC67	82.250	81.390	0.760	Open Manhole	450
S42.001	4.907	8.4	S148	82.550	80.665	1.785	Junction	
S40.004	4.544	150.0	SSW15	82.550	80.069	2.181	Open Manhole	1350

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S40.005	o	450	SSW15	82.550	80.069	2.031	Open Manhole	1350
S43.000	o	100	SPP68	82.250	81.415	0.735	Open Manhole	450
S43.001	o	100	SFC68	82.250	81.250	0.900	Open Manhole	450
S40.006	o	450	S150	82.550	79.990	2.110	Junction	
S44.000	o	100	SPP69	82.350	81.610	0.640	Open Manhole	450
S44.001	o	100	SFC69	82.350	81.350	0.900	Open Manhole	1200
S40.007	o	450	S151	82.550	79.946	2.154	Junction	
S40.008	o	600	SSW16	82.500	79.846	2.054	Open Manhole	1800
S45.000	o	100	SPP66	82.400	81.590	0.710	Open Manhole	450
S45.001	o	100	SFC66	82.400	81.400	0.900	Open Manhole	450
S46.000	o	100	SPP65	82.500	81.760	0.640	Open Manhole	450
S46.001	o	100	SFC65	82.500	81.500	0.900	Open Manhole	450
S47.000	o	225	STANK 2	82.500	80.000	2.275	Open Manhole	1200
S47.001	o	225	SHB 2	82.500	79.950	2.325	Open Manhole	1200
S40.009	o	600	SSW17	82.400	79.555	2.245	Open Manhole	1800
S48.000	o	375	SFEC-SW-20	82.700	81.500	0.825	Open Manhole	1350

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S40.005	11.862	150.0	S150	82.550	79.990	2.110	Junction	
S43.000	2.263	45.3	SFC68	82.250	81.365	0.785	Open Manhole	450
S43.001	5.476	7.9	S150	82.550	80.556	1.894	Junction	
S40.006	9.940	223.4	S151	82.550	79.946	2.154	Junction	
S44.000	3.285	65.7	SFC69	82.350	81.560	0.690	Open Manhole	1200
S44.001	3.487	4.4	S151	82.550	80.564	1.886	Junction	
S40.007	30.313	304.2	SSW16	82.500	79.846	2.204	Open Manhole	1800
S40.008	81.577	280.4	SSW17	82.400	79.555	2.245	Open Manhole	1800
S45.000	2.102	42.0	SFC66	82.400	81.540	0.760	Open Manhole	450
S45.001	2.325	100.0	SSW17	82.400	81.377	0.923	Open Manhole	1800
S46.000	2.260	45.2	SFC65	82.500	81.710	0.690	Open Manhole	450
S46.001	6.799	100.0	SSW17	82.400	81.432	0.868	Open Manhole	1800
S47.000	4.606	92.1	SHB 2	82.500	79.950	2.325	Open Manhole	1200
S47.001	5.315	100.0	SSW17	82.400	79.897	2.278	Open Manhole	1800
S40.009	49.809	300.0	SSW18	82.500	79.389	2.511	Open Manhole	1800
S48.000	25.413	101.7	SFEC-SW-21	82.700	81.250	1.075	Open Manhole	1350

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S48.001	o	375	SFEC-SW-21	82.700	81.250	1.075	Open Manhole	1350
S48.002	o	450	SFEC-SW-22	82.700	81.050	1.200	Open Manhole	1350
S48.003	o	450	SFEC-SW-23	82.550	80.950	1.150	Open Manhole	1350
S49.000	o	225	SFEC-SW-18	82.600	81.500	0.875	Open Manhole	1200
S49.001	o	300	SFEC-SW-19	82.500	81.300	0.900	Open Manhole	1200
S50.000	o	225	SFEC-SW-15	82.500	81.500	0.775	Open Manhole	1200
S50.001	o	300	SFEC-SW-16	82.500	81.400	0.800	Open Manhole	1200
S50.002	o	300	SFEC-SW-17	82.500	81.250	0.950	Open Manhole	1200
S48.004	o	600	SFEC-SW-24	82.500	80.770	1.130	Open Manhole	1500
S48.005	o	600	SFEC-SW-25	82.400	79.920	1.880	Open Manhole	1500
S48.006	o	600	SFEC-SW-26	82.400	79.900	1.900	Open Manhole	1500
S40.010	o	750	SSW18	82.500	79.389	2.361	Open Manhole	1800
S40.011	o	750	SSW19	82.450	79.274	2.426	Open Manhole	1800
S51.000	o	225	SHE-SW-16	82.550	79.800	2.525	Open Manhole	1200
S51.001	o	225	SHE-SW-17	82.550	79.253	3.072	Open Manhole	1200
S40.012	o	750	S154	82.450	79.086	2.614	Junction	
S52.000	o	100	SPP31	82.400	81.900	0.400	Open Manhole	450
S52.001	o	100	SFC31	82.400	81.900	0.400	Open Manhole	450

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S48.001	20.455	102.3	SFEC-SW-22	82.700	81.050	1.275	Open Manhole	1350
S48.002	10.107	101.1	SFEC-SW-23	82.550	80.950	1.150	Open Manhole	1350
S48.003	17.863	47.0	SFEC-SW-24	82.500	80.570	1.480	Open Manhole	1500
S49.000	14.922	74.6	SFEC-SW-19	82.500	81.300	0.975	Open Manhole	1200
S49.001	18.503	34.9	SFEC-SW-24	82.500	80.770	1.430	Open Manhole	1500
S50.000	6.592	65.9	SFEC-SW-16	82.500	81.400	0.875	Open Manhole	1200
S50.001	15.338	102.3	SFEC-SW-17	82.500	81.250	0.950	Open Manhole	1200
S50.002	18.466	38.5	SFEC-SW-24	82.500	80.770	1.430	Open Manhole	1500
S48.004	9.741	194.8	SFEC-SW-25	82.400	80.720	1.080	Open Manhole	1500
S48.005	4.094	204.7	SFEC-SW-26	82.400	79.900	1.900	Open Manhole	1500
S48.006	25.636	85.5	SSW18	82.500	79.600	2.300	Open Manhole	1800
S40.010	34.464	300.0	SSW19	82.450	79.274	2.426	Open Manhole	1800
S40.011	56.497	300.0	S154	82.450	79.086	2.614	Junction	
S51.000	54.515	99.7	SHE-SW-17	82.550	79.253	3.072	Open Manhole	1200
S51.001	18.390	97.3	S154	82.450	79.064	3.161	Junction	
S40.012	15.533	300.0	SSW20	82.350	79.034	2.566	Open Manhole	1800
S52.000	2.367	0.0	SFC31	82.400	81.900	0.400	Open Manhole	450
S52.001	4.991	100.0	SSwale In 1	82.500	81.850	0.550	Junction	

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S52.002	\	-1	SSwale In 1	82.500	81.500	0.999	Junction	
S52.003	\	-1	SSwale 2	82.500	81.500	0.999	Junction	
S52.004	\	-1	SSwale in 3	82.500	81.500	0.999	Junction	
S52.005	\	-1	SSwale 4	82.500	81.500	0.999	Junction	
S53.000	o	300	SSW PUMP OUTFALL	82.400	81.800	0.300	Open Manhole	1200
S52.006	\	-1	SSwale in 5	82.500	81.500	0.999	Junction	
S52.007	\	-1	SSwale 6	82.500	81.500	0.999	Junction	
S52.008	\	-1	SSwale in 7	82.500	81.500	0.999	Junction	
S52.009	o	150	SSwale out	82.500	81.500	0.850	Junction	
S52.010	o	150	SSWALE FC70	82.500	81.425	0.925	Junction	
S40.013	o	750	SSW20	82.350	79.034	2.566	Open Manhole	1800
S54.000	o	100	SPP53	82.375	81.390	0.885	Open Manhole	450
S54.001	o	100	SFC53	82.375	81.375	0.900	Open Manhole	450
S55.000	o	100	SPP57	82.380	81.645	0.635	Open Manhole	450
S55.001	o	100	SFC57	82.380	81.380	0.900	Open Manhole	450
S54.002	o	100	S170	82.400	80.974	1.326	Junction	
S40.014	o	750	S167	82.350	79.022	2.578	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S52.002	63.376	0.0	SSwale 2	82.500	81.500	0.999	Junction	
S52.003	30.727	0.0	SSwale in 3	82.500	81.500	0.999	Junction	
S52.004	58.270	0.0	SSwale 4	82.500	81.500	0.999	Junction	
S52.005	40.459	0.0	SSwale in 5	82.500	81.500	0.999	Junction	
S53.000	14.946	100.0	SSwale in 5	82.500	81.651	0.549	Junction	
S52.006	33.605	0.0	SSwale 6	82.500	81.500	0.999	Junction	
S52.007	45.154	0.0	SSwale in 7	82.500	81.500	0.999	Junction	
S52.008	4.979	0.0	SSwale out	82.500	81.500	0.999	Junction	
S52.009	7.491	100.0	SSWALE FC70	82.500	81.425	0.925	Junction	
S52.010	7.678	100.0	SSW20	82.350	81.348	0.852	Open Manhole	1800
S40.013	3.620	300.0	S167	82.350	79.022	2.578	Junction	
S54.000	2.823	188.2	SFC53	82.375	81.375	0.900	Open Manhole	450
S54.001	11.067	32.1	S170	82.400	81.030	1.270	Junction	
S55.000	2.336	46.7	SFC57	82.380	81.595	0.685	Open Manhole	450
S55.001	6.945	17.1	S170	82.400	80.974	1.326	Junction	
S54.002	8.539	6.1	S167	82.350	79.578	2.672	Junction	
S40.014	49.110	300.0	SSW22	82.200	78.858	2.592	Open Manhole	1800

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S36.005	o	750	SSW22	82.200	78.858	2.592	Open Manhole	1800
S56.000	o	100	SPP48	82.450	81.450	0.900	Open Manhole	450
S56.001	o	100	SFC48	82.450	81.450	0.900	Open Manhole	450
S57.000	o	100	SPP50	82.280	81.545	0.635	Open Manhole	450
S57.001	o	100	SFC50	82.280	81.180	1.000	Open Manhole	450
S56.002	o	100	SSW36	82.350	81.000	1.250	Open Manhole	450
S58.000	o	100	Spp56	82.370	81.330	0.940	Open Manhole	450
S58.001	o	100	SFC56	82.370	81.330	0.940	Open Manhole	450
S56.003	o	100	S187	81.300	80.858	0.342	Junction	
S59.000	o	100	SPP59	82.270	81.495	0.675	Open Manhole	450
S59.001	o	100	SFC59	82.270	81.270	0.900	Open Manhole	450
S60.000	o	100	SPP63	82.200	81.445	0.655	Open Manhole	450
S60.001	o	100	SFC63	82.200	81.200	0.900	Open Manhole	450
S61.000	o	100	SPP62	82.240	81.510	0.630	Open Manhole	450
S61.001	o	100	SFC62	82.240	81.240	0.900	Open Manhole	450
S56.004	o	100	SSW37	82.200	80.696	1.404	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S36.005	17.871	178.7	STANK	82.000	78.758	2.492	Open Manhole	1800
S56.000	2.296	0.0	SFC48	82.450	81.450	0.900	Open Manhole	450
S56.001	7.062	17.7	SSW36	82.350	81.050	1.200	Open Manhole	450
S57.000	2.147	42.9	SFC50	82.280	81.495	0.685	Open Manhole	450
S57.001	12.434	69.1	SSW36	82.350	81.000	1.250	Open Manhole	450
S56.002	14.251	170.9	S187	81.300	80.917	0.283	Junction	
S58.000	2.708	0.0	SFC56	82.370	81.330	0.940	Open Manhole	450
S58.001	4.714	11.2	S187	81.300	80.908	0.292	Junction	
S56.003	16.173	100.0	SSW37	82.200	80.696	1.404	Open Manhole	1200
S59.000	1.802	36.0	SFC59	82.270	81.445	0.725	Open Manhole	450
S59.001	8.775	100.0	SSW37	82.200	81.182	0.918	Open Manhole	1200
S60.000	1.872	37.4	SFC63	82.200	81.395	0.705	Open Manhole	450
S60.001	8.281	16.4	SSW37	82.200	80.696	1.404	Open Manhole	1200
S61.000	2.551	51.0	SFC62	82.240	81.460	0.680	Open Manhole	450
S61.001	4.770	100.0	SSW37	82.200	81.192	0.908	Open Manhole	1200
S56.004	94.532	100.0	STANK	82.000	79.751	2.149	Open Manhole	1800

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S62.000	o	100	SPP64	82.000	81.260	0.640	Open Manhole	450
S62.001	o	100	SFC64	82.000	81.000	0.900	Open Manhole	450
S63.000	o	450	SFEC-SW-06	82.550	81.650	0.450	Open Manhole	450
S63.001	o	450	SFEC-SW-07	82.700	81.536	0.714	Open Manhole	1350
S63.002	o	450	SFEC-SW-08	82.700	81.220	1.030	Open Manhole	1350
S63.003	o	525	SFEC-SW-09	82.700	80.863	1.312	Open Manhole	1500
S64.000	o	225	SFEC-SW-10	82.700	81.800	0.675	Open Manhole	1200
S64.001	o	225	SFEC-SW-12	82.700	81.500	0.975	Open Manhole	1200
S63.004	o	525	SFEC-SW-13	82.700	80.740	1.435	Open Manhole	1500
S63.005	o	525	SFEC-SW-14	82.550	80.500	1.525	Open Manhole	1800
S63.006	o	525	SSW05	82.400	80.420	1.455	Open Manhole	1800
S65.000	o	225	SFEC-SW-01	82.550	81.600	0.725	Open Manhole	1200
S65.001	o	300	SFEC-SW-02	82.550	81.500	0.750	Open Manhole	1200
S66.000	o	225	SHW-SW-01	82.550	81.600	0.725	Open Manhole	1200
S66.001	o	300	SHW-SW-02	82.550	81.347	0.903	Open Manhole	1200
S67.000	o	150	SHW-SW-03	82.550	81.600	0.800	Open Manhole	1200
S65.002	o	375	SFEC-SW-03	82.550	81.199	0.976	Open Manhole	1350

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S62.000	2.024	58.5	SFC64	82.000	81.225	0.675	Open Manhole	450
S62.001	4.020	4.0	STANK	82.000	80.000	1.900	Open Manhole	1800
S63.000	15.882	50.6	SFEC-SW-07	82.700	81.336	0.914	Open Manhole	1350
S63.001	31.594	100.0	SFEC-SW-08	82.700	81.220	1.030	Open Manhole	1350
S63.002	34.354	121.8	SFEC-SW-09	82.700	80.938	1.312	Open Manhole	1500
S63.003	12.486	101.6	SFEC-SW-13	82.700	80.740	1.435	Open Manhole	1500
S64.000	26.303	87.7	SFEC-SW-12	82.700	81.500	0.975	Open Manhole	1200
S64.001	14.857	74.3	SFEC-SW-13	82.700	81.300	1.175	Open Manhole	1500
S63.004	14.132	58.9	SFEC-SW-14	82.550	80.500	1.525	Open Manhole	1800
S63.005	12.536	156.7	SSW05	82.400	80.420	1.455	Open Manhole	1800
S63.006	87.333	229.8	SSW06	82.400	80.040	1.835	Open Manhole	1800
S65.000	8.616	86.2	SFEC-SW-02	82.550	81.500	0.825	Open Manhole	1200
S65.001	22.739	75.5	SFEC-SW-03	82.550	81.199	1.051	Open Manhole	1350
S66.000	25.277	100.0	SHW-SW-02	82.550	81.347	0.978	Open Manhole	1200
S66.001	14.830	100.0	SFEC-SW-03	82.550	81.199	1.051	Open Manhole	1350
S67.000	16.243	40.5	SFEC-SW-03	82.550	81.199	1.201	Open Manhole	1350
S65.002	8.422	100.0	SFEC-SW-05	82.550	81.115	1.060	Open Manhole	1350

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S68.000	o	300	SFEC-SW-04	82.550	81.700	0.550	Open Manhole	1200
S65.003	o	450	SFEC-SW-05	82.550	81.115	0.985	Open Manhole	1350
S65.004	o	525	SSW01	83.650	80.929	2.196	Open Manhole	1500
S65.005	o	525	SSW02	83.650	80.500	2.625	Open Manhole	1500
S65.006	o	525	SSW03	83.650	80.295	2.830	Open Manhole	1500
S69.000	o	225	SHW-SW-04	82.550	81.800	0.525	Open Manhole	450
S69.001	\/	-2	SSWALE2 IN	82.500	81.500	0.000	Open Manhole	1200
S69.002	o	100	SSWALE 2 FC	82.500	81.500	0.900	Open Manhole	1200
S65.007	o	525	SSW04	83.400	80.265	2.610	Open Manhole	1500
S70.000	o	150	SHW-SW-09	82.550	81.900	0.500	Open Manhole	1200
S71.000	o	225	SHW-SW-05	82.550	81.900	0.425	Open Manhole	1200
S71.001	o	225	SHW-SW-06	82.550	81.736	0.589	Open Manhole	1200
S72.000	o	150	SHW-SW-07	82.550	81.900	0.500	Open Manhole	1200
S73.000	o	150	SHW-SW-08	82.550	81.900	0.500	Open Manhole	1200
S74.000	o	225	SHW-SW-10	82.550	81.900	0.425	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S68.000	26.869	100.0	SFEC-SW-05	82.550	81.431	0.819	Open Manhole	1350
S65.003	36.467	195.8	SSW01	83.650	80.929	2.271	Open Manhole	1500
S65.004	85.693	199.6	SSW02	83.650	80.500	2.625	Open Manhole	1500
S65.005	61.725	300.6	SSW03	83.650	80.295	2.830	Open Manhole	1500
S65.006	6.397	210.6	SSW04	83.400	80.265	2.610	Open Manhole	1500
S69.000	5.555	100.0	SSWALE2 IN	82.500	81.744	0.531	Open Manhole	1200
S69.001	43.690	0.0	SSWALE 2 FC	82.500	81.500	0.000	Open Manhole	1200
S69.002	14.458	100.0	SSW04	83.400	81.355	1.945	Open Manhole	1500
S65.007	45.330	300.0	S238	82.650	80.114	2.011	Junction	
S70.000	21.328	100.0	SBASIN 1	82.550	81.687	0.713	Open Manhole	1200
S71.000	16.354	100.0	SHW-SW-06	82.550	81.736	0.589	Open Manhole	1200
S71.001	25.394	107.6	SBASIN 1	82.550	81.500	0.825	Open Manhole	1200
S72.000	19.724	100.0	SBASIN 1	82.550	81.703	0.697	Open Manhole	1200
S73.000	32.546	100.0	SBASIN 1	82.550	81.575	0.825	Open Manhole	1200
S74.000	28.097	100.0	SBASIN 1	82.550	81.619	0.706	Open Manhole	1200

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PIPELINE SCHEDULES for Storm

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S70.001	o	150	SBASIN 1	82.550	81.500	0.900	Open Manhole	1200
S70.002	o	150	SBASIN 1 OUT	82.500	81.193	1.157	Open Manhole	450
S65.008	o	525	S238	82.650	80.114	2.011	Junction	
S63.007	o	525	SSW06	82.400	80.040	1.835	Open Manhole	1800
S75.000	o	300	SHE-SW-01	82.550	81.600	0.650	Open Manhole	1200
S75.001	o	300	SSW07	82.400	81.044	1.056	Open Manhole	1200
S76.000	o	100	SFEATURE POND	82.200	82.000	0.100	Open Manhole	1200
S76.001	o	100	SFP FC	82.200	80.800	1.300	Open Manhole	1200
S63.008	o	600	SSW08	82.550	79.799	2.151	Open Manhole	1800
S63.009	o	600	SSW09	82.500	79.723	2.177	Open Manhole	1800
S77.000	o	225	SHE-SW-10	82.550	81.900	0.425	Open Manhole	1200
S77.001	o	225	SHE-SW-11	82.550	81.616	0.709	Open Manhole	1200
S78.000	o	225	SHE-SW-03	82.500	81.900	0.375	Open Manhole	1200
S78.001	o	225	SHE-SW-04	82.500	81.637	0.638	Open Manhole	1200
S79.000	o	225	SHE-SW-02	82.550	81.900	0.425	Open Manhole	1200
S80.000	o	225	SHW-SW-06	82.550	81.900	0.425	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S70.001	30.719	100.0	SBASIN 1 OUT	82.500	81.193	1.157	Open Manhole	450
S70.002	41.073	100.0	S238	82.650	80.782	1.718	Junction	
S65.008	20.126	272.0	SSW06	82.400	80.040	1.835	Open Manhole	1800
S63.007	68.401	283.8	SSW08	82.550	79.799	2.226	Open Manhole	1800
S75.000	55.627	100.0	SSW07	82.400	81.044	1.056	Open Manhole	1200
S75.001	41.248	100.0	SSW08	82.550	80.632	1.618	Open Manhole	1800
S76.000	4.394	22.0	SFP FC	82.200	81.800	0.300	Open Manhole	1200
S76.001	17.388	99.4	SSW08	82.550	80.625	1.825	Open Manhole	1800
S63.008	22.912	300.0	SSW09	82.500	79.723	2.177	Open Manhole	1800
S63.009	23.783	300.0	S241	82.400	79.644	2.156	Junction	
S77.000	28.406	100.0	SHE-SW-11	82.550	81.616	0.709	Open Manhole	1200
S77.001	17.404	150.0	SBASIN 2	82.550	81.500	0.825	Open Manhole	1200
S78.000	46.541	177.2	SHE-SW-04	82.500	81.637	0.638	Open Manhole	1200
S78.001	16.315	119.1	SBASIN 2	82.550	81.500	0.825	Open Manhole	1200
S79.000	32.663	81.7	SBASIN 2	82.550	81.500	0.825	Open Manhole	1200
S80.000	7.350	88.6	SHE-SW-07	82.550	81.817	0.508	Open Manhole	1200

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S81.000	o	225	SHE-SW-05	82.550	81.900	0.425	Open Manhole	1200
S80.001	o	225	SHE-SW-07	82.550	81.817	0.508	Open Manhole	1200
S82.000	o	225	SHE-SW-08	82.550	81.900	0.425	Open Manhole	1200
S82.001	o	225	SHE-SW-09	82.550	81.738	0.587	Open Manhole	1200
S77.002	o	225	SBASIN 2	82.550	81.500	0.825	Open Manhole	1200
S77.003	o	225	SBASIN 2 OUT	82.500	81.244	1.031	Open Manhole	600
S77.004	o	225	SHE-SW-12	82.500	80.935	1.340	Open Manhole	600
S77.005	o	225	SHE-SW-13	82.500	80.885	1.390	Open Manhole	600
S63.010	o	600	S241	82.400	79.644	2.156	Junction	
S63.011	o	600	SSW10	82.180	79.434	2.146	Open Manhole	1800
S1.027	o	300	STANK	82.000	78.732	2.968	Open Manhole	1800
S1.028	o	300	SFC71	82.000	78.679	3.021	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S81.000	8.267	100.0	SHE-SW-07	82.550	81.817	0.508	Open Manhole	1200
S80.001	25.238	100.0	SBASIN 2	82.550	81.565	0.760	Open Manhole	1200
S82.000	16.155	100.0	SHE-SW-09	82.550	81.738	0.587	Open Manhole	1200
S82.001	28.467	119.6	SBASIN 2	82.550	81.500	0.825	Open Manhole	1200
S77.002	25.605	100.0	SBASIN 2 OUT	82.500	81.244	1.031	Open Manhole	600
S77.003	30.920	100.0	SHE-SW-12	82.500	80.935	1.340	Open Manhole	600
S77.004	5.029	100.0	SHE-SW-13	82.500	80.885	1.390	Open Manhole	600
S77.005	31.859	100.0	S241	82.400	80.566	1.609	Junction	
S63.010	62.928	300.0	SSW10	82.180	79.434	2.146	Open Manhole	1800
S63.011	11.774	58.5	STANK	82.000	79.233	2.167	Open Manhole	1800
S1.027	10.691	200.0	SFC71	82.000	78.679	3.021	Open Manhole	1200
S1.028	45.000	200.0	S	80.600	78.454	1.846	Open Manhole	0

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.010	0.010	0.010
1.001	-	-	100	0.000	0.000	0.000
2.000	-	-	100	0.010	0.010	0.010
2.001	-	-	100	0.000	0.000	0.000
3.000	-	-	100	0.010	0.010	0.010
3.001	-	-	100	0.000	0.000	0.000
1.002	-	-	100	0.000	0.000	0.000
4.000	-	-	100	0.040	0.040	0.040
4.001	-	-	100	0.000	0.000	0.000
5.000	-	-	100	0.035	0.035	0.035
5.001	-	-	100	0.000	0.000	0.000
4.002	-	-	100	0.000	0.000	0.000
1.003	-	-	100	0.000	0.000	0.000
6.000	-	-	100	0.059	0.059	0.059
6.001	-	-	100	0.000	0.000	0.000
1.004	-	-	100	0.000	0.000	0.000
7.000	-	-	100	0.039	0.039	0.039
7.001	-	-	100	0.000	0.000	0.000
1.005	-	-	100	0.000	0.000	0.000
8.000	-	-	100	0.024	0.024	0.024
8.001	-	-	100	0.000	0.000	0.000
1.006	-	-	100	0.000	0.000	0.000
9.000	-	-	100	0.039	0.039	0.039
9.001	-	-	100	0.000	0.000	0.000
1.007	-	-	100	0.000	0.000	0.000
10.000	-	-	100	0.055	0.055	0.055
10.001	-	-	100	0.000	0.000	0.000
1.008	-	-	100	0.000	0.000	0.000
11.000	-	-	100	0.051	0.051	0.051
11.001	-	-	100	0.000	0.000	0.000
12.000	-	-	100	0.017	0.017	0.017
12.001	-	-	100	0.000	0.000	0.000
11.002	-	-	100	0.000	0.000	0.000
13.000	-	-	100	0.005	0.005	0.005
13.001	-	-	100	0.000	0.000	0.000
11.003	-	-	100	0.000	0.000	0.000
1.009	-	-	100	0.000	0.000	0.000
14.000	-	-	100	0.059	0.059	0.059
14.001	-	-	100	0.000	0.000	0.000
15.000	-	-	100	0.053	0.053	0.053
15.001	-	-	100	0.000	0.000	0.000
16.000	-	-	100	0.023	0.023	0.023
16.001	-	-	100	0.000	0.000	0.000
15.002	-	-	100	0.000	0.000	0.000
1.010	-	-	100	0.000	0.000	0.000
17.000	-	-	100	0.072	0.072	0.072
17.001	-	-	100	0.000	0.000	0.000
1.011	-	-	100	0.000	0.000	0.000
18.000	-	-	100	0.271	0.271	0.271
18.001	-	-	100	0.000	0.000	0.000
19.000	-	-	100	0.097	0.097	0.097
19.001	-	-	100	0.000	0.000	0.000
1.012	-	-	100	0.000	0.000	0.000
20.000	-	-	100	0.029	0.029	0.029
20.001	-	-	100	0.000	0.000	0.000
1.013	-	-	100	0.000	0.000	0.000
21.000	-	-	100	0.059	0.059	0.059
21.001	-	-	100	0.000	0.000	0.000
1.014	-	-	100	0.000	0.000	0.000

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
22.000	-	-	100	0.021	0.021	0.021
22.001	-	-	100	0.000	0.000	0.000
1.015	-	-	100	0.000	0.000	0.000
23.000	-	-	100	0.058	0.058	0.058
23.001	-	-	100	0.000	0.000	0.000
1.016	-	-	100	0.000	0.000	0.000
24.000	-	-	100	0.021	0.021	0.021
24.001	-	-	100	0.000	0.000	0.000
1.017	-	-	100	0.000	0.000	0.000
25.000	-	-	100	0.053	0.053	0.053
25.001	-	-	100	0.000	0.000	0.000
1.018	-	-	100	0.000	0.000	0.000
1.019	-	-	100	0.000	0.000	0.000
26.000	-	-	100	0.006	0.006	0.006
26.001	-	-	100	0.000	0.000	0.000
26.002	-	-	100	0.000	0.000	0.000
27.000	-	-	100	0.040	0.040	0.040
27.001	-	-	100	0.000	0.000	0.000
26.003	-	-	100	0.000	0.000	0.000
26.004	-	-	100	0.000	0.000	0.000
28.000	-	-	100	0.074	0.074	0.074
28.001	-	-	100	0.000	0.000	0.000
26.005	-	-	100	0.000	0.000	0.000
29.000	-	-	100	0.084	0.084	0.084
29.001	-	-	100	0.000	0.000	0.000
26.006	-	-	100	0.000	0.000	0.000
30.000	-	-	100	0.077	0.077	0.077
30.001	-	-	100	0.000	0.000	0.000
26.007	-	-	100	0.000	0.000	0.000
31.000	-	-	100	0.021	0.021	0.021
31.001	-	-	100	0.000	0.000	0.000
1.020	-	-	100	0.000	0.000	0.000
1.021	-	-	100	0.000	0.000	0.000
32.000	-	-	100	0.077	0.077	0.077
32.001	-	-	100	0.000	0.000	0.000
1.022	-	-	100	0.000	0.000	0.000
1.023	-	-	100	0.000	0.000	0.000
33.000	-	-	100	0.077	0.077	0.077
33.001	-	-	100	0.000	0.000	0.000
1.024	-	-	100	0.000	0.000	0.000
34.000	-	-	100	0.053	0.053	0.053
34.001	-	-	100	0.000	0.000	0.000
1.025	-	-	100	0.000	0.000	0.000
35.000	-	-	100	0.077	0.077	0.077
35.001	-	-	100	0.000	0.000	0.000
1.026	-	-	100	0.000	0.000	0.000
36.000	-	-	100	0.000	0.000	0.000
36.001	-	-	100	0.021	0.021	0.021
37.000	-	-	100	0.097	0.097	0.097
36.002	-	-	100	0.000	0.000	0.000
38.000	-	-	100	0.034	0.034	0.034
38.001	-	-	100	0.000	0.000	0.000
36.003	-	-	100	0.000	0.000	0.000
39.000	-	-	100	0.007	0.007	0.007
39.001	-	-	100	0.000	0.000	0.000
36.004	-	-	100	0.000	0.000	0.000
40.000	-	-	100	0.054	0.054	0.054
40.001	-	-	100	0.026	0.026	0.026
40.002	-	-	100	0.055	0.055	0.055

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
41.000	-	-	100	0.106	0.106	0.106
41.001	-	-	100	0.000	0.000	0.000
40.003	-	-	100	0.061	0.061	0.061
42.000	-	-	100	0.069	0.069	0.069
42.001	-	-	100	0.000	0.000	0.000
40.004	-	-	100	0.000	0.000	0.000
40.005	-	-	100	0.143	0.143	0.143
43.000	-	-	100	0.087	0.087	0.087
43.001	-	-	100	0.000	0.000	0.000
40.006	-	-	100	0.000	0.000	0.000
44.000	-	-	100	0.018	0.018	0.018
44.001	-	-	100	0.000	0.000	0.000
40.007	-	-	100	0.131	0.131	0.131
40.008	-	-	100	0.038	0.038	0.038
45.000	-	-	100	0.042	0.042	0.042
45.001	-	-	100	0.000	0.000	0.000
46.000	-	-	100	0.015	0.015	0.015
46.001	-	-	100	0.000	0.000	0.000
47.000	-	-	100	0.165	0.165	0.165
47.001	-	-	100	0.000	0.000	0.000
40.009	-	-	100	0.000	0.000	0.000
48.000	-	-	100	0.179	0.179	0.179
48.001	-	-	100	0.025	0.025	0.025
48.002	-	-	100	0.054	0.054	0.054
48.003	-	-	100	0.039	0.039	0.039
49.000	-	-	100	0.038	0.038	0.038
49.001	-	-	100	0.025	0.025	0.025
50.000	-	-	100	0.053	0.053	0.053
50.001	-	-	100	0.055	0.055	0.055
50.002	-	-	100	0.032	0.032	0.032
48.004	-	-	100	0.000	0.000	0.000
48.005	-	-	100	0.000	0.000	0.000
48.006	-	-	100	0.000	0.000	0.000
40.010	-	-	100	0.000	0.000	0.000
40.011	-	-	100	0.000	0.000	0.000
51.000	-	-	100	0.119	0.119	0.119
51.001	-	-	100	0.007	0.007	0.007
40.012	-	-	100	0.000	0.000	0.000
52.000	-	-	100	0.000	0.000	0.000
52.001	-	-	100	0.000	0.000	0.000
52.002	User	-	100	0.016	0.016	0.016
	User	-	100	0.038	0.038	0.054
52.003	User	-	100	0.021	0.021	0.021
52.004	User	-	100	0.044	0.044	0.044
52.005	User	-	100	0.053	0.053	0.053
53.000	-	-	100	0.000	0.000	0.000
52.006	-	-	100	0.023	0.023	0.023
52.007	User	-	100	0.070	0.070	0.070
52.008	-	-	100	0.000	0.000	0.000
52.009	-	-	100	0.000	0.000	0.000
52.010	-	-	100	0.000	0.000	0.000
40.013	-	-	100	0.000	0.000	0.000
54.000	-	-	100	0.038	0.038	0.038
54.001	-	-	100	0.000	0.000	0.000
55.000	-	-	100	0.024	0.024	0.024
55.001	-	-	100	0.000	0.000	0.000
54.002	-	-	100	0.000	0.000	0.000
40.014	-	-	100	0.000	0.000	0.000
36.005	-	-	100	0.000	0.000	0.000

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
56.000	-	-	100	0.094	0.094	0.094
56.001	-	-	100	0.000	0.000	0.000
57.000	-	-	100	0.019	0.019	0.019
57.001	-	-	100	0.000	0.000	0.000
56.002	-	-	100	0.000	0.000	0.000
58.000	-	-	100	0.052	0.052	0.052
58.001	-	-	100	0.000	0.000	0.000
56.003	-	-	100	0.000	0.000	0.000
59.000	-	-	100	0.026	0.026	0.026
59.001	-	-	100	0.000	0.000	0.000
60.000	-	-	100	0.031	0.031	0.031
60.001	-	-	100	0.000	0.000	0.000
61.000	-	-	100	0.038	0.038	0.038
61.001	-	-	100	0.000	0.000	0.000
56.004	-	-	100	0.000	0.000	0.000
62.000	-	-	100	0.458	0.458	0.458
62.001	-	-	100	0.000	0.000	0.000
63.000	-	-	100	0.125	0.125	0.125
63.001	-	-	100	0.175	0.175	0.175
63.002	-	-	100	0.029	0.029	0.029
63.003	-	-	100	0.051	0.051	0.051
64.000	-	-	100	0.055	0.055	0.055
64.001	-	-	100	0.028	0.028	0.028
63.004	-	-	100	0.045	0.045	0.045
63.005	-	-	100	0.000	0.000	0.000
63.006	-	-	100	0.000	0.000	0.000
65.000	-	-	100	0.040	0.040	0.040
65.001	-	-	100	0.066	0.066	0.066
66.000	-	-	100	0.060	0.060	0.060
66.001	-	-	100	0.020	0.020	0.020
67.000	-	-	100	0.022	0.022	0.022
65.002	-	-	100	0.027	0.027	0.027
68.000	-	-	100	0.096	0.096	0.096
65.003	-	-	100	0.018	0.018	0.018
65.004	-	-	100	0.109	0.109	0.109
65.005	-	-	100	0.000	0.000	0.000
65.006	-	-	100	0.000	0.000	0.000
69.000	-	-	100	0.021	0.021	0.021
69.001	-	-	100	0.069	0.069	0.069
69.002	-	-	100	0.000	0.000	0.000
65.007	-	-	100	0.009	0.009	0.009
70.000	-	-	100	0.014	0.014	0.014
71.000	-	-	100	0.024	0.024	0.024
71.001	-	-	100	0.008	0.008	0.008
72.000	-	-	100	0.018	0.018	0.018
73.000	-	-	100	0.015	0.015	0.015
74.000	-	-	100	0.069	0.069	0.069
70.001	-	-	100	0.007	0.007	0.007
70.002	-	-	100	0.007	0.007	0.007
65.008	-	-	100	0.007	0.007	0.007
63.007	-	-	100	0.000	0.000	0.000
75.000	-	-	100	0.091	0.091	0.091
75.001	-	-	100	0.000	0.000	0.000
76.000	-	-	100	0.234	0.234	0.234
76.001	-	-	100	0.000	0.000	0.000
63.008	-	-	100	0.000	0.000	0.000
63.009	-	-	100	0.000	0.000	0.000
77.000	-	-	100	0.027	0.027	0.027
77.001	-	-	100	0.002	0.002	0.002

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
78.000	-	-	100	0.048	0.048	0.048
78.001	-	-	100	0.000	0.000	0.000
79.000	-	-	100	0.058	0.058	0.058
80.000	-	-	100	0.023	0.023	0.023
81.000	-	-	100	0.016	0.016	0.016
80.001	-	-	100	0.014	0.014	0.014
82.000	-	-	100	0.031	0.031	0.031
82.001	-	-	100	0.021	0.021	0.021
77.002	-	-	100	0.011	0.011	0.011
77.003	-	-	100	0.000	0.000	0.000
77.004	-	-	100	0.006	0.006	0.006
77.005	-	-	100	0.000	0.000	0.000
63.010	-	-	100	0.000	0.000	0.000
63.011	-	-	100	0.000	0.000	0.000
1.027	-	-	100	0.000	0.000	0.000
1.028	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				6.452	6.452	6.452

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Network Classifications for Storm

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
S1.000	SPP05	100	0.510	0.560	Unclassified	450	0	0.510	Unclassified
S1.001	SFC05	100	0.900	1.250	Unclassified	450	0	0.900	Unclassified
S2.000	SPP04	100	0.510	0.560	Unclassified	450	0	0.510	Unclassified
S2.001	SFC04	100	0.900	1.250	Unclassified	450	0	0.900	Unclassified
S3.000	SPP06	100	0.510	0.560	Unclassified	450	0	0.510	Unclassified
S3.001	SFC06	100	0.900	1.250	Unclassified	450	0	0.900	Unclassified
S1.002	SSW23	100	1.140	1.250	Unclassified	450	0	1.250	Unclassified
S4.000	SPP10	100	0.675	0.725	Unclassified	450	0	0.675	Unclassified
S4.001	SFC10	100	0.900	1.063	Unclassified	450	0	0.900	Unclassified
S5.000	SPP08	100	0.880	0.900	Unclassified	450	0	0.880	Unclassified
S5.001	SFC08	100	0.900	1.063	Unclassified	450	0	0.900	Unclassified
S4.002	S13	100	1.063	1.224	Unclassified				Junction
S1.003	SSW24	100	1.224	1.241	Unclassified	450	0	1.224	Unclassified
S6.000	SPP03	100	0.630	0.680	Unclassified	450	0	0.630	Unclassified
S6.001	SFC03	100	0.900	1.041	Unclassified	450	0	0.900	Unclassified
S1.004	S7	100	1.241	1.286	Unclassified				Junction
S7.000	SPP11	100	0.800	0.900	Unclassified	450	0	0.800	Unclassified
S7.001	SFC11	100	0.900	1.286	Unclassified	450	0	0.900	Unclassified
S1.005	S7	100	1.271	1.286	Unclassified				Junction
S8.000	SPP14	100	0.650	0.700	Unclassified	450	0	0.650	Unclassified
S8.001	SFC14	100	0.900	1.271	Unclassified	450	0	0.900	Unclassified
S1.006	S6	100	1.271	1.274	Unclassified				Junction
S9.000	SPP16	100	0.840	0.900	Unclassified	450	0	0.840	Unclassified
S9.001	SFC16	100	0.900	1.274	Unclassified	450	0	0.900	Unclassified
S1.007	SSW25	100	1.274	1.304	Unclassified	450	0	1.274	Unclassified
S10.000	SPP17	100	0.720	0.770	Unclassified	450	0	0.720	Unclassified
S10.001	SFC17	100	0.900	1.304	Unclassified	450	0	0.900	Unclassified
S1.008	S17	100	1.268	1.304	Unclassified				Junction
S11.000	SPP01	100	0.740	0.790	Unclassified	450	0	0.740	Unclassified
S11.001	SFC01	100	0.900	1.250	Unclassified	450	0	0.900	Unclassified
S12.000	SPP02	100	0.630	0.680	Unclassified	450	0	0.630	Unclassified
S12.001	SFC02	100	0.900	1.250	Unclassified	450	0	0.900	Unclassified
S11.002	SSW26	100	1.250	1.325	Unclassified	450	0	1.250	Unclassified
S13.000	SPP13	100	0.510	0.560	Unclassified	450	0	0.510	Unclassified
S13.001	SFC13	100	0.900	1.325	Unclassified	450	0	0.900	Unclassified
S11.003	S27	100	1.268	1.325	Unclassified				Junction
S1.009	SSW27	100	1.203	1.268	Unclassified	450	0	1.268	Unclassified
S14.000	SPP12	100	0.670	0.720	Unclassified	450	0	0.670	Unclassified
S14.001	SFC12	100	0.900	1.203	Unclassified	450	0	0.900	Unclassified
S15.000	SPP18	100	0.700	0.750	Unclassified	450	0	0.700	Unclassified
S15.001	SFC18	100	0.900	1.250	Unclassified	450	0	0.900	Unclassified
S16.000	SPP19	100	0.630	0.680	Unclassified	450	0	0.630	Unclassified
S16.001	SFC19	100	0.900	1.250	Unclassified	450	0	0.900	Unclassified
S15.002	SSW28	100	1.250	1.485	Unclassified	450	0	1.250	Unclassified
S1.010	SSW29	150	1.153	1.212	Unclassified	450	0	1.153	Unclassified
S17.000	SPP20	100	0.710	0.760	Unclassified	450	0	0.710	Unclassified
S17.001	SFC20	100	0.900	1.262	Unclassified	450	0	0.900	Unclassified
S1.011	S25	225	1.187	1.381	Unclassified				Junction
S18.000	SPP21	100	0.510	0.560	Unclassified	450	0	0.510	Unclassified
S18.001	SFC21	100	0.900	1.456	Unclassified	450	0	0.900	Unclassified
S19.000	SRAIN GARDEN	225	1.175	1.200	Unclassified	450	0	1.175	Unclassified
S19.001	SRG FC	225	1.200	1.381	Unclassified	1200	0	1.200	Unclassified
S1.012	S27	225	1.381	1.385	Unclassified				Junction
S20.000	SPP26	100	0.580	0.630	Unclassified	450	0	0.580	Unclassified
S20.001	SFC26	100	0.900	0.906	Unclassified	450	0	0.900	Unclassified
S1.013	SSW30	225	1.385	1.463	Unclassified	450	0	1.385	Unclassified
S21.000	SPP28	100	0.720	0.770	Unclassified	450	0	0.720	Unclassified

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Network Classifications for Storm

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
S21.001	SFC28	100	0.900	1.538	Unclassified	450	0	0.900	Unclassified
S1.014	SSW31	225	1.463	1.512	Unclassified	1200	0	1.463	Unclassified
S22.000	SPP30	100	0.535	0.585	Unclassified	450	0	0.535	Unclassified
S22.001	SFC30	100	0.900	1.587	Unclassified	450	0	0.900	Unclassified
S1.015	S66	225	1.512	1.577	Unclassified				Junction
S23.000	SPP32	100	0.780	0.830	Unclassified	450	0	0.780	Unclassified
S23.001	SFC32	100	0.900	1.652	Unclassified	450	0	0.900	Unclassified
S1.016	S45	225	1.577	1.578	Unclassified				Junction
S24.000	SPP35	100	0.710	0.760	Unclassified	450	0	0.710	Unclassified
S24.001	SFC35	100	0.900	1.653	Unclassified	450	0	0.900	Unclassified
S1.017	S70	225	1.566	1.578	Unclassified				Junction
S25.000	SPP34	150	0.610	0.660	Unclassified	450	0	0.610	Unclassified
S25.001	SFC34	100	0.900	1.641	Unclassified	450	0	0.900	Unclassified
S1.018	S46	225	1.566	1.592	Unclassified				Junction
S1.019	S47	225	1.592	1.639	Unclassified				Junction
S26.000	SPP27	100	0.510	0.560	Unclassified	450	0	0.510	Unclassified
S26.001	SFC27	100	0.900	1.250	Unclassified	450	0	0.900	Unclassified
S26.002	SSW32	100	1.250	1.250	Unclassified	450	0	1.250	Unclassified
S27.000	SPP31	100	0.920	0.920	Unclassified	450	0	0.920	Unclassified
S27.001	SFC31	100	0.920	1.250	Unclassified	450	0	0.920	Unclassified
S26.003	S80	100	1.250	1.250	Unclassified				Junction
S26.004	S56	100	1.250	1.250	Unclassified				Junction
S28.000	SPP36	100	1.000	1.000	Unclassified	450	0	1.000	Unclassified
S28.001	SFC36	100	1.000	1.250	Unclassified	450	0	1.000	Unclassified
S26.005	S84	100	1.175	1.250	Unclassified				Junction
S29.000	SPP41	100	0.940	0.940	Unclassified	450	0	0.940	Unclassified
S29.001	SFC41	100	0.940	1.263	Unclassified	450	0	0.940	Unclassified
S26.006	SSW33	100	1.263	1.727	Unclassified	1200	0	1.263	Unclassified
S30.000	SPP40	100	0.885	0.900	Unclassified	450	0	0.885	Unclassified
S30.001	SFC40	100	0.900	1.727	Unclassified	450	0	0.900	Unclassified
S26.007	S91	150	1.677	1.680	Unclassified				Junction
S31.000	SPP39	100	0.700	0.750	Unclassified	450	0	0.700	Unclassified
S31.001	SFC39	100	0.900	0.968	Unclassified	450	0	0.900	Unclassified
S1.020	SSW34	225	1.639	1.702	Unclassified	1200	0	1.639	Unclassified
S1.021	S53	225	1.702	1.725	Unclassified				Junction
S32.000	SPP47	100	0.930	0.930	Unclassified	450	0	0.930	Unclassified
S32.001	SFC47	100	0.930	1.800	Unclassified	450	0	0.930	Unclassified
S1.022	S96	225	1.725	1.766	Unclassified				Junction
S1.023	S53	225	1.766	1.777	Unclassified				Junction
S33.000	SPP55	100	0.873	0.903	Unclassified	450	0	0.873	Unclassified
S33.001	SFC55	100	0.903	1.852	Unclassified	450	0	0.903	Unclassified
S1.024	S100	225	1.777	1.816	Unclassified				Junction
S34.000	SPP46	100	0.735	0.785	Unclassified	450	0	0.735	Unclassified
S34.001	SFC46	100	0.900	2.152	Unclassified	450	0	0.900	Unclassified
S1.025	SSW35	225	1.792	1.816	Unclassified	1200	0	1.816	Unclassified
S35.000	SPP61	100	0.880	0.880	Unclassified	450	0	0.880	Unclassified
S35.001	SFC61	100	0.880	0.927	Unclassified	450	0	0.880	Unclassified
S1.026	SSW36	225	1.688	1.792	Unclassified	1200	0	1.792	Unclassified
S36.000	SPP44	100	0.650	0.700	Unclassified	450	0	0.650	Unclassified
S36.001	SFC44	100	0.900	1.300	Unclassified	450	0	0.900	Unclassified
S37.000	SHE-SW-14	300	0.350	1.100	Unclassified	1200	0	0.350	Unclassified
S36.002	SHE-SW-15	300	1.100	1.211	Unclassified	1200	0	1.100	Unclassified
S38.000	SPP45	100	0.675	0.725	Unclassified	450	0	0.675	Unclassified
S38.001	SFC45	100	0.900	1.475	Unclassified	450	0	0.900	Unclassified
S36.003	S145	300	1.235	1.275	Unclassified				Junction
S39.000	SPP60	100	0.660	0.690	Unclassified	450	0	0.660	Unclassified
S39.001	SFC60	100	0.900	1.435	Unclassified	450	0	0.900	Unclassified

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Network Classifications for Storm

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
S36.004	S146	300	1.235	1.635	Unclassified				Junction
S40.000	SSW11	300	1.450	1.630	Unclassified	1200	0	1.450	Unclassified
S40.001	SSW12	300	1.630	1.769	Unclassified	1200	0	1.630	Unclassified
S40.002	SSW13	300	1.769	2.036	Unclassified	1200	0	1.769	Unclassified
S41.000	STANK 3	300	1.850	1.888	Unclassified	1200	0	1.850	Unclassified
S41.001	SHB 3	100	2.068	2.151	Unclassified	1200	0	2.068	Unclassified
S40.003	S148	300	2.036	2.151	Unclassified				Junction
S42.000	SPP67	100	0.710	0.760	Unclassified	450	0	0.710	Unclassified
S42.001	SFC67	100	0.900	1.785	Unclassified	450	0	0.900	Unclassified
S40.004	S148	300	2.151	2.181	Unclassified				Junction
S40.005	SSW15	450	2.031	2.110	Unclassified	1350	0	2.031	Unclassified
S43.000	SPP68	100	0.735	0.785	Unclassified	450	0	0.735	Unclassified
S43.001	SFC68	100	0.900	1.894	Unclassified	450	0	0.900	Unclassified
S40.006	S150	450	2.110	2.154	Unclassified				Junction
S44.000	SPP69	100	0.640	0.690	Unclassified	450	0	0.640	Unclassified
S44.001	SFC69	100	0.900	1.886	Unclassified	1200	0	0.900	Unclassified
S40.007	S151	450	2.154	2.204	Unclassified				Junction
S40.008	SSW16	600	2.054	2.245	Unclassified	1800	0	2.054	Unclassified
S45.000	SPP66	100	0.710	0.760	Unclassified	450	0	0.710	Unclassified
S45.001	SFC66	100	0.900	0.923	Unclassified	450	0	0.900	Unclassified
S46.000	SPP65	100	0.640	0.690	Unclassified	450	0	0.640	Unclassified
S46.001	SFC65	100	0.868	0.900	Unclassified	450	0	0.900	Unclassified
S47.000	STANK 2	225	2.275	2.325	Unclassified	1200	0	2.275	Unclassified
S47.001	SHB 2	225	2.278	2.325	Unclassified	1200	0	2.325	Unclassified
S40.009	SSW17	600	2.245	2.511	Unclassified	1800	0	2.245	Unclassified
S48.000	SFEC-SW-20	375	0.825	1.075	Unclassified	1350	0	0.825	Unclassified
S48.001	SFEC-SW-21	375	1.075	1.275	Unclassified	1350	0	1.075	Unclassified
S48.002	SFEC-SW-22	450	1.150	1.200	Unclassified	1350	0	1.200	Unclassified
S48.003	SFEC-SW-23	450	1.150	1.480	Unclassified	1350	0	1.150	Unclassified
S49.000	SFEC-SW-18	225	0.875	0.975	Unclassified	1200	0	0.875	Unclassified
S49.001	SFEC-SW-19	300	0.900	1.430	Unclassified	1200	0	0.900	Unclassified
S50.000	SFEC-SW-15	225	0.775	0.875	Unclassified	1200	0	0.775	Unclassified
S50.001	SFEC-SW-16	300	0.800	0.950	Unclassified	1200	0	0.800	Unclassified
S50.002	SFEC-SW-17	300	0.950	1.430	Unclassified	1200	0	0.950	Unclassified
S48.004	SFEC-SW-24	600	1.080	1.130	Unclassified	1500	0	1.130	Unclassified
S48.005	SFEC-SW-25	600	1.880	1.900	Unclassified	1500	0	1.880	Unclassified
S48.006	SFEC-SW-26	600	1.900	2.300	Unclassified	1500	0	1.900	Unclassified
S40.010	SSW18	750	2.361	2.426	Unclassified	1800	0	2.361	Unclassified
S40.011	SSW19	750	2.426	2.614	Unclassified	1800	0	2.426	Unclassified
S51.000	SHE-SW-16	225	2.525	3.072	Unclassified	1200	0	2.525	Unclassified
S51.001	SHE-SW-17	225	3.072	3.161	Unclassified	1200	0	3.072	Unclassified
S40.012	S154	750	2.566	2.614	Unclassified				Junction
S52.000	SPP31	100	0.400	0.400	Unclassified	450	0	0.400	Unclassified
S52.001	SFC31	100	0.400	0.550	Unclassified	450	0	0.400	Unclassified
S52.002	SSwale In 1	-1	0.999	0.999	Unclassified				Junction
S52.003	SSwale 2	-1	0.999	0.999	Unclassified				Junction
S52.004	SSwale in 3	-1	0.999	0.999	Unclassified				Junction
S52.005	SSwale 4	-1	0.999	0.999	Unclassified				Junction
S53.000	SSW PUMP OUTFALL	300	0.300	0.549	Unclassified	1200	0	0.300	Unclassified
S52.006	SSwale in 5	-1	0.999	0.999	Unclassified				Junction
S52.007	SSwale 6	-1	0.999	0.999	Unclassified				Junction
S52.008	SSwale in 7	-1	0.999	0.999	Unclassified				Junction
S52.009	SSwale out	150	0.850	0.925	Unclassified				Junction
S52.010	SSWALE FC70	150	0.852	0.925	Unclassified				Junction
S40.013	SSW20	750	2.566	2.578	Unclassified	1800	0	2.566	Unclassified
S54.000	SPP53	100	0.885	0.900	Unclassified	450	0	0.885	Unclassified
S54.001	SFC53	100	0.900	1.270	Unclassified	450	0	0.900	Unclassified

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Network Classifications for Storm

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
S55.000	SPP57	100	0.635	0.685	Unclassified	450	0	0.635	Unclassified
S55.001	SFC57	100	0.900	1.326	Unclassified	450	0	0.900	Unclassified
S54.002	S170	100	1.326	2.672	Unclassified				Junction
S40.014	S167	750	2.578	2.592	Unclassified				Junction
S36.005	SSW22	750	2.492	2.592	Unclassified	1800	0	2.592	Unclassified
S56.000	SPP48	100	0.900	0.900	Unclassified	450	0	0.900	Unclassified
S56.001	SFC48	100	0.900	1.200	Unclassified	450	0	0.900	Unclassified
S57.000	SPP50	100	0.635	0.685	Unclassified	450	0	0.635	Unclassified
S57.001	SFC50	100	1.000	1.250	Unclassified	450	0	1.000	Unclassified
S56.002	SSW36	100	0.283	1.250	Unclassified	450	0	1.250	Unclassified
S58.000	Spp56	100	0.940	0.940	Unclassified	450	0	0.940	Unclassified
S58.001	SFC56	100	0.292	0.940	Unclassified	450	0	0.940	Unclassified
S56.003	S187	100	0.342	1.404	Unclassified				Junction
S59.000	SPP59	100	0.675	0.725	Unclassified	450	0	0.675	Unclassified
S59.001	SFC59	100	0.900	0.918	Unclassified	450	0	0.900	Unclassified
S60.000	SPP63	100	0.655	0.705	Unclassified	450	0	0.655	Unclassified
S60.001	SFC63	100	0.900	1.404	Unclassified	450	0	0.900	Unclassified
S61.000	SPP62	100	0.630	0.680	Unclassified	450	0	0.630	Unclassified
S61.001	SFC62	100	0.900	0.908	Unclassified	450	0	0.900	Unclassified
S56.004	SSW37	100	1.404	2.149	Unclassified	1200	0	1.404	Unclassified
S62.000	SPP64	100	0.640	0.675	Unclassified	450	0	0.640	Unclassified
S62.001	SFC64	100	0.900	1.900	Unclassified	450	0	0.900	Unclassified
S63.000	SFEC-SW-06	450	0.450	0.914	Unclassified	450	0	0.450	Unclassified
S63.001	SFEC-SW-07	450	0.714	1.030	Unclassified	1350	0	0.714	Unclassified
S63.002	SFEC-SW-08	450	1.030	1.312	Unclassified	1350	0	1.030	Unclassified
S63.003	SFEC-SW-09	525	1.312	1.435	Unclassified	1500	0	1.312	Unclassified
S64.000	SFEC-SW-10	225	0.675	0.975	Unclassified	1200	0	0.675	Unclassified
S64.001	SFEC-SW-12	225	0.975	1.175	Unclassified	1200	0	0.975	Unclassified
S63.004	SFEC-SW-13	525	1.435	1.525	Unclassified	1500	0	1.435	Unclassified
S63.005	SFEC-SW-14	525	1.455	1.525	Unclassified	1800	0	1.525	Unclassified
S63.006	SSW05	525	1.455	1.835	Unclassified	1800	0	1.455	Unclassified
S65.000	SFEC-SW-01	225	0.725	0.825	Unclassified	1200	0	0.725	Unclassified
S65.001	SFEC-SW-02	300	0.750	1.051	Unclassified	1200	0	0.750	Unclassified
S66.000	SHW-SW-01	225	0.725	0.978	Unclassified	1200	0	0.725	Unclassified
S66.001	SHW-SW-02	300	0.903	1.051	Unclassified	1200	0	0.903	Unclassified
S67.000	SHW-SW-03	150	0.800	1.201	Unclassified	1200	0	0.800	Unclassified
S65.002	SFEC-SW-03	375	0.976	1.060	Unclassified	1350	0	0.976	Unclassified
S68.000	SFEC-SW-04	300	0.550	0.819	Unclassified	1200	0	0.550	Unclassified
S65.003	SFEC-SW-05	450	0.985	2.271	Unclassified	1350	0	0.985	Unclassified
S65.004	SSW01	525	2.196	2.625	Unclassified	1500	0	2.196	Unclassified
S65.005	SSW02	525	2.625	2.830	Unclassified	1500	0	2.625	Unclassified
S65.006	SSW03	525	2.610	2.830	Unclassified	1500	0	2.830	Unclassified
S69.000	SHW-SW-04	225	0.525	0.531	Unclassified	450	0	0.525	Unclassified
S69.001	SSWALE2 IN	-2	0.000	0.000	Unclassified	1200	0	0.000	Unclassified
S69.002	SSWALE 2 FC	100	0.900	1.945	Unclassified	1200	0	0.900	Unclassified
S65.007	SSW04	525	2.011	2.610	Unclassified	1500	0	2.610	Unclassified
S70.000	SHW-SW-09	150	0.500	0.713	Unclassified	1200	0	0.500	Unclassified
S71.000	SHW-SW-05	225	0.425	0.589	Unclassified	1200	0	0.425	Unclassified
S71.001	SHW-SW-06	225	0.589	0.825	Unclassified	1200	0	0.589	Unclassified
S72.000	SHW-SW-07	150	0.500	0.697	Unclassified	1200	0	0.500	Unclassified
S73.000	SHW-SW-08	150	0.500	0.825	Unclassified	1200	0	0.500	Unclassified
S74.000	SHW-SW-10	225	0.425	0.706	Unclassified	1200	0	0.425	Unclassified
S70.001	SBASIN 1	150	0.900	1.157	Unclassified	1200	0	0.900	Unclassified
S70.002	SBASIN 1 OUT	150	1.157	1.718	Unclassified	450	0	1.157	Unclassified
S65.008	S238	525	1.835	2.011	Unclassified				Junction
S63.007	SSW06	525	1.835	2.226	Unclassified	1800	0	1.835	Unclassified
S75.000	SHE-SW-01	300	0.650	1.056	Unclassified	1200	0	0.650	Unclassified

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Network Classifications for Storm

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
S75.001	SSW07	300	1.056	1.618	Unclassified	1200	0	1.056	Unclassified
S76.000	SFEATURE POND	100	0.100	0.300	Unclassified	1200	0	0.100	Unclassified
S76.001	SFP FC	100	1.300	1.825	Unclassified	1200	0	1.300	Unclassified
S63.008	SSW08	600	2.151	2.177	Unclassified	1800	0	2.151	Unclassified
S63.009	SSW09	600	2.156	2.177	Unclassified	1800	0	2.177	Unclassified
S77.000	SHE-SW-10	225	0.425	0.709	Unclassified	1200	0	0.425	Unclassified
S77.001	SHE-SW-11	225	0.709	0.825	Unclassified	1200	0	0.709	Unclassified
S78.000	SHE-SW-03	225	0.375	0.638	Unclassified	1200	0	0.375	Unclassified
S78.001	SHE-SW-04	225	0.638	0.825	Unclassified	1200	0	0.638	Unclassified
S79.000	SHE-SW-02	225	0.425	0.825	Unclassified	1200	0	0.425	Unclassified
S80.000	SHW-SW-06	225	0.425	0.508	Unclassified	1200	0	0.425	Unclassified
S81.000	SHE-SW-05	225	0.425	0.508	Unclassified	1200	0	0.425	Unclassified
S80.001	SHE-SW-07	225	0.508	0.760	Unclassified	1200	0	0.508	Unclassified
S82.000	SHE-SW-08	225	0.425	0.587	Unclassified	1200	0	0.425	Unclassified
S82.001	SHE-SW-09	225	0.587	0.825	Unclassified	1200	0	0.587	Unclassified
S77.002	SBASIN 2	225	0.825	1.031	Unclassified	1200	0	0.825	Unclassified
S77.003	SBASIN 2 OUT	225	1.031	1.340	Unclassified	600	0	1.031	Unclassified
S77.004	SHE-SW-12	225	1.340	1.390	Unclassified	600	0	1.340	Unclassified
S77.005	SHE-SW-13	225	1.390	1.609	Unclassified	600	0	1.390	Unclassified
S63.010	S241	600	2.146	2.156	Unclassified				Junction
S63.011	SSW10	600	2.146	2.167	Unclassified	1800	0	2.146	Unclassified
S1.027	STANK	300	2.968	3.021	Unclassified	1800	0	2.968	Unclassified
S1.028	SFC71	300	1.846	3.021	Unclassified	1200	0	3.021	Unclassified

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall C. Level Name	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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S1.028	S	80.600	78.454	0.000	0 0
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Simulation Criteria for Storm

Volumetric Runoff Coeff	1.000	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 60 Number of Storage Structures 58 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 455061 221552 SP 55061 21552
Data Type	Point
Summer Storms	Yes
Winter Storms	No
Cv (Summer)	1.000
Cv (Winter)	0.840

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Synthetic Rainfall Details

Storm Duration (mins) 30

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Online Controls for Storm

Orifice Manhole: SFC05, DS/PN: S1.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 82.720

Orifice Manhole: SFC04, DS/PN: S2.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 82.800

Orifice Manhole: SFC06, DS/PN: S3.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 82.620

Orifice Manhole: SFC10, DS/PN: S4.001, Volume (m³): 0.2

Diameter (m) 0.011 Discharge Coefficient 0.600 Invert Level (m) 82.530

Orifice Manhole: SFC08, DS/PN: S5.001, Volume (m³): 0.2

Diameter (m) 0.012 Discharge Coefficient 0.600 Invert Level (m) 82.450

Orifice Manhole: SFC03, DS/PN: S6.001, Volume (m³): 0.2

Diameter (m) 0.015 Discharge Coefficient 0.600 Invert Level (m) 82.200

Orifice Manhole: SFC11, DS/PN: S7.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 82.300

Orifice Manhole: SFC14, DS/PN: S8.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.985

Orifice Manhole: SFC16, DS/PN: S9.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 82.160

Orifice Manhole: SFC17, DS/PN: S10.001, Volume (m³): 0.2

Diameter (m) 0.011 Discharge Coefficient 0.600 Invert Level (m) 81.820

Orifice Manhole: SFC01, DS/PN: S11.001, Volume (m³): 0.2

Diameter (m) 0.015 Discharge Coefficient 0.600 Invert Level (m) 82.000

Orifice Manhole: SFC02, DS/PN: S12.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 82.070

Orifice Manhole: SFC13, DS/PN: S13.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.900

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Orifice Manhole: SFC12, DS/PN: S14.001, Volume (m³): 0.2

Diameter (m) 0.015 Discharge Coefficient 0.600 Invert Level (m) 81.550

Orifice Manhole: SFC18, DS/PN: S15.001, Volume (m³): 0.2

Diameter (m) 0.011 Discharge Coefficient 0.600 Invert Level (m) 82.100

Orifice Manhole: SFC19, DS/PN: S16.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.700

Orifice Manhole: SFC20, DS/PN: S17.001, Volume (m³): 0.2

Diameter (m) 0.013 Discharge Coefficient 0.600 Invert Level (m) 81.550

Orifice Manhole: SFC21, DS/PN: S18.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.400

Hydro-Brake® Optimum Manhole: SRG FC, DS/PN: S19.001, Volume (m³): 1.6

Unit Reference	MD-SHE-0197-2000-1132-2000
Design Head (m)	1.132
Design Flow (l/s)	20.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	197
Invert Level (m)	81.175
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.132	20.0	Kick-Flo®	0.790	16.8
Flush-Flo™	0.363	19.9	Mean Flow over Head Range	-	17.0

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated


Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.8	0.800	16.9	2.000	26.2	4.000	36.6	7.000	48.0
0.200	18.4	1.000	18.8	2.200	27.4	4.500	38.7	7.500	49.6
0.300	19.8	1.200	20.5	2.400	28.6	5.000	40.7	8.000	51.2
0.400	19.9	1.400	22.1	2.600	29.7	5.500	42.7	8.500	52.7
0.500	19.6	1.600	23.6	3.000	31.8	6.000	44.5	9.000	54.2
0.600	19.2	1.800	24.9	3.500	34.3	6.500	46.3	9.500	55.6

Orifice Manhole: SFC26, DS/PN: S20.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.525

Orifice Manhole: SFC28, DS/PN: S21.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 81.600

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Orifice Manhole: SFC30, DS/PN: S22.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.500

Orifice Manhole: SFC32, DS/PN: S23.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 81.485

Orifice Manhole: SFC35, DS/PN: S24.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.500

Orifice Manhole: SFC34, DS/PN: S25.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 81.400

Orifice Manhole: SFC27, DS/PN: S26.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 82.150

Orifice Manhole: SFC31, DS/PN: S27.001, Volume (m³): 0.2

Diameter (m) 0.012 Discharge Coefficient 0.600 Invert Level (m) 81.890

Orifice Manhole: SFC36, DS/PN: S28.001, Volume (m³): 0.2

Diameter (m) 0.014 Discharge Coefficient 0.600 Invert Level (m) 81.610

Orifice Manhole: SFC41, DS/PN: S29.001, Volume (m³): 0.2

Diameter (m) 0.020 Discharge Coefficient 0.600 Invert Level (m) 81.530

Orifice Manhole: SFC40, DS/PN: S30.001, Volume (m³): 0.2

Diameter (m) 0.012 Discharge Coefficient 0.600 Invert Level (m) 81.425

Orifice Manhole: SFC39, DS/PN: S31.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.375

Orifice Manhole: SFC47, DS/PN: S32.001, Volume (m³): 0.2

Diameter (m) 0.012 Discharge Coefficient 0.600 Invert Level (m) 81.350

Orifice Manhole: SFC55, DS/PN: S33.001, Volume (m³): 0.2

Diameter (m) 0.012 Discharge Coefficient 0.600 Invert Level (m) 81.330

Orifice Manhole: SFC46, DS/PN: S34.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 81.255

Orifice Manhole: SFC61, DS/PN: S35.001, Volume (m³): 0.2

Diameter (m) 0.012 Discharge Coefficient 0.600 Invert Level (m) 81.270

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Orifice Manhole: SFC44, DS/PN: S36.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.320

Orifice Manhole: SFC45, DS/PN: S38.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.270

Orifice Manhole: SFC60, DS/PN: S39.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 81.270

Hydro-Brake® Optimum Manhole: SHB 3, DS/PN: S41.001, Volume (m³): 2.6

Unit Reference MD-SHE-0067-2000-1000-2000
Design Head (m) 1.000
Design Flow (l/s) 2.0
Flush-Flo™ Calculated
Objective Minimise upstream storage
Application Surface
Sump Available Yes
Diameter (mm) 67
Invert Level (m) 80.332
Minimum Outlet Pipe Diameter (mm) 100
Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	2.0	Kick-Flo®	0.599	1.6
Flush-Flo™	0.296	1.9	Mean Flow over Head Range	-	1.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.6	0.800	1.8	2.000	2.7	4.000	3.8	7.000	4.9
0.200	1.9	1.000	2.0	2.200	2.9	4.500	4.0	7.500	5.1
0.300	1.9	1.200	2.2	2.400	3.0	5.000	4.2	8.000	5.2
0.400	1.9	1.400	2.3	2.600	3.1	5.500	4.4	8.500	5.4
0.500	1.8	1.600	2.5	3.000	3.3	6.000	4.6	9.000	5.5
0.600	1.6	1.800	2.6	3.500	3.5	6.500	4.7	9.500	5.7

Orifice Manhole: SFC67, DS/PN: S42.001, Volume (m³): 0.2

Diameter (m) 0.014 Discharge Coefficient 0.600 Invert Level (m) 81.250

Orifice Manhole: SFC68, DS/PN: S43.001, Volume (m³): 0.2

Diameter (m) 0.016 Discharge Coefficient 0.600 Invert Level (m) 81.250

Orifice Manhole: SFC69, DS/PN: S44.001, Volume (m³): 1.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.350

Orifice Manhole: SFC66, DS/PN: S45.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 81.500

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Orifice Manhole: SFC65, DS/PN: S46.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.500

Hydro-Brake® Optimum Manhole: SHB 2, DS/PN: S47.001, Volume (m³): 3.0

Unit Reference MD-SHE-0067-2000-1000-2000
Design Head (m) 1.000
Design Flow (l/s) 2.0
Flush-Flo™ Calculated
Objective Minimise upstream storage
Application Surface
Sump Available Yes
Diameter (mm) 67
Invert Level (m) 79.950
Minimum Outlet Pipe Diameter (mm) 100
Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	2.0	Kick-Flo®	0.599	1.6
Flush-Flo™	0.296	1.9	Mean Flow over Head Range	-	1.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.6	0.800	1.8	2.000	2.7	4.000	3.8	7.000	4.9
0.200	1.9	1.000	2.0	2.200	2.9	4.500	4.0	7.500	5.1
0.300	1.9	1.200	2.2	2.400	3.0	5.000	4.2	8.000	5.2
0.400	1.9	1.400	2.3	2.600	3.1	5.500	4.4	8.500	5.4
0.500	1.8	1.600	2.5	3.000	3.3	6.000	4.6	9.000	5.5
0.600	1.6	1.800	2.6	3.500	3.5	6.500	4.7	9.500	5.7

Orifice Manhole: SSWALE FC70, DS/PN: S52.010, Volume (m³): 0.1

Diameter (m) 0.013 Discharge Coefficient 0.600 Invert Level (m) 81.425

Orifice Manhole: SFC53, DS/PN: S54.001, Volume (m³): 0.2

Diameter (m) 0.012 Discharge Coefficient 0.600 Invert Level (m) 81.375

Orifice Manhole: SFC57, DS/PN: S55.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.380

Orifice Manhole: SFC48, DS/PN: S56.001, Volume (m³): 0.2

Diameter (m) 0.020 Discharge Coefficient 0.600 Invert Level (m) 81.450

Orifice Manhole: SFC50, DS/PN: S57.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 81.180

Orifice Manhole: SFC56, DS/PN: S58.001, Volume (m³): 0.2

Diameter (m) 0.012 Discharge Coefficient 0.600 Invert Level (m) 81.330

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Orifice Manhole: SFC59, DS/PN: S59.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.270

Orifice Manhole: SFC63, DS/PN: S60.001, Volume (m³): 0.2

Diameter (m) 0.007 Discharge Coefficient 0.600 Invert Level (m) 81.200

Orifice Manhole: SFC62, DS/PN: S61.001, Volume (m³): 0.2

Diameter (m) 0.010 Discharge Coefficient 0.600 Invert Level (m) 81.240

Orifice Manhole: SFC64, DS/PN: S62.001, Volume (m³): 0.2

Diameter (m) 0.029 Discharge Coefficient 0.600 Invert Level (m) 81.000

Orifice Manhole: SSWALE 2 FC, DS/PN: S69.002, Volume (m³): 128.9

Diameter (m) 0.041 Discharge Coefficient 0.600 Invert Level (m) 81.500

Hydro-Brake® Optimum Manhole: SBASIN 1 OUT, DS/PN: S70.002, Volume (m³): 0.7

Unit Reference	MD-SHE-0028-4000-1000-4000
Design Head (m)	1.000
Design Flow (l/s)	0.4
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	28
Invert Level (m)	81.193
Minimum Outlet Pipe Diameter (mm)	75
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	0.4	Kick-Flo®	0.256	0.2
Flush-Flo™	0.127	0.3	Mean Flow over Head Range	-	0.3

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3	0.800	0.4	2.000	0.5	4.000	0.7	7.000	0.9
0.200	0.3	1.000	0.4	2.200	0.6	4.500	0.8	7.500	1.0
0.300	0.2	1.200	0.4	2.400	0.6	5.000	0.8	8.000	1.0
0.400	0.3	1.400	0.5	2.600	0.6	5.500	0.8	8.500	1.0
0.500	0.3	1.600	0.5	3.000	0.6	6.000	0.9	9.000	1.1
0.600	0.3	1.800	0.5	3.500	0.7	6.500	0.9	9.500	1.1

Orifice Manhole: SFP FC, DS/PN: S76.001, Volume (m³): 1.6

Diameter (m) 0.014 Discharge Coefficient 0.600 Invert Level (m) 80.800

Hydro-Brake® Optimum Manhole: SBASIN 2 OUT, DS/PN: S77.003, Volume (m³): 1.3

Unit Reference	MD-SHE-0082-3000-1000-3000
Design Head (m)	1.000

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Hydro-Brake® Optimum Manhole: SBASIN 2 OUT, DS/PN: S77.003, Volume (m³): 1.3

Design Flow (l/s) 3.0
 Flush-Flo™ Calculated
 Objective Minimise upstream storage
 Application Surface
 Sump Available Yes
 Diameter (mm) 82
 Invert Level (m) 81.244
 Minimum Outlet Pipe Diameter (mm) 100
 Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	3.0	Kick-Flo®	0.623	2.4
Flush-Flo™	0.297	3.0	Mean Flow over Head Range	-	2.6

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.4	0.800	2.7	2.000	4.1	4.000	5.7	7.000	7.4
0.200	2.9	1.000	3.0	2.200	4.3	4.500	6.0	7.500	7.7
0.300	3.0	1.200	3.3	2.400	4.5	5.000	6.3	8.000	7.9
0.400	2.9	1.400	3.5	2.600	4.7	5.500	6.6	8.500	8.2
0.500	2.8	1.600	3.7	3.000	5.0	6.000	6.9	9.000	8.4
0.600	2.5	1.800	3.9	3.500	5.4	6.500	7.2	9.500	8.6

Hydro-Brake® Optimum Manhole: SFC71, DS/PN: S1.028, Volume (m³): 4.4

Unit Reference MD-SHE-0227-2730-1000-2730
 Design Head (m) 1.000
 Design Flow (l/s) 27.3
 Flush-Flo™ Calculated
 Objective Minimise upstream storage
 Application Surface
 Sump Available Yes
 Diameter (mm) 227
 Invert Level (m) 78.679
 Minimum Outlet Pipe Diameter (mm) 300
 Suggested Manhole Diameter (mm) 1500

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	27.3	Kick-Flo®	0.740	23.6
Flush-Flo™	0.369	27.3	Mean Flow over Head Range	-	22.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	7.6	0.800	24.5	2.000	38.1	4.000	53.2	7.000	69.8
0.200	22.7	1.000	27.3	2.200	39.9	4.500	56.3	7.500	72.2
0.300	27.1	1.200	29.8	2.400	41.6	5.000	59.3	8.000	74.5
0.400	27.2	1.400	32.1	2.600	43.2	5.500	62.1	8.500	76.7
0.500	26.9	1.600	34.2	3.000	46.3	6.000	64.8	9.000	78.9
0.600	26.1	1.800	36.2	3.500	49.9	6.500	67.3	9.500	81.0

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Storage Structures for Storm

Porous Car Park Manhole: SPP05, DS/PN: S1.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	21.6
Max Percolation (l/s)	28.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	83.110	Cap Volume Depth (m)	0.480

Porous Car Park Manhole: SPP04, DS/PN: S2.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	35.9
Max Percolation (l/s)	47.9	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	83.190	Cap Volume Depth (m)	0.480

Porous Car Park Manhole: SPP06, DS/PN: S3.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	21.7
Max Percolation (l/s)	28.9	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	83.010	Cap Volume Depth (m)	0.480

Complex Manhole: SPP10, DS/PN: S4.000

Cellular Storage

Invert Level (m) 82.755 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	103.7	103.7	0.300	103.7	115.9

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	33.6
Max Percolation (l/s)	44.8	Slope (1:X)	120.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	83.055	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: SPP08, DS/PN: S5.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	9.6
Membrane Percolation (mm/hr)	1000	Length (m)	21.6
Max Percolation (l/s)	57.6	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.470	Cap Volume Depth (m)	0.480

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Complex Manhole: SPP03, DS/PN: S6.000

Cellular Storage

Invert Level (m) 82.470 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	115.2	115.2	0.300	115.2	128.1

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 35.9
Max Percolation (l/s) 47.9 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 82.770 Cap Volume Depth (m) 0.300

Porous Car Park Manhole: SPP11, DS/PN: S7.000

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 9.6
Membrane Percolation (mm/hr) 1000 Length (m) 24.0
Max Percolation (l/s) 64.0 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 82.400 Membrane Depth (mm) 0

Complex Manhole: SPP14, DS/PN: S8.000

Cellular Storage

Invert Level (m) 82.235 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	69.1	69.1	0.300	69.1	79.1

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 16.8
Max Percolation (l/s) 22.4 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 82.535 Membrane Depth (mm) 0

Porous Car Park Manhole: SPP16, DS/PN: S9.000

Infiltration Coefficient Base (m/hr) 0.00000 Invert Level (m) 82.220
Membrane Percolation (mm/hr) 1000 Width (m) 9.6
Max Percolation (l/s) 64.0 Length (m) 24.0
Safety Factor 2.0 Slope (1:X) 0.0
Porosity 0.30 Depression Storage (mm) 5

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Porous Car Park Manhole: SPP16, DS/PN: S9.000

Evaporation (mm/day) 3 Membrane Depth (mm) 0

Complex Manhole: SPP17, DS/PN: S10.000

Cellular Storage

Invert Level (m) 82.000 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	138.2	138.2	0.300	138.2	152.3

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 48.0
Max Percolation (l/s) 64.0 Slope (1:X) 103.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 82.300 Membrane Depth (mm) 0

Complex Manhole: SPP01, DS/PN: S11.000

Cellular Storage

Invert Level (m) 82.160 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	92.1	92.1	0.300	92.1	103.6

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 33.8
Max Percolation (l/s) 45.1 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 82.460 Cap Volume Depth (m) 0.410

Complex Manhole: SPP02, DS/PN: S12.000

Cellular Storage

Invert Level (m) 82.340 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

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Cellular Storage

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	34.5	34.5	0.300	34.5	41.5

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	35.9
Max Percolation (l/s)	47.9	Slope (1:X)	89.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.640	Cap Volume Depth (m)	0.300

Porous Car Park Manhole: SPP13, DS/PN: S13.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	9.6
Max Percolation (l/s)	12.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.290	Membrane Depth (mm)	0

Complex Manhole: SPP12, DS/PN: S14.000

Cellular Storage

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.00000		
Invert Level (m)	81.780	Safety Factor	2.0

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	126.7	126.7	0.300	126.7	140.2

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	6.0
Membrane Percolation (mm/hr)	1000	Length (m)	40.8
Max Percolation (l/s)	68.0	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.080	Membrane Depth (mm)	0

Complex Manhole: SPP18, DS/PN: S15.000

Cellular Storage

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.00000		
Invert Level (m)	82.300	Safety Factor	2.0

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	138.2	138.2	0.300	138.2	152.3

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Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	45.5
Max Percolation (l/s)	60.7	Slope (1:X)	107.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.600	Membrane Depth (mm)	0

Complex Manhole: SPP19, DS/PN: S16.000

Cellular Storage

Invert Level (m)	81.970	Safety Factor	2.0
Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.00000		

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	69.1	69.1	0.300	69.1	79.1

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	48.1
Max Percolation (l/s)	64.1	Slope (1:X)	87.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.270	Membrane Depth (mm)	0

Complex Manhole: SPP20, DS/PN: S17.000

Cellular Storage

Invert Level (m)	81.740	Safety Factor	2.0
Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.00000		

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	184.3	184.3	0.300	184.3	200.6

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.5
Membrane Percolation (mm/hr)	1000	Length (m)	55.2
Max Percolation (l/s)	84.3	Slope (1:X)	99.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.040	Membrane Depth (mm)	0

Porous Car Park Manhole: SPP21, DS/PN: S18.000

Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	81.790
Membrane Percolation (mm/hr)	1000	Width (m)	7.0
Max Percolation (l/s)	706.6	Length (m)	363.4
Safety Factor	2.0	Slope (1:X)	0.0
Porosity	0.30	Depression Storage (mm)	5

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Porous Car Park Manhole: SPP21, DS/PN: S18.000

Evaporation (mm/day) 3 Membrane Depth (mm) 0

Cellular Storage Manhole: SRAIN GARDEN, DS/PN: S19.000

Invert Level (m) 81.200 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

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	27.0	27.0	1.000	27.0	47.8	1.001	0.0	47.8

Complex Manhole: SPP26, DS/PN: S20.000

Cellular Storage

Invert Level (m) 81.845 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	80.6	80.6	0.300	80.6	91.4

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 5.7
Membrane Percolation (mm/hr) 1000 Length (m) 50.5
Max Percolation (l/s) 80.0 Slope (1:X) 90.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 82.145 Membrane Depth (mm) 0

Complex Manhole: SPP28, DS/PN: S21.000

Cellular Storage

Invert Level (m) 81.780 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	149.7	149.7	0.300	149.7	164.4

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 43.3
Max Percolation (l/s) 57.7 Slope (1:X) 97.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 82.080 Membrane Depth (mm) 0

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Complex Manhole: SPP30, DS/PN: S22.000

Cellular Storage

Invert Level (m) 81.865 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	80.6	80.6	0.300	80.6	91.4

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 43.3
Max Percolation (l/s) 57.7 Slope (1:X) 107.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 82.165 Membrane Depth (mm) 0

Complex Manhole: SPP32, DS/PN: S23.000

Cellular Storage

Invert Level (m) 81.605 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	126.7	126.7	0.300	126.7	140.2

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 43.2
Max Percolation (l/s) 57.6 Slope (1:X) 120.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.905 Membrane Depth (mm) 0

Complex Manhole: SPP35, DS/PN: S24.000

Cellular Storage

Invert Level (m) 81.690 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	46.1	46.1	0.300	46.1	54.2

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Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	43.4
Max Percolation (l/s)	57.9	Slope (1:X)	171.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.990	Membrane Depth (mm)	0

Complex Manhole: SPP34, DS/PN: S25.000

Cellular Storage

Invert Level (m)	81.640	Safety Factor	2.0
Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.00000		

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	149.7	149.7	0.300	149.7	164.4

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.8
Membrane Percolation (mm/hr)	1000	Length (m)	44.5
Max Percolation (l/s)	71.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.940	Membrane Depth (mm)	0

Porous Car Park Manhole: SPP27, DS/PN: S26.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	12.0
Max Percolation (l/s)	16.0	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.540	Membrane Depth (mm)	0

Porous Car Park Manhole: SPP31, DS/PN: S27.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	9.6
Membrane Percolation (mm/hr)	1000	Length (m)	20.4
Max Percolation (l/s)	54.4	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.890	Membrane Depth (mm)	0

Porous Car Park Manhole: SPP36, DS/PN: S28.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	9.6
Membrane Percolation (mm/hr)	1000	Length (m)	32.5
Max Percolation (l/s)	86.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.610	Membrane Depth (mm)	0

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Porous Car Park Manhole: SPP41, DS/PN: S29.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	9.6
Membrane Percolation (mm/hr)	1000	Length (m)	39.6
Max Percolation (l/s)	105.6	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.530	Membrane Depth (mm)	0

Porous Car Park Manhole: SPP40, DS/PN: S30.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	9.6
Membrane Percolation (mm/hr)	1000	Length (m)	43.4
Max Percolation (l/s)	115.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.440	Membrane Depth (mm)	0

Complex Manhole: SPP39, DS/PN: S31.000

Cellular Storage

Invert Level (m) 81.575 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	16.1	16.1	0.300	16.1	20.9

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.7
Membrane Percolation (mm/hr)	1000	Length (m)	22.9
Max Percolation (l/s)	36.3	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.875	Membrane Depth (mm)	0

Porous Car Park Manhole: SPP47, DS/PN: S32.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	9.6
Membrane Percolation (mm/hr)	1000	Length (m)	43.4
Max Percolation (l/s)	115.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.350	Membrane Depth (mm)	0

Porous Car Park Manhole: SPP55, DS/PN: S33.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	9.6
Membrane Percolation (mm/hr)	1000	Length (m)	42.9
Max Percolation (l/s)	114.4	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.360	Membrane Depth (mm)	0

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Complex Manhole: SPP46, DS/PN: S34.000

Cellular Storage

Invert Level (m) 81.420 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	115.2	115.2	0.300	115.2	128.1

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 38.5
Max Percolation (l/s) 51.3 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.720 Membrane Depth (mm) 0

Porous Car Park Manhole: SPP61, DS/PN: S35.000

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 9.6
Membrane Percolation (mm/hr) 1000 Length (m) 42.9
Max Percolation (l/s) 114.4 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.270 Membrane Depth (mm) 0

Complex Manhole: SPP44, DS/PN: S36.000

Cellular Storage

Invert Level (m) 81.570 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	57.6	57.6	0.300	57.6	66.7

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 21.6
Max Percolation (l/s) 28.8 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.870 Membrane Depth (mm) 0

Complex Manhole: SPP45, DS/PN: S38.000

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Cellular Storage

Invert Level (m) 81.495 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	92.1	92.1	0.300	92.1	103.6

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 38.3
Max Percolation (l/s) 51.1 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.795 Membrane Depth (mm) 0

Porous Car Park Manhole: SPP60, DS/PN: S39.000

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 9.6
Membrane Percolation (mm/hr) 1000 Length (m) 4.8
Max Percolation (l/s) 12.8 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.510 Membrane Depth (mm) 0

Cellular Storage Manhole: STANK 3, DS/PN: S41.000

Invert Level (m) 80.350 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

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	70.0	70.0	1.000	70.0	103.5	1.001	0.0	103.5

Complex Manhole: SPP67, DS/PN: S42.000

Cellular Storage

Invert Level (m) 81.440 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	138.2	138.2	0.300	138.2	152.3

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 40.8
Max Percolation (l/s) 54.4 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.740 Membrane Depth (mm) 0

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Complex Manhole: SPP68, DS/PN: S43.000

Cellular Storage

Invert Level (m) 81.415 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	161.3	161.3	0.300	161.3	176.5

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 55.4
Max Percolation (l/s) 73.9 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.715 Membrane Depth (mm) 0

Porous Car Park Manhole: SPP69, DS/PN: S44.000

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 36.7
Max Percolation (l/s) 48.9 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.610 Membrane Depth (mm) 0

Complex Manhole: SPP66, DS/PN: S45.000

Cellular Storage

Invert Level (m) 81.590 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	92.1	92.1	0.300	92.1	103.6

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 38.4
Max Percolation (l/s) 51.2 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.890 Membrane Depth (mm) 0

Porous Car Park Manhole: SPP65, DS/PN: S46.000

Infiltration Coefficient Base (m/hr) 0.00000 Invert Level (m) 81.760
Membrane Percolation (mm/hr) 1000 Width (m) 4.8
Max Percolation (l/s) 42.0 Length (m) 31.5
Safety Factor 2.0 Slope (1:X) 0.0
Porosity 0.30 Depression Storage (mm) 5

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Porous Car Park Manhole: SPP65, DS/PN: S46.000

Evaporation (mm/day) 3 Membrane Depth (mm) 0

Cellular Storage Manhole: STANK 2, DS/PN: S47.000

Invert Level (m) 80.000 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

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	120.0	120.0	1.000	120.0	163.8	1.001	0.0	163.8

Porous Car Park Manhole: SPP53, DS/PN: S54.000

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 40.8
Max Percolation (l/s) 54.4 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.390 Membrane Depth (mm) 0

Complex Manhole: SPP57, DS/PN: S55.000

Cellular Storage

Invert Level (m) 81.645 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	69.1	0.0	0.300	69.1	0.0

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 28.8
Max Percolation (l/s) 38.4 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.945 Membrane Depth (mm) 0

Porous Car Park Manhole: SPP48, DS/PN: S56.000

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 9.6
Membrane Percolation (mm/hr) 1000 Length (m) 46.7
Max Percolation (l/s) 124.5 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.450 Membrane Depth (mm) 0

Complex Manhole: SPP50, DS/PN: S57.000

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2180501 Great Wolf, Bicester
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Date 15/06/2022

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Cellular Storage

Invert Level (m) 81.545 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	46.0	46.0	0.300	46.0	54.1

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 9.6
Max Percolation (l/s) 12.8 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.845 Membrane Depth (mm) 0

Porous Car Park Manhole: Spp56, DS/PN: S58.000

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 9.6
Membrane Percolation (mm/hr) 1000 Length (m) 24.0
Max Percolation (l/s) 64.0 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.330 Membrane Depth (mm) 0

Complex Manhole: SPP59, DS/PN: S59.000

Cellular Storage

Invert Level (m) 81.495 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	69.1	69.1	0.300	69.1	79.1

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8
Membrane Percolation (mm/hr) 1000 Length (m) 24.0
Max Percolation (l/s) 32.0 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 81.795 Membrane Depth (mm) 0

Complex Manhole: SPP63, DS/PN: S60.000

Cellular Storage

Invert Level (m) 81.445 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

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Cellular Storage

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	92.1	92.1	0.300	92.1	103.6

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	21.5
Max Percolation (l/s)	28.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.745	Membrane Depth (mm)	0

Complex Manhole: SPP62, DS/PN: S61.000

Cellular Storage

Infiltration Coefficient Base (m/hr)	0.00000	Safety Factor	2.0
Infiltration Coefficient Side (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.00000		

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	115.0	115.0	0.300	115.0	127.9

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	24.0
Max Percolation (l/s)	32.0	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.810	Membrane Depth (mm)	0

Complex Manhole: SPP64, DS/PN: S62.000

Cellular Storage

Infiltration Coefficient Base (m/hr)	0.00000	Safety Factor	2.0
Infiltration Coefficient Side (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.00000		

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	879.2	879.2	0.300	879.2	914.8

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	413.8
Max Percolation (l/s)	551.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.560	Membrane Depth (mm)	0

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Tank or Pond Manhole: SBASIN 1, DS/PN: S70.001

Invert Level (m) 81.500

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	703.0	1.000	1321.0	1.001	0.0

Tank or Pond Manhole: SFEATURE POND, DS/PN: S76.000

Invert Level (m) 82.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	995.0	0.200	1458.0

Tank or Pond Manhole: SBASIN 2, DS/PN: S77.002

Invert Level (m) 81.500

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	177.6	1.000	603.0	1.001	0.0

Cellular Storage Manhole: STANK, DS/PN: S1.027

Invert Level (m) 78.732 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.98
Infiltration Coefficient Side (m/hr) 0.00000

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	2350.0	2350.0	1.000	2350.0	2543.9	1.001	0.0	2544.0

2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 60 Number of Storage Structures 58 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Point
 FEH Rainfall Version 2013 Cv (Summer) 1.000
 Site Location GB 455061 221552 SP 55061 21552 Cv (Winter) 1.000

Margin for Flood Risk Warning (mm) 300.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status OFF
 Inertia Status OFF

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 2, 30, 100
 Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged
									Level (m)	Depth (m)
S1.000	SPP05	480 Summer	2	+0%	30/240 Summer				83.155	-0.055
S1.001	SFC05	480 Summer	2	+0%	2/15 Summer				83.157	0.337
S2.000	SPP04	480 Summer	2	+0%	100/120 Summer				83.213	-0.077
S2.001	SFC04	480 Summer	2	+0%	2/30 Summer				83.214	0.314
S3.000	SPP06	480 Summer	2	+0%	30/240 Summer				83.054	-0.056
S3.001	SFC06	480 Summer	2	+0%	2/15 Summer				83.055	0.335
S1.002	SSW23	480 Summer	2	+0%					82.203	-0.087
S4.000	SPP10	480 Winter	2	+0%	30/60 Summer				82.838	-0.017
S4.001	SFC10	480 Winter	2	+0%	2/15 Summer				82.840	0.210
S5.000	SPP08	480 Winter	2	+0%	2/240 Summer				82.588	0.018
S5.001	SFC08	480 Summer	2	+0%	2/120 Summer				82.624	0.074
S4.002	S13	480 Winter	2	+0%					82.197	-0.090
S1.003	SSW24	480 Winter	2	+0%					81.966	-0.080
S6.000	SPP03	360 Winter	2	+0%	2/360 Summer				82.571	0.001
S6.001	SFC03	360 Winter	2	+0%	2/15 Summer				82.574	0.274
S1.004	S7	480 Summer	2	+0%					81.922	-0.077
S7.000	SPP11	480 Winter	2	+0%	2/240 Summer				82.521	0.021
S7.001	SFC11	480 Winter	2	+0%	2/15 Summer				82.561	0.161
S1.005	S7	480 Winter	2	+0%					81.819	-0.075
S8.000	SPP14	480 Winter	2	+0%	30/60 Summer				82.316	-0.019
S8.001	SFC14	480 Winter	2	+0%	2/15 Summer				82.323	0.238
S1.006	S6	480 Winter	2	+0%					81.714	-0.075
S9.000	SPP16	960 Winter	2	+0%	2/240 Summer				82.346	0.026
S9.001	SFC16	960 Winter	2	+0%	2/30 Summer				82.365	0.105
S1.007	SSW25	480 Winter	2	+0%					81.654	-0.072
S10.000	SPP17	480 Winter	2	+0%	30/30 Summer				82.094	-0.006
S10.001	SFC17	480 Winter	2	+0%	2/15 Summer				82.127	0.207
S1.008	S17	480 Winter	2	+0%					81.500	-0.071
S11.000	SPP01	360 Winter	2	+0%	2/240 Summer				82.269	0.009

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Flooded		Half Drain Pipe		Status	Level Exceeded
		Volume (m ³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)		
S1.000	SPP05	0.000	0.02	269	0.1	OK	
S1.001	SFC05	0.000	0.01		0.1	SURCHARGED	
S2.000	SPP04	0.000	0.02	252	0.1	OK	
S2.001	SFC04	0.000	0.01		0.1	SURCHARGED	
S3.000	SPP06	0.000	0.02	273	0.1	OK	
S3.001	SFC06	0.000	0.01		0.1	SURCHARGED	
S1.002	SSW23	0.000	0.04		0.2	OK	
S4.000	SPP10	0.000	0.03	531	0.2	OK	
S4.001	SFC10	0.000	0.02		0.1	SURCHARGED	
S5.000	SPP08	0.000	0.06	658	0.2	SURCHARGED	
S5.001	SFC08	0.000	0.01		0.1	SURCHARGED	
S4.002	S13	0.000	0.02		0.3	OK*	
S1.003	SSW24	0.000	0.09		0.4	OK	
S6.000	SPP03	0.000	0.05	360	0.3	SURCHARGED	
S6.001	SFC03	0.000	0.03		0.3	SURCHARGED	
S1.004	S7	0.000	0.12		0.7	OK*	
S7.000	SPP11	0.000	0.02	795	0.2	SURCHARGED	
S7.001	SFC11	0.000	0.01		0.1	SURCHARGED	
S1.005	S7	0.000	0.14		0.8	OK*	
S8.000	SPP14	0.000	0.01	805	0.1	OK	
S8.001	SFC14	0.000	0.00		0.1	SURCHARGED	
S1.006	S6	0.000	0.15		0.9	OK*	
S9.000	SPP16	0.000	0.02	948	0.1	SURCHARGED	
S9.001	SFC16	0.000	0.01		0.1	SURCHARGED	
S1.007	SSW25	0.000	0.17		1.0	OK	
S10.000	SPP17	0.000	0.04	839	0.2	OK	
S10.001	SFC17	0.000	0.01		0.1	SURCHARGED	
S1.008	S17	0.000	0.18		1.1	OK*	
S11.000	SPP01	0.000	0.06	365	0.4	SURCHARGED	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S11.001	SFC01	360 Winter	2	+0%	2/15 Summer				82.304
S12.000	SPP02	480 Summer	2	+0%	30/30 Summer				82.431
S12.001	SFC02	480 Summer	2	+0%	2/15 Summer				82.432
S11.002	SSW26	360 Winter	2	+0%					81.665
S13.000	SPP13	240 Summer	2	+0%	30/240 Summer				82.326
S13.001	SFC13	240 Summer	2	+0%	2/15 Summer				82.329
S11.003	S27	360 Summer	2	+0%					81.466
S1.009	SSW27	480 Winter	2	+0%					81.416
S14.000	SPP12	360 Winter	2	+0%	30/30 Summer				81.872
S14.001	SFC12	360 Winter	2	+0%	2/15 Summer				81.912
S15.000	SPP18	480 Winter	2	+0%	30/60 Summer				82.389
S15.001	SFC18	480 Winter	2	+0%	2/15 Summer				82.390
S16.000	SPP19	480 Summer	2	+0%	30/120 Summer				82.039
S16.001	SFC19	960 Summer	2	+0%	2/15 Summer				82.042
S15.002	SSW28	480 Winter	2	+0%					81.258
S1.010	SSW29	480 Winter	2	+0%					81.233
S17.000	SPP20	480 Winter	2	+0%	30/60 Summer				81.831
S17.001	SFC20	480 Winter	2	+0%	2/15 Summer				81.834
S1.011	S25	480 Winter	2	+0%					81.120
S18.000	SPP21	1440 Summer	2	+0%	2/1440 Summer				81.897
S18.001	SFC21	1440 Summer	2	+0%	2/15 Summer				81.899
S19.000	SRAIN GARDEN	15 Summer	2	+0%	30/15 Summer				81.341
S19.001	SRG FC	15 Summer	2	+0%	30/15 Summer				81.337
S1.012	S27	15 Summer	2	+0%					81.084
S20.000	SPP26	960 Summer	2	+0%	30/60 Summer				81.923
S20.001	SFC26	960 Summer	2	+0%	2/15 Summer				81.923
S1.013	SSW30	15 Summer	2	+0%					80.988
S21.000	SPP28	960 Winter	2	+0%	2/960 Winter				81.880
S21.001	SFC28	960 Winter	2	+0%	2/15 Summer				81.916
S1.014	SSW31	15 Summer	2	+0%					80.920
S22.000	SPP30	480 Summer	2	+0%	30/240 Summer				81.916
S22.001	SFC30	480 Summer	2	+0%	2/15 Summer				81.917
S1.015	S66	15 Summer	2	+0%					80.862
S23.000	SPP32	960 Winter	2	+0%	2/240 Summer				81.724
S23.001	SFC32	960 Winter	2	+0%	2/15 Summer				81.771
S1.016	S45	15 Summer	2	+0%					80.805
S24.000	SPP35	960 Summer	2	+0%	30/30 Summer				81.784
S24.001	SFC35	960 Summer	2	+0%	2/15 Summer				81.785
S1.017	S70	15 Summer	2	+0%					80.758
S25.000	SPP34	480 Winter	2	+0%	30/240 Summer				81.723
S25.001	SFC34	480 Winter	2	+0%	2/15 Summer				81.766
S1.018	S46	15 Summer	2	+0%					80.720
S1.019	S47	15 Summer	2	+0%					80.678
S26.000	SPP27	360 Summer	2	+0%	30/240 Summer				82.578
S26.001	SFC27	360 Summer	2	+0%	2/15 Summer				82.579
S26.002	SSW32	360 Summer	2	+0%					81.605
S27.000	SPP31	960 Summer	2	+0%	2/120 Summer				82.041
S27.001	SFC31	960 Summer	2	+0%	2/120 Summer				82.070
S26.003	S80	480 Winter	2	+0%					81.527
S26.004	S56	480 Winter	2	+0%					81.441
S28.000	SPP36	960 Winter	2	+0%	2/120 Summer				81.797
S28.001	SFC36	960 Winter	2	+0%	2/120 Summer				81.839
S26.005	S84	960 Summer	2	+0%					81.338
S29.000	SPP41	480 Winter	2	+0%	2/120 Summer				81.684
S29.001	SFC41	480 Winter	2	+0%	2/120 Summer				81.717
S26.006	SSW33	480 Winter	2	+0%					81.144
S30.000	SPP40	960 Winter	2	+0%	2/240 Summer				81.597

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PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)			Time (mins)	Flow (l/s)		
S11.001	SFC01	0.204	0.000	0.02			0.2	SURCHARGED	
S12.000	SPP02	-0.009	0.000	0.02		459	0.1	OK	
S12.001	SFC02	0.262	0.000	0.00			0.1	SURCHARGED	
S11.002	SSW26	-0.085	0.000	0.05			0.3	OK	
S13.000	SPP13	-0.064	0.000	0.03		114	0.2	OK	
S13.001	SFC13	0.329	0.000	0.00			0.1	SURCHARGED	
S11.003	S27	-0.084	0.000	0.06			0.4	OK*	
S1.009	SSW27	-0.066	0.000	0.25			1.5	OK	
S14.000	SPP12	-0.008	0.000	0.06		385	0.4	OK	
S14.001	SFC12	0.262	0.000	0.02			0.3	SURCHARGED	
S15.000	SPP18	-0.011	0.000	0.02		779	0.1	OK	
S15.001	SFC18	0.190	0.000	0.02			0.1	SURCHARGED	
S16.000	SPP19	-0.031	0.000	0.02		664	0.1	OK	
S16.001	SFC19	0.242	0.000	0.00			0.1	SURCHARGED	
S15.002	SSW28	-0.092	0.000	0.02			0.2	OK	
S1.010	SSW29	-0.114	0.000	0.13			1.9	OK	
S17.000	SPP20	-0.009	0.000	0.03		773	0.2	OK	
S17.001	SFC20	0.184	0.000	0.01			0.2	SURCHARGED	
S1.011	S25	-0.193	0.000	0.05			2.1	OK*	
S18.000	SPP21	0.007	0.000	0.01			0.1	SURCHARGED	
S18.001	SFC21	0.399	0.000	0.01			0.1	SURCHARGED	
S19.000	SRAIN GARDEN	-0.084	0.000	0.47		8	14.0	OK	
S19.001	SRG FC	-0.063	0.000	0.24			14.2	OK	
S1.012	S27	-0.135	0.000	0.34			14.4	OK*	
S20.000	SPP26	-0.022	0.000	0.01		907	0.1	OK	
S20.001	SFC26	0.298	0.000	0.01			0.1	SURCHARGED	
S1.013	SSW30	-0.127	0.000	0.39			14.2	OK	
S21.000	SPP28	0.000	0.000	0.04			0.2	SURCHARGED	
S21.001	SFC28	0.216	0.000	0.01			0.1	SURCHARGED	
S1.014	SSW31	-0.117	0.000	0.46			14.4	OK	
S22.000	SPP30	-0.049	0.000	0.02		516	0.1	OK	
S22.001	SFC30	0.317	0.000	0.00			0.1	SURCHARGED	
S1.015	S66	-0.126	0.000	0.40			14.5	OK*	
S23.000	SPP32	0.019	0.000	0.04			0.2	SURCHARGED	
S23.001	SFC32	0.186	0.000	0.01			0.1	SURCHARGED	
S1.016	S45	-0.118	0.000	0.45			14.4	OK*	
S24.000	SPP35	-0.006	0.000	0.01		832	0.1	OK	
S24.001	SFC35	0.185	0.000	0.00			0.1	SURCHARGED	
S1.017	S70	-0.114	0.000	0.49			14.6	OK*	
S25.000	SPP34	-0.067	0.000	0.02		870	0.3	OK	
S25.001	SFC34	0.266	0.000	0.01			0.1	SURCHARGED	
S1.018	S46	-0.114	0.000	0.49			14.7	OK*	
S1.019	S47	-0.130	0.000	0.37			14.6	OK*	
S26.000	SPP27	-0.062	0.000	0.02		152	0.1	OK	
S26.001	SFC27	0.329	0.000	0.01			0.1	SURCHARGED	
S26.002	SSW32	-0.095	0.000	0.01			0.1	OK	
S27.000	SPP31	0.051	0.000	0.05		948	0.2	SURCHARGED	
S27.001	SFC31	0.080	0.000	0.01			0.1	SURCHARGED	
S26.003	S80	-0.088	0.000	0.03			0.2	OK*	
S26.004	S56	-0.089	0.000	0.03			0.2	OK*	
S28.000	SPP36	0.087	0.000	0.08			0.3	SURCHARGED	
S28.001	SFC36	0.129	0.000	0.02			0.2	SURCHARGED	
S26.005	S84	-0.082	0.000	0.08			0.4	OK*	
S29.000	SPP41	0.054	0.000	0.11		575	0.5	SURCHARGED	
S29.001	SFC41	0.087	0.000	0.02			0.3	SURCHARGED	
S26.006	SSW33	-0.078	0.000	0.11			0.7	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Cap.	(l/s)	Time (mins)	Flow (l/s)		
S30.000	SPP40	0.057	0.000	0.07			0.3	SURCHARGED	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S30.001	SFC40	960 Winter	2	+0%	2/120 Summer				81.640
S26.007	S91	480 Winter	2	+0%					80.629
S31.000	SPP39	480 Winter	2	+0%	2/30 Summer				81.837
S31.001	SFC39	480 Winter	2	+0%	2/15 Summer				81.878
S1.020	SSW34	15 Summer	2	+0%					80.609
S1.021	S53	15 Summer	2	+0%					80.553
S32.000	SPP47	1440 Winter	2	+0%	2/240 Summer				81.510
S32.001	SFC47	1440 Summer	2	+0%	2/240 Summer				81.546
S1.022	S96	15 Summer	2	+0%					80.496
S1.023	S53	15 Summer	2	+0%					80.442
S33.000	SPP55	960 Winter	2	+0%	2/240 Summer				81.516
S33.001	SFC55	960 Winter	2	+0%	2/60 Summer				81.558
S1.024	S100	15 Summer	2	+0%					80.381
S34.000	SPP46	960 Winter	2	+0%	2/360 Summer				81.533
S34.001	SFC46	960 Winter	2	+0%	2/15 Summer				81.571
S1.025	SSW35	15 Summer	2	+0%					80.322
S35.000	SPP61	1440 Winter	2	+0%	2/240 Summer				81.432
S35.001	SFC61	1440 Winter	2	+0%	2/240 Summer				81.474
S1.026	SSW36	15 Summer	2	+0%					80.265
S36.000	SPP44	480 Winter	2	+0%	30/60 Summer				81.651
S36.001	SFC44	15 Summer	2	+0%	2/15 Summer				81.699
S37.000	SHE-SW-14	15 Summer	2	+0%					81.983
S36.002	SHE-SW-15	15 Summer	2	+0%	100/15 Summer				81.010
S38.000	SPP45	960 Winter	2	+0%	30/60 Summer				81.588
S38.001	SFC45	960 Winter	2	+0%	2/15 Summer				81.594
S36.003	S145	15 Summer	2	+0%	100/15 Summer				80.849
S39.000	SPP60	240 Summer	2	+0%	30/30 Summer				81.562
S39.001	SFC60	240 Summer	2	+0%	2/15 Summer				81.563
S36.004	S146	15 Summer	2	+0%					80.739
S40.000	SSW11	15 Summer	2	+0%	100/15 Summer				80.878
S40.001	SSW12	15 Summer	2	+0%	100/15 Summer				80.714
S40.002	SSW13	15 Summer	2	+0%	30/15 Summer				80.596
S41.000	STANK 3	240 Summer	2	+0%	30/15 Summer				80.532
S41.001	SHB 3	240 Summer	2	+0%	2/15 Summer				80.541
S40.003	S148	15 Summer	2	+0%					80.353
S42.000	SPP67	480 Winter	2	+0%	2/240 Summer				81.552
S42.001	SFC67	480 Winter	2	+0%	2/15 Summer				81.583
S40.004	S148	15 Summer	2	+0%	30/15 Summer				80.270
S40.005	SSW15	15 Summer	2	+0%	100/15 Summer				80.255
S43.000	SPP68	480 Winter	2	+0%	2/240 Summer				81.536
S43.001	SFC68	480 Winter	2	+0%	2/15 Summer				81.559
S40.006	S150	15 Summer	2	+0%	100/15 Summer				80.187
S44.000	SPP69	480 Summer	2	+0%	30/120 Summer				81.668
S44.001	SFC69	480 Summer	2	+0%	2/15 Summer				81.668
S40.007	S151	15 Summer	2	+0%	30/15 Summer				80.160
S40.008	SSW16	15 Summer	2	+0%	100/15 Summer				80.039
S45.000	SPP66	960 Winter	2	+0%	2/360 Summer				81.700
S45.001	SFC66	960 Winter	2	+0%	2/15 Summer				81.723
S46.000	SPP65	480 Summer	2	+0%	30/120 Summer				81.817
S46.001	SFC65	480 Winter	2	+0%	2/15 Summer				81.819
S47.000	STANK 2	240 Summer	2	+0%	30/15 Summer				80.198
S47.001	SHB 2	240 Summer	2	+0%	2/120 Summer				80.200
S40.009	SSW17	15 Summer	2	+0%	100/15 Summer				79.766
S48.000	SFEC-SW-20	15 Summer	2	+0%	100/15 Summer				81.624
S48.001	SFEC-SW-21	15 Summer	2	+0%	100/15 Summer				81.383
S48.002	SFEC-SW-22	15 Summer	2	+0%	100/15 Summer				81.221
S48.003	SFEC-SW-23	15 Summer	2	+0%	100/15 Summer				81.078

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded			Half Drain Pipe		Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Overflow Cap. (l/s)	Time (mins)	Pipe Flow (l/s)		
S30.001	SFC40	0.115	0.000	0.01		0.1	SURCHARGED	
S26.007	S91	-0.129	0.000	0.05		0.8	OK*	
S31.000	SPP39	0.162	0.000	0.04	564	0.2	SURCHARGED	
S31.001	SFC39	0.403	0.000	0.01		0.1	SURCHARGED	
S1.020	SSW34	-0.122	0.000	0.43		14.9	OK	
S1.021	S53	-0.115	0.000	0.48		14.9	OK*	
S32.000	SPP47	0.060	0.000	0.06		0.2	SURCHARGED	
S32.001	SFC47	0.096	0.000	0.01		0.1	SURCHARGED	
S1.022	S96	-0.124	0.000	0.41		14.9	OK*	
S1.023	S53	-0.112	0.000	0.50		14.9	OK*	
S33.000	SPP55	0.056	0.000	0.06		0.3	SURCHARGED	
S33.001	SFC55	0.128	0.000	0.01		0.1	SURCHARGED	
S1.024	S100	-0.127	0.000	0.39		15.0	OK*	
S34.000	SPP46	0.013	0.000	0.04		0.2	SURCHARGED	
S34.001	SFC46	0.216	0.000	0.00		0.1	SURCHARGED	
S1.025	SSW35	-0.112	0.000	0.50		15.0	OK	
S35.000	SPP61	0.062	0.000	0.06		0.2	SURCHARGED	
S35.001	SFC61	0.104	0.000	0.02		0.1	SURCHARGED	
S1.026	SSW36	-0.123	0.000	0.42		15.1	OK	
S36.000	SPP44	-0.019	0.000	0.01	675	0.1	OK	
S36.001	SFC44	0.279	0.000	0.01		0.1	SURCHARGED	
S37.000	SHE-SW-14	-0.217	0.000	0.17		21.7	OK	
S36.002	SHE-SW-15	-0.190	0.000	0.28		21.5	OK	
S38.000	SPP45	-0.007	0.000	0.01		0.1	OK	
S38.001	SFC45	0.224	0.000	0.00		0.1	SURCHARGED	
S36.003	S145	-0.176	0.000	0.36		21.9	OK*	
S39.000	SPP60	-0.048	0.000	0.04	102	0.2	OK	
S39.001	SFC60	0.193	0.000	0.01		0.1	SURCHARGED	
S36.004	S146	-0.226	0.000	0.14		22.0	OK*	
S40.000	SSW11	-0.222	0.000	0.15		12.4	OK	
S40.001	SSW12	-0.206	0.000	0.21		16.6	OK	
S40.002	SSW13	-0.185	0.000	0.31		25.8	OK	
S41.000	STANK 3	-0.118	0.000	0.04	104	2.2	OK	
S41.001	SHB 3	0.109	0.000	0.38		1.9	SURCHARGED	
S40.003	S148	-0.161	0.000	0.44		37.1	OK*	
S42.000	SPP67	0.012	0.000	0.05	600	0.3	SURCHARGED	
S42.001	SFC67	0.233	0.000	0.01		0.2	SURCHARGED	
S40.004	S148	-0.129	0.000	0.61		37.2	OK*	
S40.005	SSW15	-0.264	0.000	0.35		60.0	OK	
S43.000	SPP68	0.021	0.000	0.06	602	0.4	SURCHARGED	
S43.001	SFC68	0.209	0.000	0.01		0.3	SURCHARGED	
S40.006	S150	-0.253	0.000	0.35		59.7	OK*	
S44.000	SPP69	-0.042	0.000	0.05	479	0.3	OK	
S44.001	SFC69	0.218	0.000	0.00		0.1	SURCHARGED	
S40.007	S151	-0.236	0.000	0.45		80.0	OK*	
S40.008	SSW16	-0.407	0.000	0.22		82.1	OK	
S45.000	SPP66	0.010	0.000	0.03	991	0.2	SURCHARGED	
S45.001	SFC66	0.223	0.000	0.02		0.1	SURCHARGED	
S46.000	SPP65	-0.043	0.000	0.02	445	0.1	OK	
S46.001	SFC65	0.219	0.000	0.01		0.1	SURCHARGED	
S47.000	STANK 2	-0.027	0.000	0.07	151	2.1	OK	
S47.001	SHB 2	0.025	0.000	0.06		1.9	SURCHARGED	
S40.009	SSW17	-0.389	0.000	0.24		83.1	OK	
S48.000	SFEC-SW-20	-0.251	0.000	0.24		41.2	OK	
S48.001	SFEC-SW-21	-0.242	0.000	0.27		45.5	OK	
S48.002	SFEC-SW-22	-0.279	0.000	0.30		54.0	OK	

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PN	US/MH Name	Surcharged Flooded		Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m ³)					
S48.003	SFEC-SW-23	-0.322	0.000	0.18		61.3	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S49.000	SFEC-SW-18	15 Summer	2	+0%					81.561
S49.001	SFEC-SW-19	15 Summer	2	+0%					81.357
S50.000	SFEC-SW-15	15 Summer	2	+0%	100/15 Summer				81.580
S50.001	SFEC-SW-16	15 Summer	2	+0%	100/15 Summer				81.498
S50.002	SFEC-SW-17	15 Summer	2	+0%	100/15 Summer				81.335
S48.004	SFEC-SW-24	15 Summer	2	+0%	100/15 Summer				81.008
S48.005	SFEC-SW-25	15 Summer	2	+0%	100/15 Summer				80.205
S48.006	SFEC-SW-26	15 Summer	2	+0%					80.073
S40.010	SSW18	15 Summer	2	+0%	100/15 Summer				79.664
S40.011	SSW19	15 Summer	2	+0%	100/15 Summer				79.542
S51.000	SHE-SW-16	15 Summer	2	+0%	30/15 Summer				79.919
S51.001	SHE-SW-17	15 Summer	2	+0%	30/15 Summer				79.423
S40.012	S154	15 Summer	2	+0%					79.408
S52.000	SPP31	15 Summer	2	+0%					81.900
S52.001	SFC31	15 Summer	2	+0%					81.900
S52.002	SSwale In 1	960 Summer	2	+0%					81.805
S52.003	SSwale 2	960 Summer	2	+0%					81.805
S52.004	SSwale in 3	960 Summer	2	+0%					81.805
S52.005	SSwale 4	960 Summer	2	+0%					81.805
S53.000	SSW PUMP OUTFALL	960 Summer	2	+0%					81.805
S52.006	SSwale in 5	960 Summer	2	+0%					81.805
S52.007	SSwale 6	960 Summer	2	+0%					81.805
S52.008	SSwale in 7	960 Summer	2	+0%					81.806
S52.009	SSwale out	960 Summer	2	+0%	2/120 Summer				81.812
S52.010	SSWALE FC70	15 Summer	2	+0%					81.575
S40.013	SSW20	15 Summer	2	+0%	100/15 Summer				79.384
S54.000	SPP53	480 Winter	2	+0%	2/240 Summer				81.528
S54.001	SFC53	480 Winter	2	+0%	2/120 Summer				81.557
S55.000	SPP57	480 Winter	2	+0%	30/60 Summer				81.723
S55.001	SFC57	960 Winter	2	+0%	2/15 Summer				81.723
S54.002	S170	480 Winter	2	+0%					80.977
S40.014	S167	15 Summer	2	+0%					79.278
S36.005	SSW22	15 Summer	2	+0%	100/15 Summer				79.121
S56.000	SPP48	960 Summer	2	+0%	2/120 Summer				81.601
S56.001	SFC48	960 Summer	2	+0%	2/120 Summer				81.633
S57.000	SPP50	360 Summer	2	+0%	30/30 Summer				81.613
S57.001	SFC50	360 Summer	2	+0%	2/15 Summer				81.615
S56.002	SSW36	480 Winter	2	+0%					81.021
S58.000	Spp56	960 Winter	2	+0%	2/120 Summer				81.506
S58.001	SFC56	960 Summer	2	+0%	2/120 Summer				81.537
S56.003	S187	480 Winter	2	+0%					80.879
S59.000	SPP59	480 Winter	2	+0%	30/60 Summer				81.584
S59.001	SFC59	480 Winter	2	+0%	2/15 Summer				81.591
S60.000	SPP63	960 Winter	2	+0%	30/60 Summer				81.529
S60.001	SFC63	960 Winter	2	+0%	2/15 Summer				81.535
S61.000	SPP62	480 Winter	2	+0%	30/60 Summer				81.584
S61.001	SFC62	480 Winter	2	+0%	2/15 Summer				81.586
S56.004	SSW37	480 Winter	2	+0%					80.720
S62.000	SPP64	960 Summer	2	+0%	2/240 Summer				81.387
S62.001	SFC64	480 Winter	2	+0%	2/15 Summer				81.403
S63.000	SFEC-SW-06	15 Summer	2	+0%	100/15 Summer				81.741
S63.001	SFEC-SW-07	15 Summer	2	+0%	100/15 Summer				81.676
S63.002	SFEC-SW-08	15 Summer	2	+0%	100/15 Summer				81.373
S63.003	SFEC-SW-09	15 Summer	2	+0%	100/15 Summer				81.048
S64.000	SFEC-SW-10	15 Summer	2	+0%	100/15 Summer				81.875
S64.001	SFEC-SW-12	15 Summer	2	+0%	100/15 Summer				81.589
S63.004	SFEC-SW-13	15 Summer	2	+0%	100/15 Summer				80.921

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PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)			Time (mins)	Flow (l/s)		
S49.000	SFEC-SW-18	-0.164	0.000	0.17			8.8	OK	
S49.001	SFEC-SW-19	-0.243	0.000	0.08			13.1	OK	
S50.000	SFEC-SW-15	-0.145	0.000	0.27			12.2	OK	
S50.001	SFEC-SW-16	-0.202	0.000	0.24			21.8	OK	
S50.002	SFEC-SW-17	-0.215	0.000	0.18			27.3	OK	
S48.004	SFEC-SW-24	-0.362	0.000	0.33			101.6	OK	
S48.005	SFEC-SW-25	-0.315	0.000	0.46			101.5	OK	
S48.006	SFEC-SW-26	-0.427	0.000	0.18			100.8	OK	
S40.010	SSW18	-0.475	0.000	0.29			162.3	OK	
S40.011	SSW19	-0.482	0.000	0.26			156.1	OK	
S51.000	SHE-SW-16	-0.106	0.000	0.53			26.5	OK	
S51.001	SHE-SW-17	-0.055	0.000	0.57			27.1	OK	
S40.012	S154	-0.428	0.000	0.26			159.0	OK*	
S52.000	SPP31	-0.100	0.000	0.00			0.0	OK	
S52.001	SFC31	-0.100	0.000	0.00			0.0	OK	
S52.002	SSwale In 1	-0.695	0.000	0.00			1.2	OK	
S52.003	SSwale 2	-0.695	0.000	0.00			7.4	OK	
S52.004	SSwale in 3	-0.695	0.000	0.00			5.5	OK	
S52.005	SSwale 4	-0.695	0.000	0.00			7.1	OK	
S53.000	SSW PUMP OUTFALL	-0.295	0.000	0.00			0.0	OK	
S52.006	SSwale in 5	-0.695	0.000	0.00			7.4	OK	
S52.007	SSwale 6	-0.695	0.000	0.00			5.9	OK	
S52.008	SSwale in 7	-0.694	0.000	0.00			2.0	OK	
S52.009	SSwale out	0.162	0.000	0.05			0.9	SURCHARGED*	
S52.010	SSWALE FC70	0.000	0.000	0.01			0.2	SURCHARGED*	
S40.013	SSW20	-0.400	0.000	0.45			159.2	OK	
S54.000	SPP53	0.038	0.000	0.05		697	0.2	SURCHARGED	
S54.001	SFC53	0.082	0.000	0.01			0.1	SURCHARGED	
S55.000	SPP57	-0.022	0.000	0.01		759	0.1	OK	
S55.001	SFC57	0.243	0.000	0.00			0.1	SURCHARGED	
S54.002	S170	-0.097	0.000	0.01			0.2	OK*	
S40.014	S167	-0.494	0.000	0.25			158.0	OK*	
S36.005	SSW22	-0.487	0.000	0.27			162.8	OK	
S56.000	SPP48	0.051	0.000	0.11		839	0.4	SURCHARGED	
S56.001	SFC48	0.083	0.000	0.02			0.3	SURCHARGED	
S57.000	SPP50	-0.032	0.000	0.03		261	0.2	OK	
S57.001	SFC50	0.335	0.000	0.02			0.1	SURCHARGED	
S56.002	SSW36	-0.079	0.000	0.10			0.5	OK	
S58.000	Spp56	0.076	0.000	0.06		1015	0.2	SURCHARGED	
S58.001	SFC56	0.107	0.000	0.01			0.1	SURCHARGED	
S56.003	S187	-0.079	0.000	0.10			0.6	OK*	
S59.000	SPP59	-0.011	0.000	0.01		907	0.1	OK	
S59.001	SFC59	0.221	0.000	0.01			0.1	SURCHARGED	
S60.000	SPP63	-0.016	0.000	0.01			0.1	OK	
S60.001	SFC63	0.235	0.000	0.00			0.1	SURCHARGED	
S61.000	SPP62	-0.026	0.000	0.02		587	0.1	OK	
S61.001	SFC62	0.246	0.000	0.02			0.1	SURCHARGED	
S56.004	SSW37	-0.076	0.000	0.14			0.8	OK	
S62.000	SPP64	0.027	0.000	0.23		1003	1.2	SURCHARGED	
S62.001	SFC64	0.303	0.000	0.04			1.1	SURCHARGED	
S63.000	SFEC-SW-06	-0.359	0.000	0.09			28.8	OK	
S63.001	SFEC-SW-07	-0.310	0.000	0.21			58.7	OK	
S63.002	SFEC-SW-08	-0.297	0.000	0.25			63.4	OK	
S63.003	SFEC-SW-09	-0.340	0.000	0.27			72.3	OK	
S64.000	SFEC-SW-10	-0.150	0.000	0.25			12.6	OK	
S64.001	SFEC-SW-12	-0.136	0.000	0.33			17.5	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Cap.	(l/s)	Time (mins)	Flow (l/s)		
S63.004	SFEC-SW-13	-0.344	0.000	0.26			96.9	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S63.005	SFEC-SW-14	15 Summer	2	+0%	100/15 Summer				80.726
S63.006	SSW05	15 Summer	2	+0%	100/15 Summer				80.626
S65.000	SFEC-SW-01	15 Summer	2	+0%	100/15 Summer				81.669
S65.001	SFEC-SW-02	15 Summer	2	+0%	100/15 Summer				81.586
S66.000	SHW-SW-01	15 Summer	2	+0%	100/15 Summer				81.682
S66.001	SHW-SW-02	15 Summer	2	+0%	100/15 Summer				81.434
S67.000	SHW-SW-03	15 Summer	2	+0%	100/15 Summer				81.645
S65.002	SFEC-SW-03	15 Summer	2	+0%	100/15 Summer				81.369
S68.000	SFEC-SW-04	15 Summer	2	+0%	100/15 Summer				81.795
S65.003	SFEC-SW-05	15 Summer	2	+0%	100/15 Summer				81.301
S65.004	SSW01	15 Summer	2	+0%	100/15 Summer				81.117
S65.005	SSW02	15 Summer	2	+0%	100/15 Summer				80.708
S65.006	SSW03	15 Summer	2	+0%	100/15 Summer				80.530
S69.000	SHW-SW-04	15 Summer	2	+0%	100/15 Summer				81.857
S69.001	SSWALE2 IN	120 Summer	2	+0%					81.826
S69.002	SSWALE 2 FC	120 Summer	2	+0%	2/15 Summer				81.826
S65.007	SSW04	15 Summer	2	+0%	100/15 Summer				80.473
S70.000	SHW-SW-09	15 Summer	2	+0%					81.944
S71.000	SHW-SW-05	15 Summer	2	+0%					81.952
S71.001	SHW-SW-06	15 Summer	2	+0%					81.794
S72.000	SHW-SW-07	15 Summer	2	+0%	100/15 Summer				81.951
S73.000	SHW-SW-08	15 Summer	2	+0%					81.946
S74.000	SHW-SW-10	15 Summer	2	+0%	100/15 Summer				81.989
S70.001	SBASIN 1	960 Winter	2	+0%	100/120 Summer				81.559
S70.002	SBASIN 1 OUT	960 Winter	2	+0%	2/15 Summer				81.558
S65.008	S238	15 Summer	2	+0%	30/15 Summer				80.360
S63.007	SSW06	15 Summer	2	+0%	30/15 Summer				80.325
S75.000	SHE-SW-01	15 Summer	2	+0%					81.690
S75.001	SSW07	15 Summer	2	+0%					81.135
S76.000	SFEATURE POND	960 Winter	2	+0%	30/360 Summer				82.055
S76.001	SFP FC	960 Winter	2	+0%	2/15 Summer				82.053
S63.008	SSW08	15 Summer	2	+0%	100/15 Summer				80.095
S63.009	SSW09	15 Summer	2	+0%	100/15 Summer				80.018
S77.000	SHE-SW-10	15 Summer	2	+0%					81.953
S77.001	SHE-SW-11	15 Summer	2	+0%	30/240 Summer				81.679
S78.000	SHE-SW-03	15 Summer	2	+0%	100/15 Summer				81.984
S78.001	SHE-SW-04	15 Summer	2	+0%	100/15 Summer				81.714
S79.000	SHE-SW-02	15 Summer	2	+0%	100/15 Summer				81.976
S80.000	SHW-SW-06	15 Summer	2	+0%					81.954
S81.000	SHE-SW-05	15 Summer	2	+0%					81.946
S80.001	SHE-SW-07	15 Summer	2	+0%	100/120 Summer				81.891
S82.000	SHE-SW-08	15 Summer	2	+0%					81.959
S82.001	SHE-SW-09	15 Summer	2	+0%	100/15 Summer				81.813
S77.002	SBASIN 2	240 Summer	2	+0%	30/30 Summer				81.665
S77.003	SBASIN 2 OUT	240 Summer	2	+0%	2/15 Summer	30/240 Summer			81.689
S77.004	SHE-SW-12	30 Summer	2	+0%					80.987
S77.005	SHE-SW-13	30 Summer	2	+0%					80.927
S63.010	S241	15 Summer	2	+0%	100/15 Summer				79.901
S63.011	SSW10	15 Summer	2	+0%					79.672
S1.027	STANK	480 Summer	2	+0%	30/60 Summer				78.982
S1.028	SFC71	480 Summer	2	+0%	30/30 Summer				78.963

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged		Flooded		Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)						
S63.005	SFEC-SW-14	-0.299	0.000	0.39					96.4	OK	
S63.006	SSW05	-0.319	0.000	0.30					90.1	OK	
S65.000	SFEC-SW-01	-0.156	0.000	0.21					9.2	OK	
S65.001	SFEC-SW-02	-0.214	0.000	0.18					20.7	OK	
S66.000	SHW-SW-01	-0.143	0.000	0.29					13.8	OK	
S66.001	SHW-SW-02	-0.213	0.000	0.19					17.2	OK	
S67.000	SHW-SW-03	-0.105	0.000	0.20					5.1	OK	
S65.002	SFEC-SW-03	-0.205	0.000	0.41					46.9	OK	
S68.000	SFEC-SW-04	-0.205	0.000	0.22					22.1	OK	
S65.003	SFEC-SW-05	-0.264	0.000	0.35					71.7	OK	
S65.004	SSW01	-0.337	0.000	0.27					85.0	OK	
S65.005	SSW02	-0.317	0.000	0.32					81.4	OK	
S65.006	SSW03	-0.290	0.000	0.41					79.2	OK	
S69.000	SHW-SW-04	-0.168	0.000	0.15					4.8	OK	
S69.001	SSWALE2 IN	-0.674	0.000	0.00					8.2	OK	
S69.002	SSWALE 2 FC	0.226	0.000	0.34					1.9	SURCHARGED	
S65.007	SSW04	-0.317	0.000	0.32					79.9	OK	
S70.000	SHW-SW-09	-0.106	0.000	0.19					3.2	OK	
S71.000	SHW-SW-05	-0.173	0.000	0.12					5.5	OK	
S71.001	SHW-SW-06	-0.167	0.000	0.15					6.9	OK	
S72.000	SHW-SW-07	-0.099	0.000	0.25					4.1	OK	
S73.000	SHW-SW-08	-0.104	0.000	0.20					3.4	OK	
S74.000	SHW-SW-10	-0.136	0.000	0.33					15.9	OK	
S70.001	SBASIN 1	-0.091	0.000	0.02					0.4	OK	
S70.002	SBASIN 1 OUT	0.215	0.000	0.02					0.3	SURCHARGED	
S65.008	S238	-0.279	0.000	0.33					81.0	OK*	
S63.007	SSW06	-0.240	0.000	0.55					145.9	OK	
S75.000	SHE-SW-01	-0.210	0.000	0.19					20.4	OK	
S75.001	SSW07	-0.209	0.000	0.20					20.5	OK	
S76.000	SFEATURE POND	-0.045	0.000	0.07					0.8	FLOOD RISK	
S76.001	SFP FC	1.153	0.000	0.08					0.5	FLOOD RISK	
S63.008	SSW08	-0.304	0.000	0.49					150.0	OK	
S63.009	SSW09	-0.305	0.000	0.48					149.5	OK	
S77.000	SHE-SW-10	-0.172	0.000	0.13					6.2	OK	
S77.001	SHE-SW-11	-0.162	0.000	0.17					6.4	OK	
S78.000	SHE-SW-03	-0.141	0.000	0.28					10.3	OK	
S78.001	SHE-SW-04	-0.148	0.000	0.25					10.5	OK	
S79.000	SHE-SW-02	-0.149	0.000	0.25					13.3	OK	
S80.000	SHW-SW-06	-0.171	0.000	0.13					5.3	OK	
S81.000	SHE-SW-05	-0.179	0.000	0.09					3.7	OK	
S80.001	SHE-SW-07	-0.151	0.000	0.24					11.4	OK	
S82.000	SHE-SW-08	-0.166	0.000	0.16					7.2	OK	
S82.001	SHE-SW-09	-0.150	0.000	0.24					10.6	OK	
S77.002	SBASIN 2	-0.060	0.000	0.09					4.3	OK	
S77.003	SBASIN 2 OUT	0.220	0.000	0.06					3.0	SURCHARGED	16
S77.004	SHE-SW-12	-0.173	0.000	0.12					3.8	OK	
S77.005	SHE-SW-13	-0.183	0.000	0.08					3.8	OK	
S63.010	S241	-0.343	0.000	0.38					150.3	OK*	
S63.011	SSW10	-0.362	0.000	0.33					149.1	OK	
S1.027	STANK	-0.050	0.000	0.44				416	27.0	OK	
S1.028	SFC71	-0.016	0.000	0.37					26.9	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Flooded		Half Drain Pipe		Status	Level Exceeded
		Volume (m ³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)		
S1.000	SPP05	0.000	0.03	441	0.2	SURCHARGED	
S1.001	SFC05	0.000	0.01		0.1	SURCHARGED	
S2.000	SPP04	0.000	0.02	431	0.2	OK	
S2.001	SFC04	0.000	0.01		0.1	SURCHARGED	
S3.000	SPP06	0.000	0.02	441	0.1	SURCHARGED	
S3.001	SFC06	0.000	0.01		0.1	SURCHARGED	
S1.002	SSW23	0.000	0.05		0.2	OK	
S4.000	SPP10	0.000	0.05		0.3	SURCHARGED	
S4.001	SFC10	0.000	0.03		0.2	SURCHARGED	
S5.000	SPP08	0.000	0.08		0.3	SURCHARGED	
S5.001	SFC08	0.000	0.01		0.2	SURCHARGED	
S4.002	S13	0.000	0.03		0.3	OK*	
S1.003	SSW24	0.000	0.10		0.5	OK	
S6.000	SPP03	0.000	0.07	681	0.4	SURCHARGED	
S6.001	SFC03	0.000	0.04		0.3	SURCHARGED	
S1.004	S7	0.000	0.14		0.9	OK*	
S7.000	SPP11	0.000	0.03		0.2	SURCHARGED	
S7.001	SFC11	0.000	0.01		0.1	SURCHARGED	
S1.005	S7	0.000	0.16		1.0	OK*	
S8.000	SPP14	0.000	0.04		0.2	SURCHARGED	
S8.001	SFC14	0.000	0.00		0.1	SURCHARGED	
S1.006	S6	0.000	0.17		1.1	OK*	
S9.000	SPP16	0.000	0.04		0.3	SURCHARGED	
S9.001	SFC16	0.000	0.01		0.1	SURCHARGED	
S1.007	SSW25	0.000	0.20		1.2	OK	
S10.000	SPP17	0.000	0.05		0.3	SURCHARGED	
S10.001	SFC17	0.000	0.01		0.2	SURCHARGED	
S1.008	S17	0.000	0.22		1.3	OK*	
S11.000	SPP01	0.000	0.08	666	0.5	SURCHARGED	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S11.001	SFC01	480 Winter	30	+0%	2/15 Summer				82.448
S12.000	SPP02	480 Winter	30	+0%	30/30 Summer				82.553
S12.001	SFC02	480 Summer	30	+0%	2/15 Summer				82.589
S11.002	SSW26	480 Winter	30	+0%					81.666
S13.000	SPP13	240 Summer	30	+0%	30/240 Summer				82.392
S13.001	SFC13	240 Summer	30	+0%	2/15 Summer				82.426
S11.003	S27	360 Winter	30	+0%					81.467
S1.009	SSW27	480 Winter	30	+0%					81.420
S14.000	SPP12	480 Winter	30	+0%	30/30 Summer				81.986
S14.001	SFC12	480 Winter	30	+0%	2/15 Summer				82.026
S15.000	SPP18	480 Winter	30	+0%	30/60 Summer				82.488
S15.001	SFC18	960 Winter	30	+0%	2/15 Summer				82.524
S16.000	SPP19	960 Winter	30	+0%	30/120 Summer				82.125
S16.001	SFC19	960 Winter	30	+0%	2/15 Summer				82.169
S15.002	SSW28	480 Winter	30	+0%					81.260
S1.010	SSW29	480 Winter	30	+0%					81.236
S17.000	SPP20	480 Winter	30	+0%	30/60 Summer				81.931
S17.001	SFC20	360 Winter	30	+0%	2/15 Summer				81.967
S1.011	S25	30 Summer	30	+0%					81.129
S18.000	SPP21	1440 Winter	30	+0%	2/1440 Summer				81.995
S18.001	SFC21	1440 Winter	30	+0%	2/15 Summer				82.042
S19.000	SRAIN GARDEN	15 Summer	30	+0%	30/15 Summer				81.569
S19.001	SRG FC	15 Summer	30	+0%	30/15 Summer				81.560
S1.012	S27	30 Summer	30	+0%					81.109
S20.000	SPP26	960 Winter	30	+0%	30/60 Summer				82.018
S20.001	SFC26	960 Winter	30	+0%	2/15 Summer				82.064
S1.013	SSW30	30 Summer	30	+0%					81.017
S21.000	SPP28	960 Winter	30	+0%	2/960 Winter				81.986
S21.001	SFC28	960 Winter	30	+0%	2/15 Summer				82.046
S1.014	SSW31	30 Summer	30	+0%					80.953
S22.000	SPP30	480 Winter	30	+0%	30/240 Summer				81.983
S22.001	SFC30	480 Winter	30	+0%	2/15 Summer				81.999
S1.015	S66	30 Summer	30	+0%					80.891
S23.000	SPP32	960 Winter	30	+0%	2/240 Summer				81.847
S23.001	SFC32	960 Winter	30	+0%	2/15 Summer				81.906
S1.016	S45	30 Summer	30	+0%					80.838
S24.000	SPP35	960 Winter	30	+0%	30/30 Summer				81.899
S24.001	SFC35	480 Winter	30	+0%	2/15 Summer				81.945
S1.017	S70	30 Summer	30	+0%					80.793
S25.000	SPP34	960 Winter	30	+0%	30/240 Summer				81.818
S25.001	SFC34	960 Winter	30	+0%	2/15 Summer				82.004
S1.018	S46	30 Summer	30	+0%					80.755
S1.019	S47	30 Summer	30	+0%					80.705
S26.000	SPP27	240 Winter	30	+0%	30/240 Summer				82.645
S26.001	SFC27	240 Winter	30	+0%	2/15 Summer				82.651
S26.002	SSW32	240 Winter	30	+0%					81.606
S27.000	SPP31	480 Winter	30	+0%	2/120 Summer				82.198
S27.001	SFC31	480 Winter	30	+0%	2/120 Summer				82.234
S26.003	S80	480 Winter	30	+0%					81.528
S26.004	S56	480 Winter	30	+0%					81.442
S28.000	SPP36	960 Winter	30	+0%	2/120 Summer				81.982
S28.001	SFC36	480 Winter	30	+0%	2/120 Summer				82.023
S26.005	S84	480 Winter	30	+0%					81.341
S29.000	SPP41	480 Winter	30	+0%	2/120 Summer				81.848
S29.001	SFC41	480 Winter	30	+0%	2/120 Summer				81.885
S26.006	SSW33	480 Winter	30	+0%					81.149
S30.000	SPP40	960 Winter	30	+0%	2/240 Summer				81.750

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded			Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Time (mins)			Flow (l/s)			
S11.001	SFC01	0.348	0.000	0.02			0.3	SURCHARGED		
S12.000	SPP02	0.113	0.000	0.03		900	0.2	SURCHARGED		
S12.001	SFC02	0.419	0.000	0.00			0.1	SURCHARGED		
S11.002	SSW26	-0.084	0.000	0.06			0.4	OK		
S13.000	SPP13	0.002	0.000	0.04		216	0.2	SURCHARGED		
S13.001	SFC13	0.426	0.000	0.00			0.1	SURCHARGED		
S11.003	S27	-0.083	0.000	0.07			0.4	OK*		
S1.009	SSW27	-0.062	0.000	0.30			1.8	OK		
S14.000	SPP12	0.106	0.000	0.07		734	0.5	SURCHARGED		
S14.001	SFC12	0.376	0.000	0.02			0.3	SURCHARGED		
S15.000	SPP18	0.088	0.000	0.04			0.3	SURCHARGED		
S15.001	SFC18	0.324	0.000	0.02			0.2	SURCHARGED		
S16.000	SPP19	0.055	0.000	0.03			0.2	SURCHARGED		
S16.001	SFC19	0.369	0.000	0.00			0.1	SURCHARGED		
S15.002	SSW28	-0.090	0.000	0.02			0.2	OK		
S1.010	SSW29	-0.111	0.000	0.16			2.3	OK		
S17.000	SPP20	0.091	0.000	0.05			0.3	SURCHARGED		
S17.001	SFC20	0.317	0.000	0.01			0.2	SURCHARGED		
S1.011	S25	-0.184	0.000	0.05			2.2	OK*		
S18.000	SPP21	0.105	0.000	0.04			0.2	SURCHARGED		
S18.001	SFC21	0.542	0.000	0.01			0.1	SURCHARGED		
S19.000	SRAIN GARDEN	0.144	0.000	0.70		8	21.0	SURCHARGED		
S19.001	SRG FC	0.160	0.000	0.33			19.9	SURCHARGED		
S1.012	S27	-0.110	0.000	0.52			22.0	OK*		
S20.000	SPP26	0.073	0.000	0.03			0.2	SURCHARGED		
S20.001	SFC26	0.439	0.000	0.01			0.1	SURCHARGED		
S1.013	SSW30	-0.098	0.000	0.61			22.1	OK		
S21.000	SPP28	0.106	0.000	0.05			0.3	SURCHARGED		
S21.001	SFC28	0.346	0.000	0.01			0.1	SURCHARGED		
S1.014	SSW31	-0.084	0.000	0.71			22.2	OK		
S22.000	SPP30	0.018	0.000	0.02			0.1	SURCHARGED		
S22.001	SFC30	0.399	0.000	0.00			0.1	SURCHARGED		
S1.015	S66	-0.097	0.000	0.62			22.2	OK*		
S23.000	SPP32	0.142	0.000	0.05			0.3	SURCHARGED		
S23.001	SFC32	0.321	0.000	0.01			0.1	SURCHARGED		
S1.016	S45	-0.085	0.000	0.71			22.3	OK*		
S24.000	SPP35	0.109	0.000	0.04			0.2	SURCHARGED		
S24.001	SFC35	0.345	0.000	0.00			0.1	SURCHARGED		
S1.017	S70	-0.079	0.000	0.75			22.4	OK*		
S25.000	SPP34	0.028	0.000	0.05			0.8	SURCHARGED		
S25.001	SFC34	0.504	0.000	0.01			0.1	SURCHARGED		
S1.018	S46	-0.079	0.000	0.75			22.5	OK*		
S1.019	S47	-0.103	0.000	0.58			22.5	OK*		
S26.000	SPP27	0.005	0.000	0.03		236	0.2	SURCHARGED		
S26.001	SFC27	0.401	0.000	0.01			0.1	SURCHARGED		
S26.002	SSW32	-0.094	0.000	0.01			0.1	OK		
S27.000	SPP31	0.208	0.000	0.07			0.3	SURCHARGED		
S27.001	SFC31	0.244	0.000	0.01			0.2	SURCHARGED		
S26.003	S80	-0.087	0.000	0.04			0.2	OK*		
S26.004	S56	-0.088	0.000	0.03			0.2	OK*		
S28.000	SPP36	0.272	0.000	0.10			0.4	SURCHARGED		
S28.001	SFC36	0.313	0.000	0.02			0.2	SURCHARGED		
S26.005	S84	-0.079	0.000	0.10			0.5	OK*		
S29.000	SPP41	0.218	0.000	0.15		790	0.6	SURCHARGED		
S29.001	SFC41	0.255	0.000	0.04			0.5	SURCHARGED		
S26.006	SSW33	-0.073	0.000	0.16			1.0	OK		

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (1/s)	Half Drain Time (mins)	Pipe Flow (1/s)	Status	Level Exceeded
		Depth (m)	Volume (m ³)						
S30.000	SPP40	0.210	0.000	0.08			0.3	SURCHARGED	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S30.001	SFC40	960 Winter	30	+0%	2/120	Summer			81.791
S26.007	S91	30 Summer	30	+0%					80.644
S31.000	SPP39	480 Winter	30	+0%	2/30	Summer			81.956
S31.001	SFC39	480 Winter	30	+0%	2/15	Summer			82.001
S1.020	SSW34	30 Summer	30	+0%					80.641
S1.021	S53	30 Summer	30	+0%					80.590
S32.000	SPP47	960 Winter	30	+0%	2/240	Summer			81.663
S32.001	SFC47	960 Winter	30	+0%	2/240	Summer			81.707
S1.022	S96	30 Summer	30	+0%					80.527
S1.023	S53	30 Summer	30	+0%					80.479
S33.000	SPP55	960 Winter	30	+0%	2/240	Summer			81.671
S33.001	SFC55	960 Winter	30	+0%	2/60	Summer			81.716
S1.024	S100	30 Summer	30	+0%					80.411
S34.000	SPP46	960 Winter	30	+0%	2/360	Summer			81.655
S34.001	SFC46	960 Winter	30	+0%	2/15	Summer			81.714
S1.025	SSW35	30 Summer	30	+0%					80.360
S35.000	SPP61	960 Winter	30	+0%	2/240	Summer			81.586
S35.001	SFC61	1440 Winter	30	+0%	2/240	Summer			81.625
S1.026	SSW36	30 Summer	30	+0%					80.297
S36.000	SPP44	480 Winter	30	+0%	30/60	Summer			81.747
S36.001	SFC44	15 Summer	30	+0%	2/15	Summer			81.830
S37.000	SHE-SW-14	15 Summer	30	+0%					82.031
S36.002	SHE-SW-15	15 Summer	30	+0%	100/15	Summer			81.082
S38.000	SPP45	960 Winter	30	+0%	30/60	Summer			81.688
S38.001	SFC45	960 Summer	30	+0%	2/15	Summer			81.734
S36.003	S145	15 Summer	30	+0%	100/15	Summer			80.934
S39.000	SPP60	120 Winter	30	+0%	30/30	Summer			81.648
S39.001	SFC60	120 Summer	30	+0%	2/15	Summer			81.677
S36.004	S146	15 Summer	30	+0%					80.781
S40.000	SSW11	15 Summer	30	+0%	100/15	Summer			80.923
S40.001	SSW12	15 Summer	30	+0%	100/15	Summer			80.849
S40.002	SSW13	15 Summer	30	+0%	30/15	Summer			80.813
S41.000	STANK 3	120 Winter	30	+0%	30/15	Summer			80.819
S41.001	SHB 3	120 Summer	30	+0%	2/15	Summer			80.906
S40.003	S148	15 Summer	30	+0%					80.514
S42.000	SPP67	480 Winter	30	+0%	2/240	Summer			81.678
S42.001	SFC67	480 Winter	30	+0%	2/15	Summer			81.720
S40.004	S148	15 Summer	30	+0%	30/15	Summer			80.584
S40.005	SSW15	15 Summer	30	+0%	100/15	Summer			80.486
S43.000	SPP68	480 Winter	30	+0%	2/240	Summer			81.671
S43.001	SFC68	480 Winter	30	+0%	2/15	Summer			81.709
S40.006	S150	15 Summer	30	+0%	100/15	Summer			80.437
S44.000	SPP69	480 Winter	30	+0%	30/120	Summer			81.749
S44.001	SFC69	480 Winter	30	+0%	2/15	Summer			81.749
S40.007	S151	15 Summer	30	+0%	30/15	Summer			80.412
S40.008	SSW16	15 Summer	30	+0%	100/15	Summer			80.175
S45.000	SPP66	960 Winter	30	+0%	2/360	Summer			81.818
S45.001	SFC66	960 Winter	30	+0%	2/15	Summer			81.861
S46.000	SPP65	480 Winter	30	+0%	30/120	Summer			81.896
S46.001	SFC65	480 Winter	30	+0%	2/15	Summer			81.925
S47.000	STANK 2	240 Winter	30	+0%	30/15	Summer			80.495
S47.001	SHB 2	240 Winter	30	+0%	2/120	Summer			80.501
S40.009	SSW17	15 Summer	30	+0%	100/15	Summer			79.946
S48.000	SFEC-SW-20	15 Summer	30	+0%	100/15	Summer			81.700
S48.001	SFEC-SW-21	15 Summer	30	+0%	100/15	Summer			81.472
S48.002	SFEC-SW-22	15 Summer	30	+0%	100/15	Summer			81.349
S48.003	SFEC-SW-23	15 Summer	30	+0%	100/15	Summer			81.269

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (1/s)	Half Drain Pipe		Status	Level Exceeded
		Depth (m)	Volume (m ³)			Time (mins)	Flow (l/s)		
S30.001	SFC40	0.266	0.000	0.01			0.2	SURCHARGED	
S26.007	S91	-0.114	0.000	0.06			0.9	OK*	
S31.000	SPP39	0.281	0.000	0.04			0.2	SURCHARGED	
S31.001	SFC39	0.526	0.000	0.01			0.1	SURCHARGED	
S1.020	SSW34	-0.090	0.000	0.67			23.4	OK	
S1.021	S53	-0.078	0.000	0.76			23.4	OK*	
S32.000	SPP47	0.213	0.000	0.08			0.3	SURCHARGED	
S32.001	SFC47	0.257	0.000	0.01			0.2	SURCHARGED	
S1.022	S96	-0.093	0.000	0.65			23.5	OK*	
S1.023	S53	-0.075	0.000	0.78			23.5	OK*	
S33.000	SPP55	0.211	0.000	0.07			0.3	SURCHARGED	
S33.001	SFC55	0.286	0.000	0.01			0.2	SURCHARGED	
S1.024	S100	-0.097	0.000	0.61			23.6	OK*	
S34.000	SPP46	0.135	0.000	0.05			0.3	SURCHARGED	
S34.001	SFC46	0.359	0.000	0.01			0.1	SURCHARGED	
S1.025	SSW35	-0.074	0.000	0.79			23.7	OK	
S35.000	SPP61	0.216	0.000	0.08			0.3	SURCHARGED	
S35.001	SFC61	0.255	0.000	0.03			0.2	SURCHARGED	
S1.026	SSW36	-0.091	0.000	0.66			23.8	OK	
S36.000	SPP44	0.077	0.000	0.01			0.1	SURCHARGED	
S36.001	SFC44	0.410	0.000	0.01			0.1	SURCHARGED	
S37.000	SHE-SW-14	-0.169	0.000	0.39			50.5	OK	
S36.002	SHE-SW-15	-0.118	0.000	0.66			49.7	OK	
S38.000	SPP45	0.093	0.000	0.03			0.2	SURCHARGED	
S38.001	SFC45	0.364	0.000	0.00			0.1	SURCHARGED	
S36.003	S145	-0.091	0.000	0.83			50.7	OK*	
S39.000	SPP60	0.038	0.000	0.05		138	0.3	SURCHARGED	
S39.001	SFC60	0.307	0.000	0.01			0.1	SURCHARGED	
S36.004	S146	-0.184	0.000	0.32			50.8	OK*	
S40.000	SSW11	-0.177	0.000	0.35			28.7	OK	
S40.001	SSW12	-0.071	0.000	0.50			39.3	OK	
S40.002	SSW13	0.032	0.000	0.70			59.1	SURCHARGED	
S41.000	STANK 3	0.169	0.000	0.08		147	4.7	SURCHARGED	
S41.001	SHB 3	0.474	0.000	0.39			1.9	SURCHARGED	
S40.003	S148	0.000	0.000	0.96			81.3	SURCHARGED*	
S42.000	SPP67	0.138	0.000	0.07			0.4	SURCHARGED	
S42.001	SFC67	0.370	0.000	0.01			0.3	SURCHARGED	
S40.004	S148	0.185	0.000	1.37			83.9	SURCHARGED*	
S40.005	SSW15	-0.033	0.000	0.85			143.7	OK	
S43.000	SPP68	0.156	0.000	0.08			0.5	SURCHARGED	
S43.001	SFC68	0.359	0.000	0.02			0.3	SURCHARGED	
S40.006	S150	-0.003	0.000	0.85			144.1	OK*	
S44.000	SPP69	0.039	0.000	0.05			0.3	SURCHARGED	
S44.001	SFC69	0.299	0.000	0.00			0.1	SURCHARGED	
S40.007	S151	0.016	0.000	1.14			202.9	SURCHARGED*	
S40.008	SSW16	-0.271	0.000	0.55			207.0	OK	
S45.000	SPP66	0.128	0.000	0.04			0.3	SURCHARGED	
S45.001	SFC66	0.361	0.000	0.03			0.1	SURCHARGED	
S46.000	SPP65	0.036	0.000	0.03		860	0.2	SURCHARGED	
S46.001	SFC65	0.325	0.000	0.01			0.1	SURCHARGED	
S47.000	STANK 2	0.270	0.000	0.07		266	2.3	SURCHARGED	
S47.001	SHB 2	0.326	0.000	0.06			1.9	SURCHARGED	
S40.009	SSW17	-0.209	0.000	0.56			195.3	OK	
S48.000	SFEC-SW-20	-0.175	0.000	0.56			95.5	OK	
S48.001	SFEC-SW-21	-0.153	0.000	0.65			108.5	OK	
S48.002	SFEC-SW-22	-0.151	0.000	0.76			135.0	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Cap.	(l/s)	Time (mins)	Flow (l/s)		
S48.003	SFEC-SW-23	-0.131	0.000	0.45			155.0	OK	

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PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S49.000	SFEC-SW-18	15 Summer	30	+0%					81.596
S49.001	SFEC-SW-19	15 Summer	30	+0%					81.392
S50.000	SFEC-SW-15	15 Summer	30	+0%	100/15 Summer				81.630
S50.001	SFEC-SW-16	15 Summer	30	+0%	100/15 Summer				81.573
S50.002	SFEC-SW-17	15 Summer	30	+0%	100/15 Summer				81.398
S48.004	SFEC-SW-24	15 Summer	30	+0%	100/15 Summer				81.201
S48.005	SFEC-SW-25	15 Summer	30	+0%	100/15 Summer				80.520
S48.006	SFEC-SW-26	15 Summer	30	+0%					80.191
S40.010	SSW18	15 Summer	30	+0%	100/15 Summer				79.867
S40.011	SSW19	15 Summer	30	+0%	100/15 Summer				79.798
S51.000	SHE-SW-16	15 Summer	30	+0%	30/15 Summer				80.429
S51.001	SHE-SW-17	15 Summer	30	+0%	30/15 Summer				79.798
S40.012	S154	15 Summer	30	+0%					79.735
S52.000	SPP31	15 Summer	30	+0%					81.900
S52.001	SFC31	15 Summer	30	+0%					81.900
S52.002	SSwale In 1	960 Winter	30	+0%					81.833
S52.003	SSwale 2	960 Winter	30	+0%					81.833
S52.004	SSwale in 3	960 Winter	30	+0%					81.833
S52.005	SSwale 4	960 Winter	30	+0%					81.833
S53.000	SSW PUMP OUTFALL	960 Winter	30	+0%					81.833
S52.006	SSwale in 5	960 Winter	30	+0%					81.833
S52.007	SSwale 6	960 Winter	30	+0%					81.833
S52.008	SSwale in 7	960 Winter	30	+0%					81.833
S52.009	SSwale out	960 Winter	30	+0%	2/120 Summer				81.839
S52.010	SSWALE FC70	15 Summer	30	+0%					81.575
S40.013	SSW20	15 Summer	30	+0%	100/15 Summer				79.709
S54.000	SPP53	480 Winter	30	+0%	2/240 Summer				81.678
S54.001	SFC53	480 Winter	30	+0%	2/120 Summer				81.714
S55.000	SPP57	480 Winter	30	+0%	30/60 Summer				81.812
S55.001	SFC57	960 Winter	30	+0%	2/15 Summer				81.856
S54.002	S170	480 Summer	30	+0%					80.979
S40.014	S167	30 Summer	30	+0%					79.435
S36.005	SSW22	30 Summer	30	+0%	100/15 Summer				79.285
S56.000	SPP48	480 Winter	30	+0%	2/120 Summer				81.759
S56.001	SFC48	480 Winter	30	+0%	2/120 Summer				81.793
S57.000	SPP50	240 Winter	30	+0%	30/30 Summer				81.708
S57.001	SFC50	240 Winter	30	+0%	2/15 Summer				81.750
S56.002	SSW36	480 Winter	30	+0%					81.025
S58.000	Spp56	960 Winter	30	+0%	2/120 Summer				81.681
S58.001	SFC56	960 Winter	30	+0%	2/120 Summer				81.719
S56.003	S187	480 Winter	30	+0%					80.882
S59.000	SPP59	960 Winter	30	+0%	30/60 Summer				81.683
S59.001	SFC59	960 Winter	30	+0%	2/15 Summer				81.729
S60.000	SPP63	960 Winter	30	+0%	30/60 Summer				81.620
S60.001	SFC63	960 Winter	30	+0%	2/15 Summer				81.665
S61.000	SPP62	480 Winter	30	+0%	30/60 Summer				81.668
S61.001	SFC62	480 Winter	30	+0%	2/15 Summer				81.708
S56.004	SSW37	480 Winter	30	+0%					80.724
S62.000	SPP64	960 Winter	30	+0%	2/240 Summer				81.523
S62.001	SFC64	960 Winter	30	+0%	2/15 Summer				81.553
S63.000	SFEC-SW-06	15 Summer	30	+0%	100/15 Summer				81.811
S63.001	SFEC-SW-07	15 Summer	30	+0%	100/15 Summer				81.780
S63.002	SFEC-SW-08	15 Summer	30	+0%	100/15 Summer				81.494
S63.003	SFEC-SW-09	15 Summer	30	+0%	100/15 Summer				81.203
S64.000	SFEC-SW-10	15 Summer	30	+0%	100/15 Summer				81.922
S64.001	SFEC-SW-12	15 Summer	30	+0%	100/15 Summer				81.658
S63.004	SFEC-SW-13	15 Summer	30	+0%	100/15 Summer				81.110

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		Depth (m)	Volume (m ³)			Time (mins)	Flow (l/s)		
S49.000	SFEC-SW-18	-0.129	0.000	0.38			20.3	OK	
S49.001	SFEC-SW-19	-0.208	0.000	0.21			33.7	OK	
S50.000	SFEC-SW-15	-0.095	0.000	0.64			28.3	OK	
S50.001	SFEC-SW-16	-0.127	0.000	0.63			57.8	OK	
S50.002	SFEC-SW-17	-0.152	0.000	0.48			74.9	OK	
S48.004	SFEC-SW-24	-0.169	0.000	0.85			260.2	OK	
S48.005	SFEC-SW-25	0.000	0.000	1.19			261.3	OK	
S48.006	SFEC-SW-26	-0.309	0.000	0.48			261.5	OK	
S40.010	SSW18	-0.272	0.000	0.70			397.3	OK	
S40.011	SSW19	-0.226	0.000	0.61			370.6	OK	
S51.000	SHE-SW-16	0.404	0.000	1.13			56.5	SURCHARGED	
S51.001	SHE-SW-17	0.320	0.000	1.10			52.1	SURCHARGED	
S40.012	S154	-0.101	0.000	0.60			363.6	OK*	
S52.000	SPP31	-0.100	0.000	0.00			0.0	OK	
S52.001	SFC31	-0.100	0.000	0.00			0.0	OK	
S52.002	SSwale In 1	-0.667	0.000	0.00			1.4	OK	
S52.003	SSwale 2	-0.667	0.000	0.00			7.3	OK	
S52.004	SSwale in 3	-0.667	0.000	0.00			5.5	OK	
S52.005	SSwale 4	-0.667	0.000	0.00			7.2	OK	
S53.000	SSW PUMP OUTFALL	-0.267	0.000	0.00			0.0	OK	
S52.006	SSwale in 5	-0.667	0.000	0.00			8.1	OK	
S52.007	SSwale 6	-0.667	0.000	0.00			6.7	OK	
S52.008	SSwale in 7	-0.667	0.000	0.00			1.0	OK	
S52.009	SSwale out	0.189	0.000	0.03			0.5	SURCHARGED*	
S52.010	SSWALE FC70	0.000	0.000	0.01			0.2	SURCHARGED*	
S40.013	SSW20	-0.075	0.000	1.00			356.7	OK	
S54.000	SPP53	0.188	0.000	0.07			0.3	SURCHARGED	
S54.001	SFC53	0.239	0.000	0.02			0.2	SURCHARGED	
S55.000	SPP57	0.067	0.000	0.03			0.2	SURCHARGED	
S55.001	SFC57	0.376	0.000	0.01			0.1	SURCHARGED	
S54.002	S170	-0.095	0.000	0.01			0.2	OK*	
S40.014	S167	-0.337	0.000	0.56			356.4	OK*	
S36.005	SSW22	-0.323	0.000	0.62			374.5	OK	
S56.000	SPP48	0.209	0.000	0.15		911	0.6	SURCHARGED	
S56.001	SFC48	0.243	0.000	0.04			0.5	SURCHARGED	
S57.000	SPP50	0.063	0.000	0.05		421	0.3	SURCHARGED	
S57.001	SFC50	0.470	0.000	0.02			0.2	SURCHARGED	
S56.002	SSW36	-0.075	0.000	0.14			0.6	OK	
S58.000	Spp56	0.251	0.000	0.08			0.3	SURCHARGED	
S58.001	SFC56	0.289	0.000	0.01			0.2	SURCHARGED	
S56.003	S187	-0.076	0.000	0.13			0.8	OK*	
S59.000	SPP59	0.088	0.000	0.04			0.2	SURCHARGED	
S59.001	SFC59	0.359	0.000	0.01			0.1	SURCHARGED	
S60.000	SPP63	0.075	0.000	0.03			0.2	SURCHARGED	
S60.001	SFC63	0.365	0.000	0.00			0.1	SURCHARGED	
S61.000	SPP62	0.058	0.000	0.04			0.3	SURCHARGED	
S61.001	SFC62	0.368	0.000	0.03			0.1	SURCHARGED	
S56.004	SSW37	-0.072	0.000	0.18			1.1	OK	
S62.000	SPP64	0.163	0.000	0.27			1.4	SURCHARGED	
S62.001	SFC64	0.453	0.000	0.05			1.2	SURCHARGED	
S63.000	SFEC-SW-06	-0.289	0.000	0.21			66.7	OK	
S63.001	SFEC-SW-07	-0.206	0.000	0.57			159.6	OK	
S63.002	SFEC-SW-08	-0.176	0.000	0.66			170.0	OK	
S63.003	SFEC-SW-09	-0.185	0.000	0.73			197.7	OK	
S64.000	SFEC-SW-10	-0.103	0.000	0.57			29.3	OK	
S64.001	SFEC-SW-12	-0.067	0.000	0.83			44.2	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Cap.	(l/s)	Time (mins)	Flow (l/s)		
S63.004	SFEC-SW-13	-0.155	0.000	0.68			255.2	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S63.005	SFEC-SW-14	15 Summer	30	+0%	100/15 Summer				81.006
S63.006	SSW05	15 Summer	30	+0%	100/15 Summer				80.792
S65.000	SFEC-SW-01	15 Summer	30	+0%	100/15 Summer				81.710
S65.001	SFEC-SW-02	15 Summer	30	+0%	100/15 Summer				81.651
S66.000	SHW-SW-01	15 Summer	30	+0%	100/15 Summer				81.735
S66.001	SHW-SW-02	15 Summer	30	+0%	100/15 Summer				81.606
S67.000	SHW-SW-03	15 Summer	30	+0%	100/15 Summer				81.671
S65.002	SFEC-SW-03	15 Summer	30	+0%	100/15 Summer				81.571
S68.000	SFEC-SW-04	15 Summer	30	+0%	100/15 Summer				81.852
S65.003	SFEC-SW-05	15 Summer	30	+0%	100/15 Summer				81.437
S65.004	SSW01	15 Summer	30	+0%	100/15 Summer				81.258
S65.005	SSW02	15 Summer	30	+0%	100/15 Summer				80.863
S65.006	SSW03	15 Summer	30	+0%	100/15 Summer				80.792
S69.000	SHW-SW-04	120 Winter	30	+0%	100/15 Summer				82.005
S69.001	SSWALE2 IN	120 Winter	30	+0%					82.005
S69.002	SSWALE 2 FC	120 Winter	30	+0%	2/15 Summer				82.005
S65.007	SSW04	15 Summer	30	+0%	100/15 Summer				80.770
S70.000	SHW-SW-09	15 Summer	30	+0%					81.970
S71.000	SHW-SW-05	15 Summer	30	+0%					81.980
S71.001	SHW-SW-06	15 Summer	30	+0%					81.831
S72.000	SHW-SW-07	15 Summer	30	+0%	100/15 Summer				81.982
S73.000	SHW-SW-08	15 Summer	30	+0%					81.972
S74.000	SHW-SW-10	15 Summer	30	+0%	100/15 Summer				82.048
S70.001	SBASIN 1	960 Winter	30	+0%	100/120 Summer				81.617
S70.002	SBASIN 1 OUT	30 Summer	30	+0%	2/15 Summer				81.681
S65.008	S238	15 Summer	30	+0%	30/15 Summer				80.700
S63.007	SSW06	15 Summer	30	+0%	30/15 Summer				80.666
S75.000	SHE-SW-01	15 Summer	30	+0%					81.743
S75.001	SSW07	15 Summer	30	+0%					81.187
S76.000	SFEATURE POND	960 Winter	30	+0%	30/360 Summer				82.107
S76.001	SFP FC	960 Winter	30	+0%	2/15 Summer				82.105
S63.008	SSW08	15 Summer	30	+0%	100/15 Summer				80.331
S63.009	SSW09	15 Summer	30	+0%	100/15 Summer				80.200
S77.000	SHE-SW-10	15 Summer	30	+0%					81.984
S77.001	SHE-SW-11	240 Winter	30	+0%	30/240 Summer				81.849
S78.000	SHE-SW-03	15 Summer	30	+0%	100/15 Summer				82.038
S78.001	SHE-SW-04	240 Winter	30	+0%	100/15 Summer				81.849
S79.000	SHE-SW-02	15 Summer	30	+0%	100/15 Summer				82.022
S80.000	SHW-SW-06	15 Summer	30	+0%					81.984
S81.000	SHE-SW-05	15 Summer	30	+0%					81.970
S80.001	SHE-SW-07	15 Summer	30	+0%	100/120 Summer				81.941
S82.000	SHE-SW-08	15 Summer	30	+0%					81.993
S82.001	SHE-SW-09	15 Summer	30	+0%	100/15 Summer				81.867
S77.002	SBASIN 2	240 Winter	30	+0%	30/30 Summer				81.849
S77.003	SBASIN 2 OUT	240 Winter	30	+0%	2/15 Summer	30/240 Summer			82.466
S77.004	SHE-SW-12	15 Summer	30	+0%					81.002
S77.005	SHE-SW-13	15 Summer	30	+0%					80.937
S63.010	S241	30 Summer	30	+0%	100/15 Summer				80.045
S63.011	SSW10	15 Summer	30	+0%					79.800
S1.027	STANK	480 Summer	30	+0%	30/60 Summer				79.249
S1.028	SFC71	480 Summer	30	+0%	30/30 Summer				79.289

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m ³)						
S63.005	SFEC-SW-14	-0.019	0.000	1.00			248.6	OK	
S63.006	SSW05	-0.153	0.000	0.80			236.9	OK	
S65.000	SFEC-SW-01	-0.115	0.000	0.48			21.4	OK	
S65.001	SFEC-SW-02	-0.149	0.000	0.50			56.7	OK	
S66.000	SHW-SW-01	-0.090	0.000	0.67			32.0	OK	
S66.001	SHW-SW-02	-0.041	0.000	0.42			39.1	OK	
S67.000	SHW-SW-03	-0.079	0.000	0.45			11.8	OK	
S65.002	SFEC-SW-03	-0.003	0.000	1.01			114.5	OK	
S68.000	SFEC-SW-04	-0.148	0.000	0.51			51.3	OK	
S65.003	SFEC-SW-05	-0.128	0.000	0.85			171.9	OK	
S65.004	SSW01	-0.196	0.000	0.66			210.7	OK	
S65.005	SSW02	-0.162	0.000	0.79			200.5	OK	
S65.006	SSW03	-0.028	0.000	0.89			170.9	OK	
S69.000	SHW-SW-04	-0.020	0.000	0.09			2.9	OK	
S69.001	SSWALE2 IN	-0.495	0.000	0.00			12.1	OK	
S69.002	SSWALE 2 FC	0.405	0.000	0.43			2.4	SURCHARGED	
S65.007	SSW04	-0.020	0.000	0.67			165.3	OK	
S70.000	SHW-SW-09	-0.080	0.000	0.45			7.5	OK	
S71.000	SHW-SW-05	-0.145	0.000	0.28			12.8	OK	
S71.001	SHW-SW-06	-0.130	0.000	0.37			17.1	OK	
S72.000	SHW-SW-07	-0.068	0.000	0.58			9.6	OK	
S73.000	SHW-SW-08	-0.078	0.000	0.47			8.0	OK	
S74.000	SHW-SW-10	-0.077	0.000	0.76			36.8	OK	
S70.001	SBASIN 1	-0.033	0.000	0.02			0.4	OK	
S70.002	SBASIN 1 OUT	0.338	0.000	0.02			0.3	SURCHARGED	
S65.008	S238	0.061	0.000	0.69			172.5	SURCHARGED*	
S63.007	SSW06	0.101	0.000	1.19			312.4	SURCHARGED	
S75.000	SHE-SW-01	-0.157	0.000	0.45			47.4	OK	
S75.001	SSW07	-0.157	0.000	0.46			47.4	OK	
S76.000	SFEATURE POND	0.007	0.000	0.07			0.8	FLOOD RISK	
S76.001	SFP FC	1.205	0.000	0.08			0.5	FLOOD RISK	
S63.008	SSW08	-0.068	0.000	1.00			307.1	OK	
S63.009	SSW09	-0.123	0.000	0.99			307.0	OK	
S77.000	SHE-SW-10	-0.141	0.000	0.30			14.4	OK	
S77.001	SHE-SW-11	0.008	0.000	0.06			2.3	SURCHARGED	
S78.000	SHE-SW-03	-0.087	0.000	0.65			24.1	OK	
S78.001	SHE-SW-04	-0.013	0.000	0.09			4.0	OK	
S79.000	SHE-SW-02	-0.103	0.000	0.57			30.8	OK	
S80.000	SHW-SW-06	-0.141	0.000	0.30			12.3	OK	
S81.000	SHE-SW-05	-0.155	0.000	0.21			8.6	OK	
S80.001	SHE-SW-07	-0.101	0.000	0.59			28.2	OK	
S82.000	SHE-SW-08	-0.132	0.000	0.36			16.6	OK	
S82.001	SHE-SW-09	-0.096	0.000	0.62			27.3	OK	
S77.002	SBASIN 2	0.124	0.000	0.14			6.8	SURCHARGED	
S77.003	SBASIN 2 OUT	0.997	0.005	0.06			3.0	FLOOD	16
S77.004	SHE-SW-12	-0.158	0.000	0.19			6.1	OK	
S77.005	SHE-SW-13	-0.173	0.000	0.12			6.0	OK	
S63.010	S241	-0.199	0.000	0.78			309.0	OK*	
S63.011	SSW10	-0.234	0.000	0.69			308.8	OK	
S1.027	STANK	0.217	0.000	0.46		715	28.4	SURCHARGED	
S1.028	SFC71	0.310	0.000	0.37			27.2	SURCHARGED	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 60 Number of Storage Structures 58 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Point
 FEH Rainfall Version 2013 Cv (Summer) 1.000
 Site Location GB 455061 221552 SP 55061 21552 Cv (Winter) 1.000

Margin for Flood Risk Warning (mm) 300.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status ON
 DVD Status OFF
 Inertia Status OFF

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 2, 30, 100
 Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S1.000	SPP05	480 Winter	100	+40%	30/240 Summer				83.347	0.137
S1.001	SFC05	480 Winter	100	+40%	2/15 Summer				83.389	0.569
S2.000	SPP04	480 Winter	100	+40%	100/120 Summer				83.332	0.042
S2.001	SFC04	480 Winter	100	+40%	2/30 Summer				83.374	0.474
S3.000	SPP06	480 Winter	100	+40%	30/240 Summer				83.246	0.136
S3.001	SFC06	480 Winter	100	+40%	2/15 Summer				83.285	0.565
S1.002	SSW23	480 Winter	100	+40%					82.204	-0.086
S4.000	SPP10	960 Winter	100	+40%	30/60 Summer				83.097	0.242
S4.001	SFC10	960 Winter	100	+40%	2/15 Summer				83.136	0.506
S5.000	SPP08	480 Winter	100	+40%	2/240 Summer				82.937	0.367
S5.001	SFC08	480 Winter	100	+40%	2/120 Summer				82.979	0.429
S4.002	S13	480 Winter	100	+40%					82.199	-0.088
S1.003	SSW24	480 Winter	100	+40%					81.969	-0.077
S6.000	SPP03	480 Winter	100	+40%	2/360 Summer				82.863	0.293
S6.001	SFC03	480 Winter	100	+40%	2/15 Summer				82.898	0.598
S1.004	S7	480 Winter	100	+40%					81.926	-0.073
S7.000	SPP11	960 Winter	100	+40%	2/240 Summer				82.895	0.395
S7.001	SFC11	960 Winter	100	+40%	2/15 Summer				82.939	0.539
S1.005	S7	480 Winter	100	+40%					81.824	-0.070
S8.000	SPP14	960 Winter	100	+40%	30/60 Summer				82.559	0.224
S8.001	SFC14	960 Winter	100	+40%	2/15 Summer				82.605	0.520
S1.006	S6	480 Winter	100	+40%					81.720	-0.069
S9.000	SPP16	960 Winter	100	+40%	2/240 Summer				82.721	0.401
S9.001	SFC16	960 Winter	100	+40%	2/30 Summer				82.761	0.501
S1.007	SSW25	480 Winter	100	+40%					81.659	-0.067
S10.000	SPP17	960 Winter	100	+40%	30/30 Summer				82.377	0.277

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Flooded		Half Drain Pipe		Status	Level Exceeded
		Volume (m ³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)		
S1.000	SPP05	0.000	0.04	823	0.2	SURCHARGED	
S1.001	SFC05	0.000	0.01		0.1	SURCHARGED	
S2.000	SPP04	0.000	0.03	868	0.2	SURCHARGED	
S2.001	SFC04	0.000	0.01		0.1	SURCHARGED	
S3.000	SPP06	0.000	0.03	819	0.2	SURCHARGED	
S3.001	SFC06	0.000	0.01		0.1	SURCHARGED	
S1.002	SSW23	0.000	0.05		0.2	OK	
S4.000	SPP10	0.000	0.05		0.3	SURCHARGED	
S4.001	SFC10	0.000	0.03		0.2	SURCHARGED	
S5.000	SPP08	0.000	0.09		0.4	SURCHARGED	
S5.001	SFC08	0.000	0.02		0.2	SURCHARGED	
S4.002	S13	0.000	0.03		0.4	OK*	
S1.003	SSW24	0.000	0.12		0.6	OK	
S6.000	SPP03	0.000	0.08		0.5	SURCHARGED	
S6.001	SFC03	0.000	0.04		0.4	SURCHARGED	
S1.004	S7	0.000	0.17		1.0	OK*	
S7.000	SPP11	0.000	0.03		0.3	SURCHARGED	
S7.001	SFC11	0.000	0.01		0.2	SURCHARGED	
S1.005	S7	0.000	0.20		1.2	OK*	
S8.000	SPP14	0.000	0.04		0.2	SURCHARGED	
S8.001	SFC14	0.000	0.01		0.1	SURCHARGED	
S1.006	S6	0.000	0.21		1.3	OK*	
S9.000	SPP16	0.000	0.04		0.3	SURCHARGED	
S9.001	SFC16	0.000	0.01		0.2	SURCHARGED	
S1.007	SSW25	0.000	0.24		1.4	OK	
S10.000	SPP17	0.000	0.06		0.4	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S10.001	SFC17	960 Winter	100	+40%	2/15 Summer				82.435
S1.008	S17	480 Winter	100	+40%					81.506
S11.000	SPP01	480 Winter	100	+40%	2/240 Summer				82.569
S11.001	SFC01	480 Winter	100	+40%	2/15 Summer				82.624
S12.000	SPP02	960 Winter	100	+40%	30/30 Summer				82.740
S12.001	SFC02	960 Winter	100	+40%	2/15 Summer				82.780
S11.002	SSW26	480 Winter	100	+40%					81.668
S13.000	SPP13	240 Winter	100	+40%	30/240 Summer				82.513
S13.001	SFC13	240 Winter	100	+40%	2/15 Summer				82.549
S11.003	S27	480 Winter	100	+40%					81.469
S1.009	SSW27	480 Winter	100	+40%					81.424
S14.000	SPP12	480 Winter	100	+40%	30/30 Summer				82.143
S14.001	SFC12	480 Winter	100	+40%	2/15 Summer				82.186
S15.000	SPP18	960 Winter	100	+40%	30/60 Summer				82.661
S15.001	SFC18	960 Summer	100	+40%	2/15 Summer				82.698
S16.000	SPP19	960 Winter	100	+40%	30/120 Summer				82.277
S16.001	SFC19	960 Winter	100	+40%	2/15 Summer				82.324
S15.002	SSW28	960 Winter	100	+40%					81.261
S1.010	SSW29	480 Winter	100	+40%					81.240
S17.000	SPP20	960 Winter	100	+40%	30/60 Summer				82.107
S17.001	SFC20	960 Winter	100	+40%	2/15 Summer				82.149
S1.011	S25	120 Summer	100	+40%					81.134
S18.000	SPP21	1440 Winter	100	+40%	2/1440 Summer				82.165
S18.001	SFC21	1440 Winter	100	+40%	2/15 Summer				82.213
S19.000	SRAIN GARDEN	30 Summer	100	+40%	30/15 Summer				82.085
S19.001	SRG FC	30 Summer	100	+40%	30/15 Summer				82.077
S1.012	S27	120 Summer	100	+40%					81.111
S20.000	SPP26	960 Winter	100	+40%	30/60 Summer				82.183
S20.001	SFC26	960 Winter	100	+40%	2/15 Summer				82.230
S1.013	SSW30	120 Summer	100	+40%					81.020
S21.000	SPP28	960 Winter	100	+40%	2/960 Winter				82.167
S21.001	SFC28	960 Winter	100	+40%	2/15 Summer				82.226
S1.014	SSW31	120 Summer	100	+40%					80.956
S22.000	SPP30	960 Winter	100	+40%	30/240 Summer				82.100
S22.001	SFC30	960 Winter	100	+40%	2/15 Summer				82.144
S1.015	S66	120 Summer	100	+40%					80.894
S23.000	SPP32	960 Winter	100	+40%	2/240 Summer				82.045
S23.001	SFC32	960 Winter	100	+40%	2/15 Summer				82.104
S1.016	S45	120 Summer	100	+40%					80.841
S24.000	SPP35	960 Winter	100	+40%	30/30 Summer				82.082
S24.001	SFC35	960 Winter	100	+40%	2/15 Summer				82.126
S1.017	S70	120 Summer	100	+40%					80.796
S25.000	SPP34	960 Winter	100	+40%	30/240 Summer				81.968
S25.001	SFC34	960 Winter	100	+40%	2/15 Summer				82.273
S1.018	S46	120 Summer	100	+40%					80.759
S1.019	S47	120 Summer	100	+40%					80.708
S26.000	SPP27	360 Winter	100	+40%	30/240 Summer				82.764
S26.001	SFC27	360 Winter	100	+40%	2/15 Summer				82.805
S26.002	SSW32	360 Winter	100	+40%					81.607
S27.000	SPP31	960 Winter	100	+40%	2/120 Summer				82.465
S27.001	SFC31	960 Winter	100	+40%	2/120 Summer				82.501
S26.003	S80	480 Winter	100	+40%					81.530
S26.004	S56	480 Winter	100	+40%					81.443
S28.000	SPP36	960 Winter	100	+40%	2/120 Summer				82.309
S28.001	SFC36	960 Winter	100	+40%	2/120 Summer				82.364
S26.005	S84	960 Winter	100	+40%					81.345
S29.000	SPP41	480 Winter	100	+40%	2/120 Summer				82.128

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Half Drain		Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Time (mins)		
S10.001	SFC17	0.515	0.000	0.01			0.2	SURCHARGED
S1.008	S17	-0.065	0.000	0.26			1.6	OK*
S11.000	SPP01	0.309	0.000	0.08			0.5	SURCHARGED
S11.001	SFC01	0.524	0.000	0.03			0.4	SURCHARGED
S12.000	SPP02	0.300	0.000	0.03			0.2	SURCHARGED
S12.001	SFC02	0.610	0.000	0.01			0.1	FLOOD RISK
S11.002	SSW26	-0.082	0.000	0.07			0.4	OK
S13.000	SPP13	0.123	0.000	0.04		352	0.2	SURCHARGED
S13.001	SFC13	0.549	0.000	0.01			0.1	SURCHARGED
S11.003	S27	-0.081	0.000	0.08			0.5	OK*
S1.009	SSW27	-0.058	0.000	0.36			2.1	OK
S14.000	SPP12	0.263	0.000	0.08			0.5	SURCHARGED
S14.001	SFC12	0.536	0.000	0.02			0.4	SURCHARGED
S15.000	SPP18	0.261	0.000	0.05			0.3	SURCHARGED
S15.001	SFC18	0.498	0.000	0.03			0.2	SURCHARGED
S16.000	SPP19	0.207	0.000	0.04			0.2	SURCHARGED
S16.001	SFC19	0.524	0.000	0.00			0.1	SURCHARGED
S15.002	SSW28	-0.089	0.000	0.02			0.3	OK
S1.010	SSW29	-0.107	0.000	0.19			2.7	OK
S17.000	SPP20	0.267	0.000	0.06			0.4	SURCHARGED
S17.001	SFC20	0.499	0.000	0.01			0.3	SURCHARGED
S1.011	S25	-0.179	0.000	0.07			2.8	OK*
S18.000	SPP21	0.275	0.000	0.04			0.2	FLOOD RISK
S18.001	SFC21	0.713	0.000	0.01			0.1	FLOOD RISK
S19.000	SRRAIN GARDEN	0.660	0.000	0.74		18	22.1	SURCHARGED
S19.001	SRG FC	0.677	0.000	0.33			19.9	SURCHARGED
S1.012	S27	-0.108	0.000	0.53			22.6	OK*
S20.000	SPP26	0.238	0.000	0.03			0.2	SURCHARGED
S20.001	SFC26	0.605	0.000	0.02			0.1	FLOOD RISK
S1.013	SSW30	-0.095	0.000	0.63			22.7	OK
S21.000	SPP28	0.287	0.000	0.05			0.3	SURCHARGED
S21.001	SFC28	0.526	0.000	0.01			0.2	SURCHARGED
S1.014	SSW31	-0.081	0.000	0.73			22.8	OK
S22.000	SPP30	0.135	0.000	0.04			0.2	SURCHARGED
S22.001	SFC30	0.544	0.000	0.01			0.1	SURCHARGED
S1.015	S66	-0.094	0.000	0.64			22.9	OK*
S23.000	SPP32	0.340	0.000	0.05			0.3	SURCHARGED
S23.001	SFC32	0.519	0.000	0.01			0.2	SURCHARGED
S1.016	S45	-0.082	0.000	0.73			23.1	OK*
S24.000	SPP35	0.292	0.000	0.04			0.2	SURCHARGED
S24.001	SFC35	0.526	0.000	0.00			0.1	SURCHARGED
S1.017	S70	-0.076	0.000	0.77			23.1	OK*
S25.000	SPP34	0.178	0.000	0.08			1.1	SURCHARGED
S25.001	SFC34	0.773	0.000	0.01			0.2	FLOOD RISK
S1.018	S46	-0.075	0.000	0.78			23.3	OK*
S1.019	S47	-0.100	0.000	0.59			23.3	OK*
S26.000	SPP27	0.124	0.000	0.03		443	0.2	SURCHARGED
S26.001	SFC27	0.555	0.000	0.01			0.1	SURCHARGED
S26.002	SSW32	-0.093	0.000	0.01			0.1	OK
S27.000	SPP31	0.475	0.000	0.09			0.3	SURCHARGED
S27.001	SFC31	0.511	0.000	0.02			0.2	SURCHARGED
S26.003	S80	-0.085	0.000	0.05			0.3	OK*
S26.004	S56	-0.087	0.000	0.04			0.3	OK*
S28.000	SPP36	0.599	0.000	0.13			0.5	SURCHARGED
S28.001	SFC36	0.654	0.000	0.03			0.3	SURCHARGED
S26.005	S84	-0.075	0.000	0.14			0.6	OK*

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (1/s)	Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)			Time (mins)	Flow (1/s)		
S29.000	SPP41	0.498	0.000	0.20			0.8	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S29.001	SFC41	480 Summer	100	+40%	2/120 Summer				82.164
S26.006	SSW33	480 Winter	100	+40%					81.153
S30.000	SPP40	1440 Winter	100	+40%	2/240 Summer				82.016
S30.001	SFC40	960 Winter	100	+40%	2/120 Summer				82.063
S26.007	S91	120 Summer	100	+40%					80.650
S31.000	SPP39	960 Winter	100	+40%	2/30 Summer				82.118
S31.001	SFC39	960 Winter	100	+40%	2/15 Summer				82.163
S1.020	SSW34	120 Summer	100	+40%					80.646
S1.021	S53	120 Summer	100	+40%					80.596
S32.000	SPP47	1440 Winter	100	+40%	2/240 Summer				81.930
S32.001	SFC47	960 Winter	100	+40%	2/240 Summer				81.972
S1.022	S96	120 Summer	100	+40%					80.532
S1.023	S53	120 Summer	100	+40%					80.485
S33.000	SPP55	960 Winter	100	+40%	2/240 Summer				81.940
S33.001	SFC55	960 Winter	100	+40%	2/60 Summer				81.986
S1.024	S100	120 Summer	100	+40%					80.415
S34.000	SPP46	960 Winter	100	+40%	2/360 Summer				81.819
S34.001	SFC46	960 Winter	100	+40%	2/15 Summer				81.878
S1.025	SSW35	120 Summer	100	+40%					80.367
S35.000	SPP61	1440 Winter	100	+40%	2/240 Summer				81.856
S35.001	SFC61	1440 Winter	100	+40%	2/240 Summer				81.898
S1.026	SSW36	120 Summer	100	+40%					80.303
S36.000	SPP44	960 Winter	100	+40%	30/60 Summer				81.896
S36.001	SFC44	15 Summer	100	+40%	2/15 Summer				82.185
S37.000	SHE-SW-14	15 Summer	100	+40%					82.088
S36.002	SHE-SW-15	15 Summer	100	+40%	100/15 Summer				81.243
S38.000	SPP45	1440 Winter	100	+40%	30/60 Summer				81.837
S38.001	SFC45	1440 Winter	100	+40%	2/15 Summer				81.885
S36.003	S145	15 Summer	100	+40%	100/15 Summer				81.078
S39.000	SPP60	240 Winter	100	+40%	30/30 Summer				81.803
S39.001	SFC60	240 Winter	100	+40%	2/15 Summer				81.840
S36.004	S146	15 Summer	100	+40%					80.827
S40.000	SSW11	15 Summer	100	+40%	100/15 Summer				82.211
S40.001	SSW12	15 Summer	100	+40%	100/15 Summer				82.167
S40.002	SSW13	15 Summer	100	+40%	30/15 Summer				82.096
S41.000	STANK 3	240 Winter	100	+40%	30/15 Summer				81.325
S41.001	SHB 3	240 Winter	100	+40%	2/15 Summer				81.409
S40.003	S148	15 Summer	100	+40%					80.514
S42.000	SPP67	960 Winter	100	+40%	2/240 Summer				81.846
S42.001	SFC67	960 Winter	100	+40%	2/15 Summer				81.888
S40.004	S148	15 Summer	100	+40%	30/15 Summer				80.765
S40.005	SSW15	15 Summer	100	+40%	100/15 Summer				81.168
S43.000	SPP68	960 Winter	100	+40%	2/240 Summer				81.839
S43.001	SFC68	480 Summer	100	+40%	2/15 Summer				81.876
S40.006	S150	15 Summer	100	+40%	100/15 Summer				80.656
S44.000	SPP69	960 Winter	100	+40%	30/120 Summer				81.890
S44.001	SFC69	960 Winter	100	+40%	2/15 Summer				81.889
S40.007	S151	15 Summer	100	+40%	30/15 Summer				80.664
S40.008	SSW16	15 Summer	100	+40%	100/15 Summer				80.552
S45.000	SPP66	960 Winter	100	+40%	2/360 Summer				81.974
S45.001	SFC66	960 Winter	100	+40%	2/15 Summer				82.019
S46.000	SPP65	480 Winter	100	+40%	30/120 Summer				82.028
S46.001	SFC65	960 Winter	100	+40%	2/15 Summer				82.070
S47.000	STANK 2	240 Winter	100	+40%	30/15 Summer				80.999
S47.001	SHB 2	360 Winter	100	+40%	2/120 Summer				81.007
S40.009	SSW17	15 Summer	100	+40%	100/15 Summer				80.446
S48.000	SFEC-SW-20	15 Summer	100	+40%	100/15 Summer				82.276

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PN	US/MH Name	Surcharged		Flooded		Flow / Cap.	Overflow (1/s)	Half Drain Time (mins)	Pipe Flow (1/s)	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow	Overflow						
S29.001	SFC41	0.534	0.000	0.05					0.6	SURCHARGED	
S26.006	SSW33	-0.069	0.000	0.22					1.3	OK	
S30.000	SPP40	0.476	0.000	0.10					0.4	SURCHARGED	
S30.001	SFC40	0.538	0.000	0.01					0.2	SURCHARGED	
S26.007	S91	-0.108	0.000	0.09					1.4	OK*	
S31.000	SPP39	0.443	0.000	0.04					0.2	FLOOD RISK	
S31.001	SFC39	0.688	0.000	0.02					0.1	FLOOD RISK	
S1.020	SSW34	-0.085	0.000	0.70					24.6	OK	
S1.021	S53	-0.072	0.000	0.80					24.6	OK*	
S32.000	SPP47	0.480	0.000	0.09					0.4	SURCHARGED	
S32.001	SFC47	0.522	0.000	0.01					0.2	SURCHARGED	
S1.022	S96	-0.088	0.000	0.68					24.8	OK*	
S1.023	S53	-0.069	0.000	0.82					24.8	OK*	
S33.000	SPP55	0.480	0.000	0.07					0.4	SURCHARGED	
S33.001	SFC55	0.556	0.000	0.01					0.2	SURCHARGED	
S1.024	S100	-0.093	0.000	0.65					25.0	OK*	
S34.000	SPP46	0.299	0.000	0.05					0.3	SURCHARGED	
S34.001	SFC46	0.523	0.000	0.01					0.2	SURCHARGED	
S1.025	SSW35	-0.067	0.000	0.84					25.1	OK	
S35.000	SPP61	0.486	0.000	0.09					0.4	SURCHARGED	
S35.001	SFC61	0.528	0.000	0.04					0.2	SURCHARGED	
S1.026	SSW36	-0.085	0.000	0.70					25.3	OK	
S36.000	SPP44	0.226	0.000	0.01					0.1	SURCHARGED	
S36.001	SFC44	0.765	0.000	0.01					0.1	FLOOD RISK	
S37.000	SHE-SW-14	-0.112	0.000	0.70					90.7	OK	
S36.002	SHE-SW-15	0.043	0.000	1.18					89.4	SURCHARGED	
S38.000	SPP45	0.242	0.000	0.03					0.2	SURCHARGED	
S38.001	SFC45	0.515	0.000	0.00					0.1	SURCHARGED	
S36.003	S145	0.053	0.000	1.46					89.6	SURCHARGED*	
S39.000	SPP60	0.193	0.000	0.06			257		0.3	SURCHARGED	
S39.001	SFC60	0.470	0.000	0.01					0.2	SURCHARGED	
S36.004	S146	-0.138	0.000	0.56					89.0	OK*	
S40.000	SSW11	1.111	0.000	0.47					38.7	SURCHARGED	
S40.001	SSW12	1.247	0.000	0.73					58.1	SURCHARGED	
S40.002	SSW13	1.315	0.000	1.12					94.6	SURCHARGED	
S41.000	STANK 3	0.675	0.000	0.08			326		4.8	SURCHARGED	
S41.001	SHB 3	0.977	0.000	0.40					2.0	SURCHARGED	
S40.003	S148	0.000	0.000	1.57					133.2	SURCHARGED*	
S42.000	SPP67	0.306	0.000	0.07					0.5	SURCHARGED	
S42.001	SFC67	0.538	0.000	0.02					0.3	SURCHARGED	
S40.004	S148	0.366	0.000	2.20					134.8	SURCHARGED*	
S40.005	SSW15	0.649	0.000	1.44					243.8	SURCHARGED	
S43.000	SPP68	0.324	0.000	0.09					0.5	SURCHARGED	
S43.001	SFC68	0.526	0.000	0.02					0.4	SURCHARGED	
S40.006	S150	0.216	0.000	1.44					243.6	SURCHARGED*	
S44.000	SPP69	0.180	0.000	0.02					0.1	SURCHARGED	
S44.001	SFC69	0.439	0.000	0.00					0.1	SURCHARGED	
S40.007	S151	0.268	0.000	1.96					348.9	SURCHARGED*	
S40.008	SSW16	0.106	0.000	0.92					346.3	SURCHARGED	
S45.000	SPP66	0.284	0.000	0.05					0.3	SURCHARGED	
S45.001	SFC66	0.519	0.000	0.03					0.1	SURCHARGED	
S46.000	SPP65	0.168	0.000	0.03					0.2	SURCHARGED	
S46.001	SFC65	0.470	0.000	0.01					0.1	SURCHARGED	
S47.000	STANK 2	0.774	0.000	0.07			552		2.3	SURCHARGED	
S47.001	SHB 2	0.832	0.000	0.06					2.0	SURCHARGED	
S40.009	SSW17	0.291	0.000	0.86					297.3	SURCHARGED	

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PN	US/MH Name	Surcharged Flooded		Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Cap.	(l/s)	Time (mins)	Flow (l/s)		
S48.000	SFEC-SW-20	0.401	0.000	0.88			151.9	SURCHARGED	

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PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S48.001	SFEC-SW-21	15 Summer	100	+40%	100/15 Summer				82.063
S48.002	SFEC-SW-22	15 Summer	100	+40%	100/15 Summer				81.837
S48.003	SFEC-SW-23	15 Summer	100	+40%	100/15 Summer				81.681
S49.000	SFEC-SW-18	15 Summer	100	+40%					81.637
S49.001	SFEC-SW-19	15 Summer	100	+40%					81.543
S50.000	SFEC-SW-15	15 Summer	100	+40%	100/15 Summer				82.055
S50.001	SFEC-SW-16	15 Summer	100	+40%	100/15 Summer				81.944
S50.002	SFEC-SW-17	15 Summer	100	+40%	100/15 Summer				81.782
S48.004	SFEC-SW-24	15 Summer	100	+40%	100/15 Summer				81.475
S48.005	SFEC-SW-25	15 Summer	100	+40%	100/15 Summer				80.649
S48.006	SFEC-SW-26	15 Summer	100	+40%					80.418
S40.010	SSW18	15 Summer	100	+40%	100/15 Summer				80.354
S40.011	SSW19	15 Summer	100	+40%	100/15 Summer				80.257
S51.000	SHE-SW-16	15 Summer	100	+40%	30/15 Summer				82.328
S51.001	SHE-SW-17	15 Summer	100	+40%	30/15 Summer				80.519
S40.012	S154	15 Summer	100	+40%					79.836
S52.000	SPP31	1440 Summer	100	+40%					81.940
S52.001	SFC31	1440 Summer	100	+40%					81.940
S52.002	SSwale In 1	1440 Summer	100	+40%					81.940
S52.003	SSwale 2	1440 Summer	100	+40%					81.940
S52.004	SSwale in 3	1440 Summer	100	+40%					81.940
S52.005	SSwale 4	1440 Summer	100	+40%					81.940
S53.000	SSW PUMP OUTFALL	1440 Summer	100	+40%					81.940
S52.006	SSwale in 5	1440 Summer	100	+40%					81.940
S52.007	SSwale 6	1440 Summer	100	+40%					81.940
S52.008	SSwale in 7	1440 Summer	100	+40%					81.941
S52.009	SSwale out	1440 Summer	100	+40%	2/120 Summer				81.943
S52.010	SSWALE FC70	15 Summer	100	+40%					81.575
S40.013	SSW20	15 Summer	100	+40%	100/15 Summer				79.937
S54.000	SPP53	480 Winter	100	+40%	2/240 Summer				81.929
S54.001	SFC53	480 Winter	100	+40%	2/120 Summer				81.966
S55.000	SPP57	960 Winter	100	+40%	30/60 Summer				81.962
S55.001	SFC57	960 Winter	100	+40%	2/15 Summer				82.006
S54.002	S170	240 Summer	100	+40%					80.980
S40.014	S167	15 Summer	100	+40%					79.772
S36.005	SSW22	960 Winter	100	+40%	100/15 Summer				79.704
S56.000	SPP48	480 Winter	100	+40%	2/120 Summer				82.028
S56.001	SFC48	480 Winter	100	+40%	2/120 Summer				82.063
S57.000	SPP50	360 Winter	100	+40%	30/30 Summer				81.865
S57.001	SFC50	480 Winter	100	+40%	2/15 Summer				81.906
S56.002	SSW36	480 Winter	100	+40%					81.029
S58.000	Spp56	960 Winter	100	+40%	2/120 Summer				81.991
S58.001	SFC56	960 Winter	100	+40%	2/120 Summer				82.028
S56.003	S187	480 Winter	100	+40%					80.886
S59.000	SPP59	960 Winter	100	+40%	30/60 Summer				81.837
S59.001	SFC59	960 Winter	100	+40%	2/15 Summer				81.883
S60.000	SPP63	960 Winter	100	+40%	30/60 Summer				81.770
S60.001	SFC63	960 Summer	100	+40%	2/15 Summer				81.816
S61.000	SPP62	960 Winter	100	+40%	30/60 Summer				81.813
S61.001	SFC62	960 Winter	100	+40%	2/15 Summer				81.855
S56.004	SSW37	480 Winter	100	+40%					80.728
S62.000	SPP64	960 Winter	100	+40%	2/240 Summer				81.679
S62.001	SFC64	960 Winter	100	+40%	2/15 Summer				81.706
S63.000	SFEC-SW-06	15 Summer	100	+40%	100/15 Summer				82.358
S63.001	SFEC-SW-07	15 Summer	100	+40%	100/15 Summer				82.325
S63.002	SFEC-SW-08	15 Summer	100	+40%	100/15 Summer				82.128
S63.003	SFEC-SW-09	15 Summer	100	+40%	100/15 Summer				81.930

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SW19 1SD

2180501 Great Wolf, Bicester
SW Network Summary
and Results



Date 15/06/2022

Designed by HH

File 2180501-EWP-ZZ-XX-CA-C-0001.MDX


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Innovyze

Network 2020.1.3

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded			Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Time (mins)			Flow (l/s)			
S48.001	SFEC-SW-21	0.438	0.000	1.05			174.1	SURCHARGED		
S48.002	SFEC-SW-22	0.337	0.000	1.23			218.9	SURCHARGED		
S48.003	SFEC-SW-23	0.281	0.000	0.72			250.9	SURCHARGED		
S49.000	SFEC-SW-18	-0.088	0.000	0.69			36.4	OK		
S49.001	SFEC-SW-19	-0.057	0.000	0.35			56.5	OK		
S50.000	SFEC-SW-15	0.330	0.000	1.03			45.8	SURCHARGED		
S50.001	SFEC-SW-16	0.244	0.000	1.01			92.9	SURCHARGED		
S50.002	SFEC-SW-17	0.232	0.000	0.78			120.4	SURCHARGED		
S48.004	SFEC-SW-24	0.105	0.000	1.39			426.8	SURCHARGED		
S48.005	SFEC-SW-25	0.129	0.000	1.93			425.5	SURCHARGED		
S48.006	SFEC-SW-26	-0.082	0.000	0.77			421.9	OK		
S40.010	SSW18	0.215	0.000	1.11			626.2	SURCHARGED		
S40.011	SSW19	0.233	0.000	0.96			587.7	SURCHARGED		
S51.000	SHE-SW-16	2.303	0.000	1.83			91.4	FLOOD RISK		
S51.001	SHE-SW-17	1.041	0.000	1.96			92.9	SURCHARGED		
S40.012	S154	0.000	0.000	1.07			648.8	SURCHARGED*		
S52.000	SPP31	-0.060	0.000	0.00			0.0	OK		
S52.001	SFC31	-0.060	0.000	0.00			0.0	OK		
S52.002	SSwale In 1	-0.560	0.000	0.00			2.7	OK		
S52.003	SSwale 2	-0.560	0.000	0.00			7.3	OK		
S52.004	SSwale in 3	-0.560	0.000	0.00			5.8	OK		
S52.005	SSwale 4	-0.560	0.000	0.00			7.1	OK		
S53.000	SSW PUMP OUTFALL	-0.160	0.000	0.00			0.0	OK		
S52.006	SSwale in 5	-0.560	0.000	0.00			8.3	OK		
S52.007	SSwale 6	-0.560	0.000	0.00			6.8	OK		
S52.008	SSwale in 7	-0.559	0.000	0.00			1.3	OK		
S52.009	SSwale out	0.293	0.000	0.03			0.4	SURCHARGED*		
S52.010	SSWALE FC70	0.000	0.000	0.01			0.2	SURCHARGED*		
S40.013	SSW20	0.153	0.000	1.80			642.3	SURCHARGED		
S54.000	SPP53	0.439	0.000	0.09			0.3	SURCHARGED		
S54.001	SFC53	0.491	0.000	0.02			0.2	SURCHARGED		
S55.000	SPP57	0.217	0.000	0.03			0.2	SURCHARGED		
S55.001	SFC57	0.526	0.000	0.01			0.1	SURCHARGED		
S54.002	S170	-0.094	0.000	0.01			0.3	OK*		
S40.014	S167	0.000	0.000	0.99			630.3	SURCHARGED*		
S36.005	SSW22	0.096	0.000	0.10			61.2	SURCHARGED		
S56.000	SPP48	0.478	0.000	0.20			0.8	SURCHARGED		
S56.001	SFC48	0.513	0.000	0.05			0.6	SURCHARGED		
S57.000	SPP50	0.220	0.000	0.05		750	0.3	SURCHARGED		
S57.001	SFC50	0.626	0.000	0.03			0.2	SURCHARGED		
S56.002	SSW36	-0.071	0.000	0.18			0.8	OK		
S58.000	Spp56	0.561	0.000	0.09			0.4	SURCHARGED		
S58.001	SFC56	0.598	0.000	0.02			0.2	SURCHARGED		
S56.003	S187	-0.072	0.000	0.17			1.0	OK*		
S59.000	SPP59	0.242	0.000	0.04			0.2	SURCHARGED		
S59.001	SFC59	0.513	0.000	0.01			0.1	SURCHARGED		
S60.000	SPP63	0.225	0.000	0.04			0.2	SURCHARGED		
S60.001	SFC63	0.516	0.000	0.01			0.1	SURCHARGED		
S61.000	SPP62	0.203	0.000	0.05			0.3	SURCHARGED		
S61.001	SFC62	0.515	0.000	0.03			0.2	SURCHARGED		
S56.004	SSW37	-0.068	0.000	0.23			1.4	OK		
S62.000	SPP64	0.319	0.000	0.30			1.6	SURCHARGED		
S62.001	SFC64	0.606	0.000	0.06			1.4	FLOOD RISK		
S63.000	SFEC-SW-06	0.258	0.000	0.35			110.8	FLOOD RISK		
S63.001	SFEC-SW-07	0.339	0.000	0.91			255.7	SURCHARGED		
S63.002	SFEC-SW-08	0.458	0.000	0.99			253.8	SURCHARGED		

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Date 15/06/2022 File 2180501-EWP-ZZ-XX-CA-C-0001.MDX	Designed by HH Checked by	
Innovyze	Network 2020.1.3	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Flooded		Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Cap.	(l/s)	Time (mins)	Flow (l/s)		
S63.003	SFEC-SW-09	0.542	0.000	1.07			287.4	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S64.000	SFEC-SW-10	15 Summer	100	+40%	100/15 Summer				82.194
S64.001	SFEC-SW-12	15 Summer	100	+40%	100/15 Summer				81.996
S63.004	SFEC-SW-13	15 Summer	100	+40%	100/15 Summer				81.882
S63.005	SFEC-SW-14	15 Summer	100	+40%	100/15 Summer				81.747
S63.006	SSW05	15 Summer	100	+40%	100/15 Summer				81.695
S65.000	SFEC-SW-01	15 Summer	100	+40%	100/15 Summer				82.308
S65.001	SFEC-SW-02	15 Summer	100	+40%	100/15 Summer				82.261
S66.000	SHW-SW-01	15 Summer	100	+40%	100/15 Summer				82.407
S66.001	SHW-SW-02	15 Summer	100	+40%	100/15 Summer				82.170
S67.000	SHW-SW-03	15 Summer	100	+40%	100/15 Summer				82.265
S65.002	SFEC-SW-03	15 Summer	100	+40%	100/15 Summer				82.108
S68.000	SFEC-SW-04	15 Summer	100	+40%	100/15 Summer				82.108
S65.003	SFEC-SW-05	15 Summer	100	+40%	100/15 Summer				82.062
S65.004	SSW01	15 Summer	100	+40%	100/15 Summer				81.970
S65.005	SSW02	15 Summer	100	+40%	100/15 Summer				81.860
S65.006	SSW03	15 Summer	100	+40%	100/15 Summer				81.732
S69.000	SHW-SW-04	120 Winter	100	+40%	100/15 Summer				82.203
S69.001	SSWALE2 IN	120 Winter	100	+40%					82.202
S69.002	SSWALE 2 FC	120 Winter	100	+40%	2/15 Summer				82.202
S65.007	SSW04	15 Summer	100	+40%	100/15 Summer				81.696
S70.000	SHW-SW-09	15 Summer	100	+40%					82.002
S71.000	SHW-SW-05	15 Summer	100	+40%					82.012
S71.001	SHW-SW-06	15 Summer	100	+40%					81.870
S72.000	SHW-SW-07	15 Summer	100	+40%	100/15 Summer				82.051
S73.000	SHW-SW-08	15 Summer	100	+40%					82.006
S74.000	SHW-SW-10	15 Summer	100	+40%	100/15 Summer				82.333
S70.001	SBASIN 1	1440 Winter	100	+40%	100/120 Summer				81.712
S70.002	SBASIN 1 OUT	1440 Winter	100	+40%	2/15 Summer				81.807
S65.008	S238	15 Summer	100	+40%	30/15 Summer				80.932
S63.007	SSW06	15 Summer	100	+40%	30/15 Summer				81.525
S75.000	SHE-SW-01	15 Summer	100	+40%					81.809
S75.001	SSW07	15 Summer	100	+40%					81.254
S76.000	SFEATURE POND	1440 Winter	100	+40%	30/360 Summer				82.187
S76.001	SFP FC	1440 Winter	100	+40%	2/15 Summer				82.184
S63.008	SSW08	30 Summer	100	+40%	100/15 Summer				80.778
S63.009	SSW09	15 Summer	100	+40%	100/15 Summer				80.550
S77.000	SHE-SW-10	360 Winter	100	+40%					82.091
S77.001	SHE-SW-11	360 Winter	100	+40%	30/240 Summer				82.091
S78.000	SHE-SW-03	15 Summer	100	+40%	100/15 Summer				82.236
S78.001	SHE-SW-04	360 Winter	100	+40%	100/15 Summer				82.092
S79.000	SHE-SW-02	15 Summer	100	+40%	100/15 Summer				82.127
S80.000	SHW-SW-06	360 Winter	100	+40%					82.092
S81.000	SHE-SW-05	360 Winter	100	+40%					82.091
S80.001	SHE-SW-07	360 Winter	100	+40%	100/120 Summer				82.091
S82.000	SHE-SW-08	360 Winter	100	+40%					82.092
S82.001	SHE-SW-09	360 Winter	100	+40%	100/15 Summer				82.092
S77.002	SBASIN 2	360 Winter	100	+40%	30/30 Summer				82.091
S77.003	SBASIN 2 OUT	240 Summer	100	+40%	2/15 Summer	30/240 Summer			82.500
S77.004	SHE-SW-12	15 Summer	100	+40%					81.014
S77.005	SHE-SW-13	15 Summer	100	+40%					80.948
S63.010	S241	15 Summer	100	+40%	100/15 Summer				80.321
S63.011	SSW10	30 Summer	100	+40%					80.022
S1.027	STANK	960 Winter	100	+40%	30/60 Summer				79.703
S1.028	SFC71	960 Winter	100	+40%	30/30 Summer				79.725

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged		Flooded		Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)						
S64.000	SFEC-SW-10	0.169	0.000	0.94					48.4	SURCHARGED	
S64.001	SFEC-SW-12	0.271	0.000	1.33					70.6	SURCHARGED	
S63.004	SFEC-SW-13	0.617	0.000	1.01					379.2	SURCHARGED	
S63.005	SFEC-SW-14	0.722	0.000	1.48					368.8	SURCHARGED	
S63.006	SSW05	0.750	0.000	1.13					335.1	SURCHARGED	
S65.000	SFEC-SW-01	0.483	0.000	0.70					31.3	FLOOD RISK	
S65.001	SFEC-SW-02	0.461	0.000	0.75					84.6	FLOOD RISK	
S66.000	SHW-SW-01	0.582	0.000	0.99					47.4	FLOOD RISK	
S66.001	SHW-SW-02	0.523	0.000	0.67					62.5	SURCHARGED	
S67.000	SHW-SW-03	0.515	0.000	0.61					15.9	FLOOD RISK	
S65.002	SFEC-SW-03	0.534	0.000	1.61					182.4	SURCHARGED	
S68.000	SFEC-SW-04	0.108	0.000	0.88					88.1	SURCHARGED	
S65.003	SFEC-SW-05	0.497	0.000	1.32					268.5	SURCHARGED	
S65.004	SSW01	0.516	0.000	1.02					327.0	SURCHARGED	
S65.005	SSW02	0.835	0.000	0.96					242.4	SURCHARGED	
S65.006	SSW03	0.912	0.000	1.20					230.9	SURCHARGED	
S69.000	SHW-SW-04	0.178	0.000	0.16					5.2	SURCHARGED	
S69.001	SSWALE2 IN	-0.298	0.000	0.01					22.3	FLOOD RISK	
S69.002	SSWALE 2 FC	0.602	0.000	0.50					2.9	FLOOD RISK	
S65.007	SSW04	0.906	0.000	0.93					227.7	SURCHARGED	
S70.000	SHW-SW-09	-0.048	0.000	0.80					13.4	OK	
S71.000	SHW-SW-05	-0.113	0.000	0.50					23.0	OK	
S71.001	SHW-SW-06	-0.091	0.000	0.66					30.5	OK	
S72.000	SHW-SW-07	0.001	0.000	1.00					16.7	SURCHARGED	
S73.000	SHW-SW-08	-0.044	0.000	0.84					14.4	OK	
S74.000	SHW-SW-10	0.208	0.000	1.30					62.7	FLOOD RISK	
S70.001	SBASIN 1	0.062	0.000	0.03					0.5	SURCHARGED	
S70.002	SBASIN 1 OUT	0.464	0.000	0.02					0.3	SURCHARGED	
S65.008	S238	0.293	0.000	0.91					227.3	SURCHARGED*	
S63.007	SSW06	0.960	0.000	1.75					459.7	SURCHARGED	
S75.000	SHE-SW-01	-0.091	0.000	0.81					85.1	OK	
S75.001	SSW07	-0.090	0.000	0.82					85.2	OK	
S76.000	SFEATURE POND	0.087	0.000	0.06					0.7	FLOOD RISK	
S76.001	SFP FC	1.284	0.000	0.08					0.5	FLOOD RISK	
S63.008	SSW08	0.379	0.000	1.56					479.1	SURCHARGED	
S63.009	SSW09	0.227	0.000	1.55					479.7	SURCHARGED	
S77.000	SHE-SW-10	-0.034	0.000	0.06					3.0	OK	
S77.001	SHE-SW-11	0.250	0.000	0.07					2.8	SURCHARGED	
S78.000	SHE-SW-03	0.111	0.000	1.15					42.8	FLOOD RISK	
S78.001	SHE-SW-04	0.230	0.000	0.11					4.7	SURCHARGED	
S79.000	SHE-SW-02	0.002	0.000	0.99					53.8	SURCHARGED	
S80.000	SHW-SW-06	-0.033	0.000	0.06					2.5	OK	
S81.000	SHE-SW-05	-0.034	0.000	0.04					1.8	OK	
S80.001	SHE-SW-07	0.049	0.000	0.12					5.7	SURCHARGED	
S82.000	SHE-SW-08	-0.033	0.000	0.07					3.4	OK	
S82.001	SHE-SW-09	0.129	0.000	0.12					5.4	SURCHARGED	
S77.002	SBASIN 2	0.366	0.000	0.17					8.2	SURCHARGED	
S77.003	SBASIN 2 OUT	1.031	0.134	0.06					3.0	FLOOD	16
S77.004	SHE-SW-12	-0.146	0.000	0.27					8.4	OK	
S77.005	SHE-SW-13	-0.162	0.000	0.17					8.5	OK	
S63.010	S241	0.077	0.000	1.20					475.4	SURCHARGED*	
S63.011	SSW10	-0.012	0.000	1.00					449.6	OK	
S1.027	STANK	0.671	0.000	0.47					28.9	SURCHARGED	
S1.028	SFC71	0.746	0.000	0.37					27.3	SURCHARGED	

241 The Broadway
London
SW19 1SD



Date 17/06/2022 12:21

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File RG1A.SRCX

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Source Control 2020.1.3

Summary of Results for 2 year Return Period

Half Drain Time : 8 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.304	0.139	0.0	1.8	0.0	1.8	1.0	O K
30 min Summer	82.311	0.146	0.0	1.8	0.0	1.8	1.1	O K
60 min Summer	82.297	0.132	0.0	1.7	0.0	1.7	1.0	O K
120 min Summer	82.282	0.117	0.0	1.6	0.0	1.6	0.9	O K
180 min Summer	82.263	0.098	0.0	1.4	0.0	1.4	0.7	O K
240 min Summer	82.248	0.083	0.0	1.3	0.0	1.3	0.6	O K
360 min Summer	82.232	0.067	0.0	1.0	0.0	1.0	0.5	O K
480 min Summer	82.224	0.059	0.0	0.8	0.0	0.8	0.4	O K
600 min Summer	82.218	0.053	0.0	0.7	0.0	0.7	0.4	O K
720 min Summer	82.213	0.048	0.0	0.6	0.0	0.6	0.4	O K
960 min Summer	82.207	0.042	0.0	0.5	0.0	0.5	0.3	O K
1440 min Summer	82.199	0.034	0.0	0.4	0.0	0.4	0.3	O K
2160 min Summer	82.193	0.028	0.0	0.3	0.0	0.3	0.2	O K
2880 min Summer	82.190	0.025	0.0	0.2	0.0	0.2	0.2	O K
4320 min Summer	82.187	0.022	0.0	0.2	0.0	0.2	0.2	O K
5760 min Summer	82.185	0.020	0.0	0.1	0.0	0.1	0.1	O K
7200 min Summer	82.184	0.019	0.0	0.1	0.0	0.1	0.1	O K
8640 min Summer	82.183	0.018	0.0	0.1	0.0	0.1	0.1	O K
10080 min Summer	82.182	0.017	0.0	0.1	0.0	0.1	0.1	O K
15 min Winter	82.301	0.136	0.0	1.7	0.0	1.7	1.0	O K
30 min Winter	82.302	0.137	0.0	1.7	0.0	1.7	1.0	O K
60 min Winter	82.278	0.113	0.0	1.6	0.0	1.6	0.8	O K
120 min Winter	82.253	0.088	0.0	1.3	0.0	1.3	0.6	O K
180 min Winter	82.236	0.071	0.0	1.1	0.0	1.1	0.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	35.940	0.0	1.8	0.0	16
30 min Summer	22.822	0.0	2.4	0.0	24
60 min Summer	14.078	0.0	3.0	0.0	40
120 min Summer	9.627	0.0	4.1	0.0	70
180 min Summer	7.475	0.0	4.8	0.0	100
240 min Summer	6.162	0.0	5.3	0.0	130
360 min Summer	4.600	0.0	5.9	0.0	188
480 min Summer	3.694	0.0	6.4	0.0	248
600 min Summer	3.102	0.0	6.7	0.0	308
720 min Summer	2.682	0.0	6.9	0.0	370
960 min Summer	2.123	0.0	7.3	0.0	490
1440 min Summer	1.527	0.0	7.9	0.0	732
2160 min Summer	1.107	0.0	8.5	0.0	1092
2880 min Summer	0.888	0.0	9.1	0.0	1468
4320 min Summer	0.664	0.0	10.2	0.0	2200
5760 min Summer	0.548	0.0	11.1	0.0	2928
7200 min Summer	0.477	0.0	12.1	0.0	3608
8640 min Summer	0.429	0.0	13.0	0.0	4320
10080 min Summer	0.394	0.0	13.9	0.0	5016
15 min Winter	35.940	0.0	1.8	0.0	16
30 min Winter	22.822	0.0	2.4	0.0	24
60 min Winter	14.078	0.0	3.0	0.0	40
120 min Winter	9.627	0.0	4.1	0.0	70
180 min Winter	7.475	0.0	4.8	0.0	98

241 The Broadway
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SW19 1SD

Date 17/06/2022 12:21

File RG1A.SRCX

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Source Control 2020.1.3

Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	82.227	0.062	0.0	0.9	0.0	0.9	0.5	O K
360 min Winter	82.217	0.052	0.0	0.7	0.0	0.7	0.4	O K
480 min Winter	82.210	0.045	0.0	0.6	0.0	0.6	0.3	O K
600 min Winter	82.206	0.041	0.0	0.5	0.0	0.5	0.3	O K
720 min Winter	82.202	0.037	0.0	0.4	0.0	0.4	0.3	O K
960 min Winter	82.197	0.032	0.0	0.3	0.0	0.3	0.2	O K
1440 min Winter	82.192	0.027	0.0	0.2	0.0	0.2	0.2	O K
2160 min Winter	82.188	0.023	0.0	0.2	0.0	0.2	0.2	O K
2880 min Winter	82.186	0.021	0.0	0.1	0.0	0.1	0.2	O K
4320 min Winter	82.183	0.018	0.0	0.1	0.0	0.1	0.1	O K
5760 min Winter	82.181	0.016	0.0	0.1	0.0	0.1	0.1	O K
7200 min Winter	82.180	0.015	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	82.179	0.014	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	82.179	0.014	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	6.162	0.0	5.3	0.0	128
360 min Winter	4.600	0.0	5.9	0.0	190
480 min Winter	3.694	0.0	6.4	0.0	250
600 min Winter	3.102	0.0	6.7	0.0	314
720 min Winter	2.682	0.0	6.9	0.0	370
960 min Winter	2.123	0.0	7.3	0.0	488
1440 min Winter	1.527	0.0	7.9	0.0	732
2160 min Winter	1.107	0.0	8.5	0.0	1092
2880 min Winter	0.888	0.0	9.1	0.0	1460
4320 min Winter	0.664	0.0	10.2	0.0	2160
5760 min Winter	0.548	0.0	11.1	0.0	2856
7200 min Winter	0.477	0.0	12.1	0.0	3624
8640 min Winter	0.429	0.0	13.0	0.0	4416
10080 min Winter	0.394	0.0	13.9	0.0	5096

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Summary of Results for 30 year Return Period

Half Drain Time : 10 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.539	0.374	0.0	3.1	0.0	3.1	2.8	O K
30 min Summer	82.572	0.407	0.0	3.2	0.0	3.2	3.0	O K
60 min Summer	82.546	0.381	0.0	3.1	0.0	3.1	2.8	O K
120 min Summer	82.471	0.306	0.0	2.8	0.0	2.8	2.3	O K
180 min Summer	82.411	0.246	0.0	2.5	0.0	2.5	1.8	O K
240 min Summer	82.366	0.201	0.0	2.2	0.0	2.2	1.5	O K
360 min Summer	82.308	0.143	0.0	1.8	0.0	1.8	1.1	O K
480 min Summer	82.273	0.108	0.0	1.5	0.0	1.5	0.8	O K
600 min Summer	82.252	0.087	0.0	1.3	0.0	1.3	0.6	O K
720 min Summer	82.239	0.074	0.0	1.2	0.0	1.2	0.5	O K
960 min Summer	82.227	0.062	0.0	0.9	0.0	0.9	0.5	O K
1440 min Summer	82.214	0.049	0.0	0.6	0.0	0.6	0.4	O K
2160 min Summer	82.205	0.040	0.0	0.5	0.0	0.5	0.3	O K
2880 min Summer	82.199	0.034	0.0	0.4	0.0	0.4	0.2	O K
4320 min Summer	82.193	0.028	0.0	0.3	0.0	0.3	0.2	O K
5760 min Summer	82.190	0.025	0.0	0.2	0.0	0.2	0.2	O K
7200 min Summer	82.189	0.024	0.0	0.2	0.0	0.2	0.2	O K
8640 min Summer	82.187	0.022	0.0	0.2	0.0	0.2	0.2	O K
10080 min Summer	82.186	0.021	0.0	0.1	0.0	0.1	0.2	O K
15 min Winter	82.534	0.369	0.0	3.1	0.0	3.1	2.7	O K
30 min Winter	82.556	0.391	0.0	3.2	0.0	3.2	2.9	O K
60 min Winter	82.508	0.343	0.0	2.9	0.0	2.9	2.5	O K
120 min Winter	82.406	0.241	0.0	2.4	0.0	2.4	1.8	O K
180 min Winter	82.340	0.175	0.0	2.0	0.0	2.0	1.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	83.255	0.0	4.5	0.0	16
30 min Summer	53.786	0.0	5.8	0.0	25
60 min Summer	33.433	0.0	7.2	0.0	40
120 min Summer	20.390	0.0	8.8	0.0	72
180 min Summer	15.113	0.0	9.8	0.0	102
240 min Summer	12.136	0.0	10.5	0.0	132
360 min Summer	8.798	0.0	11.5	0.0	192
480 min Summer	6.947	0.0	12.1	0.0	252
600 min Summer	5.763	0.0	12.5	0.0	312
720 min Summer	4.936	0.0	12.9	0.0	370
960 min Summer	3.852	0.0	13.4	0.0	490
1440 min Summer	2.710	0.0	14.1	0.0	734
2160 min Summer	1.913	0.0	14.9	0.0	1084
2880 min Summer	1.502	0.0	15.6	0.0	1436
4320 min Summer	1.084	0.0	16.8	0.0	2168
5760 min Summer	0.870	0.0	18.0	0.0	2928
7200 min Summer	0.740	0.0	19.0	0.0	3584
8640 min Summer	0.652	0.0	20.1	0.0	4304
10080 min Summer	0.589	0.0	21.1	0.0	5096
15 min Winter	83.255	0.0	4.5	0.0	17
30 min Winter	53.786	0.0	5.8	0.0	25
60 min Winter	33.433	0.0	7.2	0.0	42
120 min Winter	20.390	0.0	8.8	0.0	74
180 min Winter	15.113	0.0	9.8	0.0	104

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Σ Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	82.299	0.134	0.0	1.7	0.0	1.7	1.0	O K
360 min Winter	82.253	0.088	0.0	1.3	0.0	1.3	0.7	O K
480 min Winter	82.234	0.069	0.0	1.1	0.0	1.1	0.5	O K
600 min Winter	82.225	0.060	0.0	0.9	0.0	0.9	0.4	O K
720 min Winter	82.220	0.055	0.0	0.8	0.0	0.8	0.4	O K
960 min Winter	82.212	0.047	0.0	0.6	0.0	0.6	0.3	O K
1440 min Winter	82.203	0.038	0.0	0.4	0.0	0.4	0.3	O K
2160 min Winter	82.195	0.030	0.0	0.3	0.0	0.3	0.2	O K
2880 min Winter	82.191	0.026	0.0	0.2	0.0	0.2	0.2	O K
4320 min Winter	82.188	0.023	0.0	0.2	0.0	0.2	0.2	O K
5760 min Winter	82.185	0.020	0.0	0.1	0.0	0.1	0.1	O K
7200 min Winter	82.184	0.019	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	82.182	0.017	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	82.182	0.017	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	12.136	0.0	10.5	0.0	134
360 min Winter	8.798	0.0	11.5	0.0	194
480 min Winter	6.947	0.0	12.1	0.0	248
600 min Winter	5.763	0.0	12.5	0.0	310
720 min Winter	4.936	0.0	12.9	0.0	368
960 min Winter	3.852	0.0	13.4	0.0	490
1440 min Winter	2.710	0.0	14.1	0.0	728
2160 min Winter	1.913	0.0	14.9	0.0	1108
2880 min Winter	1.502	0.0	15.6	0.0	1468
4320 min Winter	1.084	0.0	16.8	0.0	2204
5760 min Winter	0.870	0.0	17.9	0.0	2928
7200 min Winter	0.740	0.0	19.0	0.0	3704
8640 min Winter	0.652	0.0	20.1	0.0	4408
10080 min Winter	0.589	0.0	21.1	0.0	5200

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Summary of Results for 100 year Return Period

Half Drain Time : 12 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.666	0.501	0.0	3.6	0.0	3.6	3.7	O K
30 min Summer	82.720	0.555	0.0	3.8	0.0	3.8	4.1	Flood Risk
60 min Summer	82.695	0.530	0.0	3.7	0.0	3.7	3.9	Flood Risk
120 min Summer	82.591	0.426	0.0	3.3	0.0	3.3	3.1	O K
180 min Summer	82.510	0.345	0.0	3.0	0.0	3.0	2.5	O K
240 min Summer	82.448	0.283	0.0	2.7	0.0	2.7	2.1	O K
360 min Summer	82.366	0.201	0.0	2.2	0.0	2.2	1.5	O K
480 min Summer	82.316	0.151	0.0	1.9	0.0	1.9	1.1	O K
600 min Summer	82.284	0.119	0.0	1.6	0.0	1.6	0.9	O K
720 min Summer	82.263	0.098	0.0	1.4	0.0	1.4	0.7	O K
960 min Summer	82.238	0.073	0.0	1.1	0.0	1.1	0.5	O K
1440 min Summer	82.222	0.057	0.0	0.8	0.0	0.8	0.4	O K
2160 min Summer	82.211	0.046	0.0	0.6	0.0	0.6	0.3	O K
2880 min Summer	82.204	0.039	0.0	0.4	0.0	0.4	0.3	O K
4320 min Summer	82.196	0.031	0.0	0.3	0.0	0.3	0.2	O K
5760 min Summer	82.192	0.027	0.0	0.3	0.0	0.3	0.2	O K
7200 min Summer	82.190	0.025	0.0	0.2	0.0	0.2	0.2	O K
8640 min Summer	82.189	0.024	0.0	0.2	0.0	0.2	0.2	O K
10080 min Summer	82.188	0.023	0.0	0.2	0.0	0.2	0.2	O K
15 min Winter	82.661	0.496	0.0	3.6	0.0	3.6	3.7	O K
30 min Winter	82.703	0.538	0.0	3.7	0.0	3.7	4.0	Flood Risk
60 min Winter	82.648	0.483	0.0	3.5	0.0	3.5	3.6	O K
120 min Winter	82.509	0.344	0.0	2.9	0.0	2.9	2.5	O K
180 min Winter	82.417	0.252	0.0	2.5	0.0	2.5	1.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	106.718	0.0	5.7	0.0	17
30 min Summer	69.623	0.0	7.5	0.0	25
60 min Summer	43.443	0.0	9.4	0.0	42
120 min Summer	26.110	0.0	11.4	0.0	74
180 min Summer	19.234	0.0	12.6	0.0	104
240 min Summer	15.397	0.0	13.4	0.0	134
360 min Summer	11.131	0.0	14.5	0.0	194
480 min Summer	8.775	0.0	15.3	0.0	254
600 min Summer	7.269	0.0	15.8	0.0	312
720 min Summer	6.220	0.0	16.3	0.0	372
960 min Summer	4.847	0.0	16.9	0.0	490
1440 min Summer	3.392	0.0	17.7	0.0	734
2160 min Summer	2.370	0.0	18.5	0.0	1092
2880 min Summer	1.844	0.0	19.2	0.0	1468
4320 min Summer	1.310	0.0	20.4	0.0	2192
5760 min Summer	1.038	0.0	21.5	0.0	2896
7200 min Summer	0.873	0.0	22.5	0.0	3592
8640 min Summer	0.762	0.0	23.6	0.0	4384
10080 min Summer	0.683	0.0	24.6	0.0	5016
15 min Winter	106.718	0.0	5.7	0.0	17
30 min Winter	69.623	0.0	7.5	0.0	26
60 min Winter	43.443	0.0	9.4	0.0	44
120 min Winter	26.110	0.0	11.4	0.0	76
180 min Winter	19.234	0.0	12.6	0.0	106

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Summary of Results for 100 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Σ Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	82.357	0.192	0.0	2.1	0.0	2.1	1.4	O K
360 min Winter	82.289	0.124	0.0	1.6	0.0	1.6	0.9	O K
480 min Winter	82.254	0.089	0.0	1.3	0.0	1.3	0.7	O K
600 min Winter	82.236	0.071	0.0	1.1	0.0	1.1	0.5	O K
720 min Winter	82.229	0.064	0.0	1.0	0.0	1.0	0.5	O K
960 min Winter	82.219	0.054	0.0	0.8	0.0	0.8	0.4	O K
1440 min Winter	82.208	0.043	0.0	0.5	0.0	0.5	0.3	O K
2160 min Winter	82.199	0.034	0.0	0.4	0.0	0.4	0.3	O K
2880 min Winter	82.194	0.029	0.0	0.3	0.0	0.3	0.2	O K
4320 min Winter	82.190	0.025	0.0	0.2	0.0	0.2	0.2	O K
5760 min Winter	82.188	0.023	0.0	0.2	0.0	0.2	0.2	O K
7200 min Winter	82.185	0.020	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	82.184	0.019	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	82.183	0.018	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	15.397	0.0	13.4	0.0	136
360 min Winter	11.131	0.0	14.5	0.0	196
480 min Winter	8.775	0.0	15.3	0.0	254
600 min Winter	7.269	0.0	15.8	0.0	308
720 min Winter	6.220	0.0	16.3	0.0	372
960 min Winter	4.847	0.0	16.9	0.0	492
1440 min Winter	3.392	0.0	17.7	0.0	736
2160 min Winter	2.370	0.0	18.5	0.0	1092
2880 min Winter	1.844	0.0	19.2	0.0	1432
4320 min Winter	1.310	0.0	20.4	0.0	2192
5760 min Winter	1.038	0.0	21.5	0.0	2912
7200 min Winter	0.873	0.0	22.5	0.0	3616
8640 min Winter	0.762	0.0	23.6	0.0	4384
10080 min Winter	0.683	0.0	24.6	0.0	5104

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Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 14 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	82.853	0.688	0.0	4.2	8.9	13.2	4.9	Flood Risk
30 min Summer	82.857	0.692	0.0	4.3	11.3	15.6	4.9	Flood Risk
60 min Summer	82.855	0.690	0.0	4.3	10.0	14.2	4.9	Flood Risk
120 min Summer	82.832	0.667	0.0	4.2	0.9	5.1	4.9	Flood Risk
180 min Summer	82.719	0.554	0.0	3.8	0.0	3.8	4.1	Flood Risk
240 min Summer	82.628	0.463	0.0	3.5	0.0	3.5	3.4	O K
360 min Summer	82.499	0.334	0.0	2.9	0.0	2.9	2.5	O K
480 min Summer	82.417	0.252	0.0	2.5	0.0	2.5	1.9	O K
600 min Summer	82.363	0.198	0.0	2.2	0.0	2.2	1.5	O K
720 min Summer	82.325	0.160	0.0	1.9	0.0	1.9	1.2	O K
960 min Summer	82.279	0.114	0.0	1.6	0.0	1.6	0.8	O K
1440 min Summer	82.237	0.072	0.0	1.1	0.0	1.1	0.5	O K
2160 min Summer	82.221	0.056	0.0	0.8	0.0	0.8	0.4	O K
2880 min Summer	82.213	0.048	0.0	0.6	0.0	0.6	0.4	O K
4320 min Summer	82.204	0.039	0.0	0.4	0.0	0.4	0.3	O K
5760 min Summer	82.198	0.033	0.0	0.4	0.0	0.4	0.2	O K
7200 min Summer	82.195	0.030	0.0	0.3	0.0	0.3	0.2	O K
8640 min Summer	82.193	0.028	0.0	0.3	0.0	0.3	0.2	O K
10080 min Summer	82.191	0.026	0.0	0.2	0.0	0.2	0.2	O K
15 min Winter	82.847	0.682	0.0	4.2	6.1	10.3	4.9	Flood Risk
30 min Winter	82.855	0.690	0.0	4.3	10.0	14.2	4.9	Flood Risk
60 min Winter	82.846	0.681	0.0	4.2	5.7	9.9	4.9	Flood Risk
120 min Winter	82.725	0.560	0.0	3.8	0.0	3.8	4.1	Flood Risk
180 min Winter	82.587	0.422	0.0	3.3	0.0	3.3	3.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	149.405	0.0	8.1	0.7	15
30 min Summer	97.472	0.0	10.6	1.4	22
60 min Summer	60.820	0.0	13.3	1.2	38
120 min Summer	36.554	0.0	16.0	0.1	74
180 min Summer	26.928	0.0	17.6	0.0	106
240 min Summer	21.556	0.0	18.8	0.0	136
360 min Summer	15.584	0.0	20.4	0.0	196
480 min Summer	12.284	0.0	21.5	0.0	256
600 min Summer	10.177	0.0	22.2	0.0	314
720 min Summer	8.708	0.0	22.8	0.0	374
960 min Summer	6.785	0.0	23.7	0.0	494
1440 min Summer	4.749	0.0	24.9	0.0	734
2160 min Summer	3.318	0.0	26.0	0.0	1080
2880 min Summer	2.582	0.0	27.0	0.0	1460
4320 min Summer	1.834	0.0	28.7	0.0	2160
5760 min Summer	1.453	0.0	30.3	0.0	2936
7200 min Summer	1.222	0.0	31.8	0.0	3640
8640 min Summer	1.067	0.0	33.2	0.0	4280
10080 min Summer	0.956	0.0	34.7	0.0	4984
15 min Winter	149.405	0.0	8.1	0.6	15
30 min Winter	97.472	0.0	10.6	1.2	22
60 min Winter	60.820	0.0	13.3	0.8	40
120 min Winter	36.554	0.0	16.0	0.0	78
180 min Winter	26.928	0.0	17.6	0.0	108

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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
240 min Winter	82.491	0.326	0.0	2.9	0.0	2.9	2.4	O K
360 min Winter	82.375	0.210	0.0	2.2	0.0	2.2	1.5	O K
480 min Winter	82.313	0.148	0.0	1.8	0.0	1.8	1.1	O K
600 min Winter	82.277	0.112	0.0	1.5	0.0	1.5	0.8	O K
720 min Winter	82.255	0.090	0.0	1.3	0.0	1.3	0.7	O K
960 min Winter	82.233	0.068	0.0	1.0	0.0	1.0	0.5	O K
1440 min Winter	82.218	0.053	0.0	0.7	0.0	0.7	0.4	O K
2160 min Winter	82.208	0.043	0.0	0.5	0.0	0.5	0.3	O K
2880 min Winter	82.201	0.036	0.0	0.4	0.0	0.4	0.3	O K
4320 min Winter	82.194	0.029	0.0	0.3	0.0	0.3	0.2	O K
5760 min Winter	82.191	0.026	0.0	0.2	0.0	0.2	0.2	O K
7200 min Winter	82.189	0.024	0.0	0.2	0.0	0.2	0.2	O K
8640 min Winter	82.188	0.023	0.0	0.2	0.0	0.2	0.2	O K
10080 min Winter	82.187	0.022	0.0	0.2	0.0	0.2	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	21.556	0.0	18.8	0.0	140
360 min Winter	15.584	0.0	20.4	0.0	198
480 min Winter	12.284	0.0	21.5	0.0	256
600 min Winter	10.177	0.0	22.2	0.0	316
720 min Winter	8.708	0.0	22.8	0.0	374
960 min Winter	6.785	0.0	23.7	0.0	492
1440 min Winter	4.749	0.0	24.9	0.0	736
2160 min Winter	3.318	0.0	26.0	0.0	1056
2880 min Winter	2.582	0.0	27.0	0.0	1472
4320 min Winter	1.834	0.0	28.7	0.0	2160
5760 min Winter	1.453	0.0	30.3	0.0	2864
7200 min Winter	1.222	0.0	31.8	0.0	3616
8640 min Winter	1.067	0.0	33.2	0.0	4400
10080 min Winter	0.956	0.0	34.7	0.0	5088

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 455061 221552 SP 55061 21552
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	1.000
Cv (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.022

Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)
0	4	0.011	4	8	0.011

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Model Details

Storage is Online Cover Level (m) 82.976

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	2.0
Membrane Percolation (mm/hr)	1000	Length (m)	12.3
Max Percolation (l/s)	6.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.165	Cap Volume Depth (m)	0.661

Orifice Outflow Control

Diameter (m) 0.050 Discharge Coefficient 0.600 Invert Level (m) 82.165

Weir Overflow Control

Discharge Coef 0.544 Width (m) 1.200 Invert Level (m) 82.826

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Summary of Results for 2 year Return Period

Half Drain Time : 7 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.157	0.117	0.0	1.6	0.0	1.6	0.9	O K
30 min Summer	82.163	0.123	0.0	1.6	0.0	1.6	0.9	O K
60 min Summer	82.152	0.112	0.0	1.5	0.0	1.5	0.8	O K
120 min Summer	82.138	0.098	0.0	1.4	0.0	1.4	0.7	O K
180 min Summer	82.123	0.083	0.0	1.3	0.0	1.3	0.6	O K
240 min Summer	82.112	0.072	0.0	1.1	0.0	1.1	0.5	O K
360 min Summer	82.100	0.060	0.0	0.9	0.0	0.9	0.4	O K
480 min Summer	82.093	0.053	0.0	0.7	0.0	0.7	0.4	O K
600 min Summer	82.088	0.048	0.0	0.6	0.0	0.6	0.4	O K
720 min Summer	82.084	0.044	0.0	0.5	0.0	0.5	0.3	O K
960 min Summer	82.079	0.039	0.0	0.4	0.0	0.4	0.3	O K
1440 min Summer	82.071	0.031	0.0	0.3	0.0	0.3	0.2	O K
2160 min Summer	82.066	0.026	0.0	0.2	0.0	0.2	0.2	O K
2880 min Summer	82.064	0.024	0.0	0.2	0.0	0.2	0.2	O K
4320 min Summer	82.061	0.021	0.0	0.1	0.0	0.1	0.2	O K
5760 min Summer	82.059	0.019	0.0	0.1	0.0	0.1	0.1	O K
7200 min Summer	82.057	0.017	0.0	0.1	0.0	0.1	0.1	O K
8640 min Summer	82.056	0.016	0.0	0.1	0.0	0.1	0.1	O K
10080 min Summer	82.056	0.016	0.0	0.1	0.0	0.1	0.1	O K
15 min Winter	82.155	0.115	0.0	1.6	0.0	1.6	0.8	O K
30 min Winter	82.156	0.116	0.0	1.6	0.0	1.6	0.9	O K
60 min Winter	82.136	0.096	0.0	1.4	0.0	1.4	0.7	O K
120 min Winter	82.115	0.075	0.0	1.2	0.0	1.2	0.6	O K
180 min Winter	82.104	0.064	0.0	1.0	0.0	1.0	0.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	35.940	0.0	1.6	0.0	16
30 min Summer	22.822	0.0	2.0	0.0	23
60 min Summer	14.078	0.0	2.5	0.0	38
120 min Summer	9.627	0.0	3.5	0.0	70
180 min Summer	7.475	0.0	4.1	0.0	100
240 min Summer	6.162	0.0	4.5	0.0	128
360 min Summer	4.600	0.0	5.1	0.0	188
480 min Summer	3.694	0.0	5.5	0.0	248
600 min Summer	3.102	0.0	5.7	0.0	308
720 min Summer	2.682	0.0	6.0	0.0	370
960 min Summer	2.123	0.0	6.3	0.0	492
1440 min Summer	1.527	0.0	6.8	0.0	734
2160 min Summer	1.107	0.0	7.3	0.0	1092
2880 min Summer	0.888	0.0	7.8	0.0	1448
4320 min Summer	0.664	0.0	8.7	0.0	2192
5760 min Summer	0.548	0.0	9.6	0.0	2896
7200 min Summer	0.477	0.0	10.4	0.0	3672
8640 min Summer	0.429	0.0	11.2	0.0	4320
10080 min Summer	0.394	0.0	11.9	0.0	5048
15 min Winter	35.940	0.0	1.6	0.0	16
30 min Winter	22.822	0.0	2.0	0.0	24
60 min Winter	14.078	0.0	2.5	0.0	40
120 min Winter	9.627	0.0	3.5	0.0	70
180 min Winter	7.475	0.0	4.1	0.0	98

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Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	82.096	0.056	0.0	0.8	0.0	0.8	0.4	O K
360 min Winter	82.087	0.047	0.0	0.6	0.0	0.6	0.3	O K
480 min Winter	82.082	0.042	0.0	0.5	0.0	0.5	0.3	O K
600 min Winter	82.077	0.037	0.0	0.4	0.0	0.4	0.3	O K
720 min Winter	82.074	0.034	0.0	0.4	0.0	0.4	0.2	O K
960 min Winter	82.069	0.029	0.0	0.3	0.0	0.3	0.2	O K
1440 min Winter	82.065	0.025	0.0	0.2	0.0	0.2	0.2	O K
2160 min Winter	82.061	0.021	0.0	0.1	0.0	0.1	0.2	O K
2880 min Winter	82.059	0.019	0.0	0.1	0.0	0.1	0.1	O K
4320 min Winter	82.056	0.016	0.0	0.1	0.0	0.1	0.1	O K
5760 min Winter	82.055	0.015	0.0	0.1	0.0	0.1	0.1	O K
7200 min Winter	82.054	0.014	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	82.053	0.013	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	82.053	0.013	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	6.162	0.0	4.5	0.0	130
360 min Winter	4.600	0.0	5.1	0.0	190
480 min Winter	3.694	0.0	5.5	0.0	250
600 min Winter	3.102	0.0	5.7	0.0	308
720 min Winter	2.682	0.0	6.0	0.0	370
960 min Winter	2.123	0.0	6.3	0.0	492
1440 min Winter	1.527	0.0	6.8	0.0	740
2160 min Winter	1.107	0.0	7.3	0.0	1104
2880 min Winter	0.888	0.0	7.8	0.0	1472
4320 min Winter	0.664	0.0	8.7	0.0	2156
5760 min Winter	0.548	0.0	9.6	0.0	2936
7200 min Winter	0.477	0.0	10.4	0.0	3584
8640 min Winter	0.429	0.0	11.2	0.0	4328
10080 min Winter	0.394	0.0	11.9	0.0	5120

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Summary of Results for 30 year Return Period

Half Drain Time : 9 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.355	0.315	0.0	2.8	0.0	2.8	2.3	O K
30 min Summer	82.381	0.341	0.0	2.9	0.0	2.9	2.5	O K
60 min Summer	82.358	0.318	0.0	2.8	0.0	2.8	2.3	O K
120 min Summer	82.292	0.252	0.0	2.5	0.0	2.5	1.9	O K
180 min Summer	82.241	0.201	0.0	2.2	0.0	2.2	1.5	O K
240 min Summer	82.204	0.164	0.0	1.9	0.0	1.9	1.2	O K
360 min Summer	82.156	0.116	0.0	1.6	0.0	1.6	0.9	O K
480 min Summer	82.129	0.089	0.0	1.3	0.0	1.3	0.7	O K
600 min Summer	82.113	0.073	0.0	1.1	0.0	1.1	0.5	O K
720 min Summer	82.106	0.066	0.0	1.0	0.0	1.0	0.5	O K
960 min Summer	82.096	0.056	0.0	0.8	0.0	0.8	0.4	O K
1440 min Summer	82.085	0.045	0.0	0.6	0.0	0.6	0.3	O K
2160 min Summer	82.076	0.036	0.0	0.4	0.0	0.4	0.3	O K
2880 min Summer	82.071	0.031	0.0	0.3	0.0	0.3	0.2	O K
4320 min Summer	82.066	0.026	0.0	0.2	0.0	0.2	0.2	O K
5760 min Summer	82.064	0.024	0.0	0.2	0.0	0.2	0.2	O K
7200 min Summer	82.062	0.022	0.0	0.2	0.0	0.2	0.2	O K
8640 min Summer	82.060	0.020	0.0	0.1	0.0	0.1	0.1	O K
10080 min Summer	82.059	0.019	0.0	0.1	0.0	0.1	0.1	O K
15 min Winter	82.349	0.309	0.0	2.8	0.0	2.8	2.3	O K
30 min Winter	82.367	0.327	0.0	2.9	0.0	2.9	2.4	O K
60 min Winter	82.323	0.283	0.0	2.6	0.0	2.6	2.1	O K
120 min Winter	82.235	0.195	0.0	2.2	0.0	2.2	1.4	O K
180 min Winter	82.182	0.142	0.0	1.8	0.0	1.8	1.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	83.255	0.0	3.8	0.0	16
30 min Summer	53.786	0.0	5.0	0.0	24
60 min Summer	33.433	0.0	6.2	0.0	40
120 min Summer	20.390	0.0	7.6	0.0	72
180 min Summer	15.113	0.0	8.5	0.0	102
240 min Summer	12.136	0.0	9.1	0.0	132
360 min Summer	8.798	0.0	9.9	0.0	192
480 min Summer	6.947	0.0	10.4	0.0	250
600 min Summer	5.763	0.0	10.8	0.0	310
720 min Summer	4.936	0.0	11.1	0.0	368
960 min Summer	3.852	0.0	11.5	0.0	490
1440 min Summer	2.710	0.0	12.2	0.0	732
2160 min Summer	1.913	0.0	12.8	0.0	1092
2880 min Summer	1.502	0.0	13.4	0.0	1452
4320 min Summer	1.084	0.0	14.5	0.0	2152
5760 min Summer	0.870	0.0	15.4	0.0	2928
7200 min Summer	0.740	0.0	16.4	0.0	3552
8640 min Summer	0.652	0.0	17.3	0.0	4376
10080 min Summer	0.589	0.0	18.2	0.0	5048
15 min Winter	83.255	0.0	3.8	0.0	16
30 min Winter	53.786	0.0	5.0	0.0	25
60 min Winter	33.433	0.0	6.2	0.0	42
120 min Winter	20.390	0.0	7.6	0.0	74
180 min Winter	15.113	0.0	8.5	0.0	104

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	82.149	0.109	0.0	1.5	0.0	1.5	0.8	O K
360 min Winter	82.114	0.074	0.0	1.2	0.0	1.2	0.5	O K
480 min Winter	82.102	0.062	0.0	0.9	0.0	0.9	0.5	O K
600 min Winter	82.095	0.055	0.0	0.8	0.0	0.8	0.4	O K
720 min Winter	82.090	0.050	0.0	0.7	0.0	0.7	0.4	O K
960 min Winter	82.083	0.043	0.0	0.5	0.0	0.5	0.3	O K
1440 min Winter	82.074	0.034	0.0	0.4	0.0	0.4	0.3	O K
2160 min Winter	82.068	0.028	0.0	0.3	0.0	0.3	0.2	O K
2880 min Winter	82.065	0.025	0.0	0.2	0.0	0.2	0.2	O K
4320 min Winter	82.061	0.021	0.0	0.1	0.0	0.1	0.2	O K
5760 min Winter	82.059	0.019	0.0	0.1	0.0	0.1	0.1	O K
7200 min Winter	82.057	0.017	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	82.056	0.016	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	82.056	0.016	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	12.136	0.0	9.1	0.0	134
360 min Winter	8.798	0.0	9.9	0.0	190
480 min Winter	6.947	0.0	10.4	0.0	248
600 min Winter	5.763	0.0	10.8	0.0	310
720 min Winter	4.936	0.0	11.1	0.0	368
960 min Winter	3.852	0.0	11.5	0.0	492
1440 min Winter	2.710	0.0	12.2	0.0	736
2160 min Winter	1.913	0.0	12.9	0.0	1104
2880 min Winter	1.502	0.0	13.4	0.0	1420
4320 min Winter	1.084	0.0	14.5	0.0	2192
5760 min Winter	0.870	0.0	15.4	0.0	2848
7200 min Winter	0.740	0.0	16.4	0.0	3552
8640 min Winter	0.652	0.0	17.3	0.0	4400
10080 min Winter	0.589	0.0	18.2	0.0	5240

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Summary of Results for 100 year Return Period

Half Drain Time : 11 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	82.461	0.421	0.0	3.3	0.0	3.3	3.1	O K
30 min Summer	82.505	0.465	0.0	3.5	0.0	3.5	3.4	O K
60 min Summer	82.480	0.440	0.0	3.4	0.0	3.4	3.2	O K
120 min Summer	82.390	0.350	0.0	3.0	0.0	3.0	2.6	O K
180 min Summer	82.320	0.280	0.0	2.6	0.0	2.6	2.1	O K
240 min Summer	82.269	0.229	0.0	2.4	0.0	2.4	1.7	O K
360 min Summer	82.202	0.162	0.0	1.9	0.0	1.9	1.2	O K
480 min Summer	82.162	0.122	0.0	1.6	0.0	1.6	0.9	O K
600 min Summer	82.137	0.097	0.0	1.4	0.0	1.4	0.7	O K
720 min Summer	82.121	0.081	0.0	1.2	0.0	1.2	0.6	O K
960 min Summer	82.105	0.065	0.0	1.0	0.0	1.0	0.5	O K
1440 min Summer	82.092	0.052	0.0	0.7	0.0	0.7	0.4	O K
2160 min Summer	82.082	0.042	0.0	0.5	0.0	0.5	0.3	O K
2880 min Summer	82.075	0.035	0.0	0.4	0.0	0.4	0.3	O K
4320 min Summer	82.068	0.028	0.0	0.3	0.0	0.3	0.2	O K
5760 min Summer	82.066	0.026	0.0	0.2	0.0	0.2	0.2	O K
7200 min Summer	82.064	0.024	0.0	0.2	0.0	0.2	0.2	O K
8640 min Summer	82.062	0.022	0.0	0.2	0.0	0.2	0.2	O K
10080 min Summer	82.061	0.021	0.0	0.1	0.0	0.1	0.2	O K
15 min Winter	82.456	0.416	0.0	3.3	0.0	3.3	3.1	O K
30 min Winter	82.488	0.448	0.0	3.4	0.0	3.4	3.3	O K
60 min Winter	82.439	0.399	0.0	3.2	0.0	3.2	2.9	O K
120 min Winter	82.318	0.278	0.0	2.6	0.0	2.6	2.1	O K
180 min Winter	82.242	0.202	0.0	2.2	0.0	2.2	1.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	106.718	0.0	4.9	0.0	16
30 min Summer	69.623	0.0	6.5	0.0	25
60 min Summer	43.443	0.0	8.1	0.0	40
120 min Summer	26.110	0.0	9.8	0.0	72
180 min Summer	19.234	0.0	10.8	0.0	104
240 min Summer	15.397	0.0	11.6	0.0	134
360 min Summer	11.131	0.0	12.5	0.0	192
480 min Summer	8.775	0.0	13.2	0.0	252
600 min Summer	7.269	0.0	13.7	0.0	312
720 min Summer	6.220	0.0	14.0	0.0	370
960 min Summer	4.847	0.0	14.6	0.0	490
1440 min Summer	3.392	0.0	15.3	0.0	734
2160 min Summer	2.370	0.0	16.0	0.0	1088
2880 min Summer	1.844	0.0	16.5	0.0	1444
4320 min Summer	1.310	0.0	17.6	0.0	2144
5760 min Summer	1.038	0.0	18.5	0.0	2864
7200 min Summer	0.873	0.0	19.4	0.0	3600
8640 min Summer	0.762	0.0	20.3	0.0	4400
10080 min Summer	0.683	0.0	21.1	0.0	4968
15 min Winter	106.718	0.0	4.9	0.0	17
30 min Winter	69.623	0.0	6.5	0.0	26
60 min Winter	43.443	0.0	8.1	0.0	42
120 min Winter	26.110	0.0	9.8	0.0	74
180 min Winter	19.234	0.0	10.8	0.0	106

241 The Broadway
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Summary of Results for 100 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	82.193	0.153	0.0	1.9	0.0	1.9	1.1	O K
360 min Winter	82.140	0.100	0.0	1.4	0.0	1.4	0.7	O K
480 min Winter	82.114	0.074	0.0	1.2	0.0	1.2	0.5	O K
600 min Winter	82.104	0.064	0.0	1.0	0.0	1.0	0.5	O K
720 min Winter	82.098	0.058	0.0	0.8	0.0	0.8	0.4	O K
960 min Winter	82.089	0.049	0.0	0.6	0.0	0.6	0.4	O K
1440 min Winter	82.080	0.040	0.0	0.4	0.0	0.4	0.3	O K
2160 min Winter	82.071	0.031	0.0	0.3	0.0	0.3	0.2	O K
2880 min Winter	82.067	0.027	0.0	0.3	0.0	0.3	0.2	O K
4320 min Winter	82.064	0.024	0.0	0.2	0.0	0.2	0.2	O K
5760 min Winter	82.061	0.021	0.0	0.1	0.0	0.1	0.2	O K
7200 min Winter	82.059	0.019	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	82.058	0.018	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	82.057	0.017	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	15.397	0.0	11.6	0.0	136
360 min Winter	11.131	0.0	12.5	0.0	194
480 min Winter	8.775	0.0	13.2	0.0	252
600 min Winter	7.269	0.0	13.7	0.0	308
720 min Winter	6.220	0.0	14.0	0.0	368
960 min Winter	4.847	0.0	14.6	0.0	488
1440 min Winter	3.392	0.0	15.3	0.0	738
2160 min Winter	2.370	0.0	16.0	0.0	1096
2880 min Winter	1.844	0.0	16.5	0.0	1472
4320 min Winter	1.310	0.0	17.6	0.0	2156
5760 min Winter	1.038	0.0	18.5	0.0	3000
7200 min Winter	0.873	0.0	19.4	0.0	3648
8640 min Winter	0.762	0.0	20.3	0.0	4384
10080 min Winter	0.683	0.0	21.1	0.0	5032

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Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 12 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	82.665	0.625	0.0	4.0	0.0	4.0	4.6	Flood Risk
30 min Summer	82.715	0.675	0.0	4.2	3.3	7.5	4.9	Flood Risk
60 min Summer	82.705	0.665	0.0	4.2	0.5	4.6	4.9	Flood Risk
120 min Summer	82.591	0.551	0.0	3.8	0.0	3.8	4.1	Flood Risk
180 min Summer	82.490	0.450	0.0	3.4	0.0	3.4	3.3	O K
240 min Summer	82.413	0.373	0.0	3.1	0.0	3.1	2.8	O K
360 min Summer	82.307	0.267	0.0	2.6	0.0	2.6	2.0	O K
480 min Summer	82.241	0.201	0.0	2.2	0.0	2.2	1.5	O K
600 min Summer	82.198	0.158	0.0	1.9	0.0	1.9	1.2	O K
720 min Summer	82.168	0.128	0.0	1.7	0.0	1.7	0.9	O K
960 min Summer	82.133	0.093	0.0	1.4	0.0	1.4	0.7	O K
1440 min Summer	82.105	0.065	0.0	1.0	0.0	1.0	0.5	O K
2160 min Summer	82.091	0.051	0.0	0.7	0.0	0.7	0.4	O K
2880 min Summer	82.084	0.044	0.0	0.5	0.0	0.5	0.3	O K
4320 min Summer	82.075	0.035	0.0	0.4	0.0	0.4	0.3	O K
5760 min Summer	82.070	0.030	0.0	0.3	0.0	0.3	0.2	O K
7200 min Summer	82.068	0.028	0.0	0.3	0.0	0.3	0.2	O K
8640 min Summer	82.066	0.026	0.0	0.2	0.0	0.2	0.2	O K
10080 min Summer	82.065	0.025	0.0	0.2	0.0	0.2	0.2	O K
15 min Winter	82.660	0.620	0.0	4.0	0.0	4.0	4.6	Flood Risk
30 min Winter	82.713	0.673	0.0	4.2	2.6	6.8	4.9	Flood Risk
60 min Winter	82.661	0.621	0.0	4.0	0.0	4.0	4.6	Flood Risk
120 min Winter	82.493	0.453	0.0	3.4	0.0	3.4	3.3	O K
180 min Winter	82.377	0.337	0.0	2.9	0.0	2.9	2.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	149.405	0.0	7.0	0.0	17
30 min Summer	97.472	0.0	9.1	0.3	24
60 min Summer	60.820	0.0	11.4	0.1	42
120 min Summer	36.554	0.0	13.8	0.0	74
180 min Summer	26.928	0.0	15.2	0.0	104
240 min Summer	21.556	0.0	16.2	0.0	136
360 min Summer	15.584	0.0	17.6	0.0	196
480 min Summer	12.284	0.0	18.5	0.0	254
600 min Summer	10.177	0.0	19.2	0.0	314
720 min Summer	8.708	0.0	19.7	0.0	374
960 min Summer	6.785	0.0	20.5	0.0	492
1440 min Summer	4.749	0.0	21.5	0.0	734
2160 min Summer	3.318	0.0	22.5	0.0	1092
2880 min Summer	2.582	0.0	23.3	0.0	1468
4320 min Summer	1.834	0.0	24.7	0.0	2200
5760 min Summer	1.453	0.0	26.1	0.0	2920
7200 min Summer	1.222	0.0	27.4	0.0	3656
8640 min Summer	1.067	0.0	28.6	0.0	4392
10080 min Summer	0.956	0.0	29.9	0.0	4960
15 min Winter	149.405	0.0	7.0	0.0	17
30 min Winter	97.472	0.0	9.1	0.2	25
60 min Winter	60.820	0.0	11.4	0.0	44
120 min Winter	36.554	0.0	13.8	0.0	76
180 min Winter	26.928	0.0	15.2	0.0	108

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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Outflow (l/s)	Max Volume (m ³)	Status
240 min Winter	82.298	0.258	0.0	2.5	0.0	2.5	1.9	O K
360 min Winter	82.206	0.166	0.0	2.0	0.0	2.0	1.2	O K
480 min Winter	82.158	0.118	0.0	1.6	0.0	1.6	0.9	O K
600 min Winter	82.131	0.091	0.0	1.3	0.0	1.3	0.7	O K
720 min Winter	82.114	0.074	0.0	1.2	0.0	1.2	0.5	O K
960 min Winter	82.101	0.061	0.0	0.9	0.0	0.9	0.5	O K
1440 min Winter	82.089	0.049	0.0	0.6	0.0	0.6	0.4	O K
2160 min Winter	82.079	0.039	0.0	0.4	0.0	0.4	0.3	O K
2880 min Winter	82.073	0.033	0.0	0.3	0.0	0.3	0.2	O K
4320 min Winter	82.067	0.027	0.0	0.3	0.0	0.3	0.2	O K
5760 min Winter	82.065	0.025	0.0	0.2	0.0	0.2	0.2	O K
7200 min Winter	82.063	0.023	0.0	0.2	0.0	0.2	0.2	O K
8640 min Winter	82.061	0.021	0.0	0.1	0.0	0.1	0.2	O K
10080 min Winter	82.060	0.020	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	21.556	0.0	16.2	0.0	138
360 min Winter	15.584	0.0	17.6	0.0	196
480 min Winter	12.284	0.0	18.5	0.0	256
600 min Winter	10.177	0.0	19.2	0.0	314
720 min Winter	8.708	0.0	19.7	0.0	372
960 min Winter	6.785	0.0	20.5	0.0	490
1440 min Winter	4.749	0.0	21.5	0.0	732
2160 min Winter	3.318	0.0	22.5	0.0	1108
2880 min Winter	2.582	0.0	23.3	0.0	1440
4320 min Winter	1.834	0.0	24.8	0.0	2164
5760 min Winter	1.453	0.0	26.1	0.0	2864
7200 min Winter	1.222	0.0	27.4	0.0	3576
8640 min Winter	1.067	0.0	28.6	0.0	4312
10080 min Winter	0.956	0.0	29.9	0.0	5024

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 455061 221552 SP 55061 21552
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	1.000
Cv (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.019

Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)
0	4	0.010	4	8	0.009

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Model Details

Storage is Online Cover Level (m) 82.851

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	2.0
Membrane Percolation (mm/hr)	1000	Length (m)	12.3
Max Percolation (l/s)	6.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	82.040	Cap Volume Depth (m)	0.661

Orifice Outflow Control

Diameter (m) 0.050 Discharge Coefficient 0.600 Invert Level (m) 82.040

Weir Overflow Control

Discharge Coef 0.544 Width (m) 1.200 Invert Level (m) 82.701

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Summary of Results for 2 year Return Period

Half Drain Time : 7 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.011	0.117	0.0	1.6	0.0	1.6	0.9	O K
30 min Summer	82.017	0.123	0.0	1.6	0.0	1.6	0.9	O K
60 min Summer	82.006	0.112	0.0	1.5	0.0	1.5	0.8	O K
120 min Summer	81.992	0.098	0.0	1.4	0.0	1.4	0.7	O K
180 min Summer	81.977	0.083	0.0	1.3	0.0	1.3	0.6	O K
240 min Summer	81.966	0.072	0.0	1.1	0.0	1.1	0.5	O K
360 min Summer	81.954	0.060	0.0	0.9	0.0	0.9	0.4	O K
480 min Summer	81.947	0.053	0.0	0.7	0.0	0.7	0.4	O K
600 min Summer	81.942	0.048	0.0	0.6	0.0	0.6	0.4	O K
720 min Summer	81.938	0.044	0.0	0.5	0.0	0.5	0.3	O K
960 min Summer	81.933	0.039	0.0	0.4	0.0	0.4	0.3	O K
1440 min Summer	81.925	0.031	0.0	0.3	0.0	0.3	0.2	O K
2160 min Summer	81.920	0.026	0.0	0.2	0.0	0.2	0.2	O K
2880 min Summer	81.918	0.024	0.0	0.2	0.0	0.2	0.2	O K
4320 min Summer	81.915	0.021	0.0	0.1	0.0	0.1	0.2	O K
5760 min Summer	81.913	0.019	0.0	0.1	0.0	0.1	0.1	O K
7200 min Summer	81.911	0.017	0.0	0.1	0.0	0.1	0.1	O K
8640 min Summer	81.910	0.016	0.0	0.1	0.0	0.1	0.1	O K
10080 min Summer	81.910	0.016	0.0	0.1	0.0	0.1	0.1	O K
15 min Winter	82.009	0.115	0.0	1.6	0.0	1.6	0.8	O K
30 min Winter	82.010	0.116	0.0	1.6	0.0	1.6	0.9	O K
60 min Winter	81.990	0.096	0.0	1.4	0.0	1.4	0.7	O K
120 min Winter	81.969	0.075	0.0	1.2	0.0	1.2	0.6	O K
180 min Winter	81.958	0.064	0.0	1.0	0.0	1.0	0.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	35.940	0.0	1.6	0.0	16
30 min Summer	22.822	0.0	2.0	0.0	23
60 min Summer	14.078	0.0	2.5	0.0	38
120 min Summer	9.627	0.0	3.5	0.0	70
180 min Summer	7.475	0.0	4.1	0.0	100
240 min Summer	6.162	0.0	4.5	0.0	128
360 min Summer	4.600	0.0	5.1	0.0	188
480 min Summer	3.694	0.0	5.5	0.0	248
600 min Summer	3.102	0.0	5.7	0.0	308
720 min Summer	2.682	0.0	6.0	0.0	370
960 min Summer	2.123	0.0	6.3	0.0	492
1440 min Summer	1.527	0.0	6.8	0.0	734
2160 min Summer	1.107	0.0	7.3	0.0	1092
2880 min Summer	0.888	0.0	7.8	0.0	1448
4320 min Summer	0.664	0.0	8.7	0.0	2192
5760 min Summer	0.548	0.0	9.6	0.0	2896
7200 min Summer	0.477	0.0	10.4	0.0	3672
8640 min Summer	0.429	0.0	11.2	0.0	4320
10080 min Summer	0.394	0.0	11.9	0.0	5048
15 min Winter	35.940	0.0	1.6	0.0	16
30 min Winter	22.822	0.0	2.0	0.0	24
60 min Winter	14.078	0.0	2.5	0.0	40
120 min Winter	9.627	0.0	3.5	0.0	70
180 min Winter	7.475	0.0	4.1	0.0	98

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Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Outflow (l/s)	Max Volume (m ³)	Status
240 min Winter	81.950	0.056	0.0	0.8	0.0	0.8	0.4	O K
360 min Winter	81.941	0.047	0.0	0.6	0.0	0.6	0.3	O K
480 min Winter	81.936	0.042	0.0	0.5	0.0	0.5	0.3	O K
600 min Winter	81.931	0.037	0.0	0.4	0.0	0.4	0.3	O K
720 min Winter	81.928	0.034	0.0	0.4	0.0	0.4	0.2	O K
960 min Winter	81.923	0.029	0.0	0.3	0.0	0.3	0.2	O K
1440 min Winter	81.919	0.025	0.0	0.2	0.0	0.2	0.2	O K
2160 min Winter	81.915	0.021	0.0	0.1	0.0	0.1	0.2	O K
2880 min Winter	81.913	0.019	0.0	0.1	0.0	0.1	0.1	O K
4320 min Winter	81.910	0.016	0.0	0.1	0.0	0.1	0.1	O K
5760 min Winter	81.909	0.015	0.0	0.1	0.0	0.1	0.1	O K
7200 min Winter	81.908	0.014	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	81.907	0.013	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	81.907	0.013	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	6.162	0.0	4.5	0.0	130
360 min Winter	4.600	0.0	5.1	0.0	190
480 min Winter	3.694	0.0	5.5	0.0	250
600 min Winter	3.102	0.0	5.7	0.0	308
720 min Winter	2.682	0.0	6.0	0.0	370
960 min Winter	2.123	0.0	6.3	0.0	492
1440 min Winter	1.527	0.0	6.8	0.0	740
2160 min Winter	1.107	0.0	7.3	0.0	1104
2880 min Winter	0.888	0.0	7.8	0.0	1472
4320 min Winter	0.664	0.0	8.7	0.0	2156
5760 min Winter	0.548	0.0	9.6	0.0	2936
7200 min Winter	0.477	0.0	10.4	0.0	3584
8640 min Winter	0.429	0.0	11.2	0.0	4328
10080 min Winter	0.394	0.0	11.9	0.0	5120

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Summary of Results for 30 year Return Period

Half Drain Time : 9 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.209	0.315	0.0	2.8	0.0	2.8	2.3	O K
30 min Summer	82.235	0.341	0.0	2.9	0.0	2.9	2.5	O K
60 min Summer	82.212	0.318	0.0	2.8	0.0	2.8	2.3	O K
120 min Summer	82.146	0.252	0.0	2.5	0.0	2.5	1.9	O K
180 min Summer	82.095	0.201	0.0	2.2	0.0	2.2	1.5	O K
240 min Summer	82.058	0.164	0.0	1.9	0.0	1.9	1.2	O K
360 min Summer	82.010	0.116	0.0	1.6	0.0	1.6	0.9	O K
480 min Summer	81.983	0.089	0.0	1.3	0.0	1.3	0.7	O K
600 min Summer	81.967	0.073	0.0	1.1	0.0	1.1	0.5	O K
720 min Summer	81.960	0.066	0.0	1.0	0.0	1.0	0.5	O K
960 min Summer	81.950	0.056	0.0	0.8	0.0	0.8	0.4	O K
1440 min Summer	81.939	0.045	0.0	0.6	0.0	0.6	0.3	O K
2160 min Summer	81.930	0.036	0.0	0.4	0.0	0.4	0.3	O K
2880 min Summer	81.925	0.031	0.0	0.3	0.0	0.3	0.2	O K
4320 min Summer	81.920	0.026	0.0	0.2	0.0	0.2	0.2	O K
5760 min Summer	81.918	0.024	0.0	0.2	0.0	0.2	0.2	O K
7200 min Summer	81.916	0.022	0.0	0.2	0.0	0.2	0.2	O K
8640 min Summer	81.914	0.020	0.0	0.1	0.0	0.1	0.1	O K
10080 min Summer	81.913	0.019	0.0	0.1	0.0	0.1	0.1	O K
15 min Winter	82.203	0.309	0.0	2.8	0.0	2.8	2.3	O K
30 min Winter	82.221	0.327	0.0	2.9	0.0	2.9	2.4	O K
60 min Winter	82.177	0.283	0.0	2.6	0.0	2.6	2.1	O K
120 min Winter	82.089	0.195	0.0	2.2	0.0	2.2	1.4	O K
180 min Winter	82.036	0.142	0.0	1.8	0.0	1.8	1.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	83.255	0.0	3.8	0.0	16
30 min Summer	53.786	0.0	5.0	0.0	24
60 min Summer	33.433	0.0	6.2	0.0	40
120 min Summer	20.390	0.0	7.6	0.0	72
180 min Summer	15.113	0.0	8.5	0.0	102
240 min Summer	12.136	0.0	9.1	0.0	132
360 min Summer	8.798	0.0	9.9	0.0	192
480 min Summer	6.947	0.0	10.4	0.0	250
600 min Summer	5.763	0.0	10.8	0.0	310
720 min Summer	4.936	0.0	11.1	0.0	368
960 min Summer	3.852	0.0	11.5	0.0	490
1440 min Summer	2.710	0.0	12.2	0.0	732
2160 min Summer	1.913	0.0	12.8	0.0	1092
2880 min Summer	1.502	0.0	13.4	0.0	1452
4320 min Summer	1.084	0.0	14.5	0.0	2152
5760 min Summer	0.870	0.0	15.4	0.0	2928
7200 min Summer	0.740	0.0	16.4	0.0	3552
8640 min Summer	0.652	0.0	17.3	0.0	4376
10080 min Summer	0.589	0.0	18.2	0.0	5048
15 min Winter	83.255	0.0	3.8	0.0	16
30 min Winter	53.786	0.0	5.0	0.0	25
60 min Winter	33.433	0.0	6.2	0.0	42
120 min Winter	20.390	0.0	7.6	0.0	74
180 min Winter	15.113	0.0	8.5	0.0	104

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Σ Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	82.003	0.109	0.0	1.5	0.0	1.5	0.8	O K
360 min Winter	81.968	0.074	0.0	1.2	0.0	1.2	0.5	O K
480 min Winter	81.956	0.062	0.0	0.9	0.0	0.9	0.5	O K
600 min Winter	81.949	0.055	0.0	0.8	0.0	0.8	0.4	O K
720 min Winter	81.944	0.050	0.0	0.7	0.0	0.7	0.4	O K
960 min Winter	81.937	0.043	0.0	0.5	0.0	0.5	0.3	O K
1440 min Winter	81.928	0.034	0.0	0.4	0.0	0.4	0.3	O K
2160 min Winter	81.922	0.028	0.0	0.3	0.0	0.3	0.2	O K
2880 min Winter	81.919	0.025	0.0	0.2	0.0	0.2	0.2	O K
4320 min Winter	81.915	0.021	0.0	0.1	0.0	0.1	0.2	O K
5760 min Winter	81.913	0.019	0.0	0.1	0.0	0.1	0.1	O K
7200 min Winter	81.911	0.017	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	81.910	0.016	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	81.910	0.016	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	12.136	0.0	9.1	0.0	134
360 min Winter	8.798	0.0	9.9	0.0	190
480 min Winter	6.947	0.0	10.4	0.0	248
600 min Winter	5.763	0.0	10.8	0.0	310
720 min Winter	4.936	0.0	11.1	0.0	368
960 min Winter	3.852	0.0	11.5	0.0	492
1440 min Winter	2.710	0.0	12.2	0.0	736
2160 min Winter	1.913	0.0	12.9	0.0	1104
2880 min Winter	1.502	0.0	13.4	0.0	1420
4320 min Winter	1.084	0.0	14.5	0.0	2192
5760 min Winter	0.870	0.0	15.4	0.0	2848
7200 min Winter	0.740	0.0	16.4	0.0	3552
8640 min Winter	0.652	0.0	17.3	0.0	4400
10080 min Winter	0.589	0.0	18.2	0.0	5240

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Summary of Results for 100 year Return Period

Half Drain Time : 11 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.315	0.421	0.0	3.3	0.0	3.3	3.1	O K
30 min Summer	82.359	0.465	0.0	3.5	0.0	3.5	3.4	O K
60 min Summer	82.334	0.440	0.0	3.4	0.0	3.4	3.2	O K
120 min Summer	82.244	0.350	0.0	3.0	0.0	3.0	2.6	O K
180 min Summer	82.174	0.280	0.0	2.6	0.0	2.6	2.1	O K
240 min Summer	82.123	0.229	0.0	2.4	0.0	2.4	1.7	O K
360 min Summer	82.056	0.162	0.0	1.9	0.0	1.9	1.2	O K
480 min Summer	82.016	0.122	0.0	1.6	0.0	1.6	0.9	O K
600 min Summer	81.991	0.097	0.0	1.4	0.0	1.4	0.7	O K
720 min Summer	81.975	0.081	0.0	1.2	0.0	1.2	0.6	O K
960 min Summer	81.959	0.065	0.0	1.0	0.0	1.0	0.5	O K
1440 min Summer	81.946	0.052	0.0	0.7	0.0	0.7	0.4	O K
2160 min Summer	81.936	0.042	0.0	0.5	0.0	0.5	0.3	O K
2880 min Summer	81.929	0.035	0.0	0.4	0.0	0.4	0.3	O K
4320 min Summer	81.922	0.028	0.0	0.3	0.0	0.3	0.2	O K
5760 min Summer	81.920	0.026	0.0	0.2	0.0	0.2	0.2	O K
7200 min Summer	81.918	0.024	0.0	0.2	0.0	0.2	0.2	O K
8640 min Summer	81.916	0.022	0.0	0.2	0.0	0.2	0.2	O K
10080 min Summer	81.915	0.021	0.0	0.1	0.0	0.1	0.2	O K
15 min Winter	82.310	0.416	0.0	3.3	0.0	3.3	3.1	O K
30 min Winter	82.342	0.448	0.0	3.4	0.0	3.4	3.3	O K
60 min Winter	82.293	0.399	0.0	3.2	0.0	3.2	2.9	O K
120 min Winter	82.172	0.278	0.0	2.6	0.0	2.6	2.1	O K
180 min Winter	82.096	0.202	0.0	2.2	0.0	2.2	1.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	106.718	0.0	4.9	0.0	16
30 min Summer	69.623	0.0	6.5	0.0	25
60 min Summer	43.443	0.0	8.1	0.0	40
120 min Summer	26.110	0.0	9.8	0.0	72
180 min Summer	19.234	0.0	10.8	0.0	104
240 min Summer	15.397	0.0	11.6	0.0	134
360 min Summer	11.131	0.0	12.5	0.0	192
480 min Summer	8.775	0.0	13.2	0.0	252
600 min Summer	7.269	0.0	13.7	0.0	312
720 min Summer	6.220	0.0	14.0	0.0	370
960 min Summer	4.847	0.0	14.6	0.0	490
1440 min Summer	3.392	0.0	15.3	0.0	734
2160 min Summer	2.370	0.0	16.0	0.0	1088
2880 min Summer	1.844	0.0	16.5	0.0	1444
4320 min Summer	1.310	0.0	17.6	0.0	2144
5760 min Summer	1.038	0.0	18.5	0.0	2864
7200 min Summer	0.873	0.0	19.4	0.0	3600
8640 min Summer	0.762	0.0	20.3	0.0	4400
10080 min Summer	0.683	0.0	21.1	0.0	4968
15 min Winter	106.718	0.0	4.9	0.0	17
30 min Winter	69.623	0.0	6.5	0.0	26
60 min Winter	43.443	0.0	8.1	0.0	42
120 min Winter	26.110	0.0	9.8	0.0	74
180 min Winter	19.234	0.0	10.8	0.0	106

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Summary of Results for 100 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	82.047	0.153	0.0	1.9	0.0	1.9	1.1	O K
360 min Winter	81.994	0.100	0.0	1.4	0.0	1.4	0.7	O K
480 min Winter	81.968	0.074	0.0	1.2	0.0	1.2	0.5	O K
600 min Winter	81.958	0.064	0.0	1.0	0.0	1.0	0.5	O K
720 min Winter	81.952	0.058	0.0	0.8	0.0	0.8	0.4	O K
960 min Winter	81.943	0.049	0.0	0.6	0.0	0.6	0.4	O K
1440 min Winter	81.934	0.040	0.0	0.4	0.0	0.4	0.3	O K
2160 min Winter	81.925	0.031	0.0	0.3	0.0	0.3	0.2	O K
2880 min Winter	81.921	0.027	0.0	0.3	0.0	0.3	0.2	O K
4320 min Winter	81.918	0.024	0.0	0.2	0.0	0.2	0.2	O K
5760 min Winter	81.915	0.021	0.0	0.1	0.0	0.1	0.2	O K
7200 min Winter	81.913	0.019	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	81.912	0.018	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	81.911	0.017	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	15.397	0.0	11.6	0.0	136
360 min Winter	11.131	0.0	12.5	0.0	194
480 min Winter	8.775	0.0	13.2	0.0	252
600 min Winter	7.269	0.0	13.7	0.0	308
720 min Winter	6.220	0.0	14.0	0.0	368
960 min Winter	4.847	0.0	14.6	0.0	488
1440 min Winter	3.392	0.0	15.3	0.0	738
2160 min Winter	2.370	0.0	16.0	0.0	1096
2880 min Winter	1.844	0.0	16.5	0.0	1472
4320 min Winter	1.310	0.0	17.6	0.0	2156
5760 min Winter	1.038	0.0	18.5	0.0	3000
7200 min Winter	0.873	0.0	19.4	0.0	3648
8640 min Winter	0.762	0.0	20.3	0.0	4384
10080 min Winter	0.683	0.0	21.1	0.0	5032

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Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 12 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	82.519	0.625	0.0	4.0	0.0	4.0	4.6	Flood Risk
30 min Summer	82.569	0.675	0.0	4.2	3.3	7.5	4.9	Flood Risk
60 min Summer	82.559	0.665	0.0	4.2	0.5	4.6	4.9	Flood Risk
120 min Summer	82.445	0.551	0.0	3.8	0.0	3.8	4.1	Flood Risk
180 min Summer	82.344	0.450	0.0	3.4	0.0	3.4	3.3	O K
240 min Summer	82.267	0.373	0.0	3.1	0.0	3.1	2.8	O K
360 min Summer	82.161	0.267	0.0	2.6	0.0	2.6	2.0	O K
480 min Summer	82.095	0.201	0.0	2.2	0.0	2.2	1.5	O K
600 min Summer	82.052	0.158	0.0	1.9	0.0	1.9	1.2	O K
720 min Summer	82.022	0.128	0.0	1.7	0.0	1.7	0.9	O K
960 min Summer	81.987	0.093	0.0	1.4	0.0	1.4	0.7	O K
1440 min Summer	81.959	0.065	0.0	1.0	0.0	1.0	0.5	O K
2160 min Summer	81.945	0.051	0.0	0.7	0.0	0.7	0.4	O K
2880 min Summer	81.938	0.044	0.0	0.5	0.0	0.5	0.3	O K
4320 min Summer	81.929	0.035	0.0	0.4	0.0	0.4	0.3	O K
5760 min Summer	81.924	0.030	0.0	0.3	0.0	0.3	0.2	O K
7200 min Summer	81.922	0.028	0.0	0.3	0.0	0.3	0.2	O K
8640 min Summer	81.920	0.026	0.0	0.2	0.0	0.2	0.2	O K
10080 min Summer	81.919	0.025	0.0	0.2	0.0	0.2	0.2	O K
15 min Winter	82.514	0.620	0.0	4.0	0.0	4.0	4.6	Flood Risk
30 min Winter	82.567	0.673	0.0	4.2	2.6	6.8	4.9	Flood Risk
60 min Winter	82.515	0.621	0.0	4.0	0.0	4.0	4.6	Flood Risk
120 min Winter	82.347	0.453	0.0	3.4	0.0	3.4	3.3	O K
180 min Winter	82.231	0.337	0.0	2.9	0.0	2.9	2.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	149.405	0.0	7.0	0.0	17
30 min Summer	97.472	0.0	9.1	0.3	24
60 min Summer	60.820	0.0	11.4	0.1	42
120 min Summer	36.554	0.0	13.8	0.0	74
180 min Summer	26.928	0.0	15.2	0.0	104
240 min Summer	21.556	0.0	16.2	0.0	136
360 min Summer	15.584	0.0	17.6	0.0	196
480 min Summer	12.284	0.0	18.5	0.0	254
600 min Summer	10.177	0.0	19.2	0.0	314
720 min Summer	8.708	0.0	19.7	0.0	374
960 min Summer	6.785	0.0	20.5	0.0	492
1440 min Summer	4.749	0.0	21.5	0.0	734
2160 min Summer	3.318	0.0	22.5	0.0	1092
2880 min Summer	2.582	0.0	23.3	0.0	1468
4320 min Summer	1.834	0.0	24.7	0.0	2200
5760 min Summer	1.453	0.0	26.1	0.0	2920
7200 min Summer	1.222	0.0	27.4	0.0	3656
8640 min Summer	1.067	0.0	28.6	0.0	4392
10080 min Summer	0.956	0.0	29.9	0.0	4960
15 min Winter	149.405	0.0	7.0	0.0	17
30 min Winter	97.472	0.0	9.1	0.2	25
60 min Winter	60.820	0.0	11.4	0.0	44
120 min Winter	36.554	0.0	13.8	0.0	76
180 min Winter	26.928	0.0	15.2	0.0	108

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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Σ Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	82.152	0.258	0.0	2.5	0.0	2.5	1.9	O K
360 min Winter	82.060	0.166	0.0	2.0	0.0	2.0	1.2	O K
480 min Winter	82.012	0.118	0.0	1.6	0.0	1.6	0.9	O K
600 min Winter	81.985	0.091	0.0	1.3	0.0	1.3	0.7	O K
720 min Winter	81.968	0.074	0.0	1.2	0.0	1.2	0.5	O K
960 min Winter	81.955	0.061	0.0	0.9	0.0	0.9	0.5	O K
1440 min Winter	81.943	0.049	0.0	0.6	0.0	0.6	0.4	O K
2160 min Winter	81.933	0.039	0.0	0.4	0.0	0.4	0.3	O K
2880 min Winter	81.927	0.033	0.0	0.3	0.0	0.3	0.2	O K
4320 min Winter	81.921	0.027	0.0	0.3	0.0	0.3	0.2	O K
5760 min Winter	81.919	0.025	0.0	0.2	0.0	0.2	0.2	O K
7200 min Winter	81.917	0.023	0.0	0.2	0.0	0.2	0.2	O K
8640 min Winter	81.915	0.021	0.0	0.1	0.0	0.1	0.2	O K
10080 min Winter	81.914	0.020	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	21.556	0.0	16.2	0.0	138
360 min Winter	15.584	0.0	17.6	0.0	196
480 min Winter	12.284	0.0	18.5	0.0	256
600 min Winter	10.177	0.0	19.2	0.0	314
720 min Winter	8.708	0.0	19.7	0.0	372
960 min Winter	6.785	0.0	20.5	0.0	490
1440 min Winter	4.749	0.0	21.5	0.0	732
2160 min Winter	3.318	0.0	22.5	0.0	1108
2880 min Winter	2.582	0.0	23.3	0.0	1440
4320 min Winter	1.834	0.0	24.8	0.0	2164
5760 min Winter	1.453	0.0	26.1	0.0	2864
7200 min Winter	1.222	0.0	27.4	0.0	3576
8640 min Winter	1.067	0.0	28.6	0.0	4312
10080 min Winter	0.956	0.0	29.9	0.0	5024

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 455061 221552 SP 55061 21552
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	1.000
Cv (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.019

Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)
0	4	0.010	4	8	0.009

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Model Details

Storage is Online Cover Level (m) 82.705

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	2.0
Membrane Percolation (mm/hr)	1000	Length (m)	12.3
Max Percolation (l/s)	6.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.894	Cap Volume Depth (m)	0.661

Orifice Outflow Control

Diameter (m) 0.050 Discharge Coefficient 0.600 Invert Level (m) 81.894

Weir Overflow Control

Discharge Coef 0.544 Width (m) 1.200 Invert Level (m) 82.555

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Summary of Results for 2 year Return Period

Half Drain Time : 7 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	81.878	0.109	0.0	1.5	0.0	1.5	0.8	O K
30 min Summer	81.885	0.116	0.0	1.6	0.0	1.6	0.9	O K
60 min Summer	81.874	0.105	0.0	1.5	0.0	1.5	0.8	O K
120 min Summer	81.861	0.092	0.0	1.4	0.0	1.4	0.7	O K
180 min Summer	81.847	0.078	0.0	1.2	0.0	1.2	0.6	O K
240 min Summer	81.838	0.069	0.0	1.1	0.0	1.1	0.5	O K
360 min Summer	81.827	0.058	0.0	0.8	0.0	0.8	0.4	O K
480 min Summer	81.820	0.051	0.0	0.7	0.0	0.7	0.4	O K
600 min Summer	81.816	0.047	0.0	0.6	0.0	0.6	0.3	O K
720 min Summer	81.812	0.043	0.0	0.5	0.0	0.5	0.3	O K
960 min Summer	81.806	0.037	0.0	0.4	0.0	0.4	0.3	O K
1440 min Summer	81.799	0.030	0.0	0.3	0.0	0.3	0.2	O K
2160 min Summer	81.795	0.026	0.0	0.2	0.0	0.2	0.2	O K
2880 min Summer	81.793	0.024	0.0	0.2	0.0	0.2	0.2	O K
4320 min Summer	81.789	0.020	0.0	0.1	0.0	0.1	0.1	O K
5760 min Summer	81.787	0.018	0.0	0.1	0.0	0.1	0.1	O K
7200 min Summer	81.786	0.017	0.0	0.1	0.0	0.1	0.1	O K
8640 min Summer	81.785	0.016	0.0	0.1	0.0	0.1	0.1	O K
10080 min Summer	81.784	0.015	0.0	0.1	0.0	0.1	0.1	O K
15 min Winter	81.876	0.107	0.0	1.5	0.0	1.5	0.8	O K
30 min Winter	81.878	0.109	0.0	1.5	0.0	1.5	0.8	O K
60 min Winter	81.859	0.090	0.0	1.3	0.0	1.3	0.7	O K
120 min Winter	81.840	0.071	0.0	1.1	0.0	1.1	0.5	O K
180 min Winter	81.830	0.061	0.0	0.9	0.0	0.9	0.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	35.940	0.0	1.5	0.0	16
30 min Summer	22.822	0.0	1.9	0.0	23
60 min Summer	14.078	0.0	2.4	0.0	38
120 min Summer	9.627	0.0	3.3	0.0	70
180 min Summer	7.475	0.0	3.9	0.0	98
240 min Summer	6.162	0.0	4.3	0.0	128
360 min Summer	4.600	0.0	4.8	0.0	188
480 min Summer	3.694	0.0	5.2	0.0	248
600 min Summer	3.102	0.0	5.4	0.0	308
720 min Summer	2.682	0.0	5.6	0.0	370
960 min Summer	2.123	0.0	5.9	0.0	492
1440 min Summer	1.527	0.0	6.4	0.0	728
2160 min Summer	1.107	0.0	6.9	0.0	1104
2880 min Summer	0.888	0.0	7.4	0.0	1460
4320 min Summer	0.664	0.0	8.3	0.0	2200
5760 min Summer	0.548	0.0	9.0	0.0	2888
7200 min Summer	0.477	0.0	9.8	0.0	3616
8640 min Summer	0.429	0.0	10.5	0.0	4312
10080 min Summer	0.394	0.0	11.3	0.0	5144
15 min Winter	35.940	0.0	1.5	0.0	16
30 min Winter	22.822	0.0	1.9	0.0	24
60 min Winter	14.078	0.0	2.4	0.0	40
120 min Winter	9.627	0.0	3.3	0.0	68
180 min Winter	7.475	0.0	3.9	0.0	98

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Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Σ Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	81.823	0.054	0.0	0.8	0.0	0.8	0.4	O K
360 min Winter	81.815	0.046	0.0	0.6	0.0	0.6	0.3	O K
480 min Winter	81.809	0.040	0.0	0.5	0.0	0.5	0.3	O K
600 min Winter	81.805	0.036	0.0	0.4	0.0	0.4	0.3	O K
720 min Winter	81.801	0.032	0.0	0.3	0.0	0.3	0.2	O K
960 min Winter	81.797	0.028	0.0	0.3	0.0	0.3	0.2	O K
1440 min Winter	81.793	0.024	0.0	0.2	0.0	0.2	0.2	O K
2160 min Winter	81.790	0.021	0.0	0.1	0.0	0.1	0.2	O K
2880 min Winter	81.787	0.018	0.0	0.1	0.0	0.1	0.1	O K
4320 min Winter	81.785	0.016	0.0	0.1	0.0	0.1	0.1	O K
5760 min Winter	81.783	0.014	0.0	0.1	0.0	0.1	0.1	O K
7200 min Winter	81.782	0.013	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	81.782	0.013	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	81.781	0.012	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	6.162	0.0	4.3	0.0	130
360 min Winter	4.600	0.0	4.8	0.0	188
480 min Winter	3.694	0.0	5.2	0.0	250
600 min Winter	3.102	0.0	5.4	0.0	308
720 min Winter	2.682	0.0	5.6	0.0	370
960 min Winter	2.123	0.0	5.9	0.0	500
1440 min Winter	1.527	0.0	6.4	0.0	738
2160 min Winter	1.107	0.0	6.9	0.0	1080
2880 min Winter	0.888	0.0	7.4	0.0	1416
4320 min Winter	0.664	0.0	8.3	0.0	2204
5760 min Winter	0.548	0.0	9.0	0.0	2936
7200 min Winter	0.477	0.0	9.8	0.0	3560
8640 min Winter	0.429	0.0	10.5	0.0	4464
10080 min Winter	0.394	0.0	11.3	0.0	5120

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Summary of Results for 30 year Return Period

Half Drain Time : 8 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.064	0.295	0.0	2.7	0.0	2.7	2.2	O K
30 min Summer	82.089	0.320	0.0	2.8	0.0	2.8	2.4	O K
60 min Summer	82.067	0.298	0.0	2.7	0.0	2.7	2.2	O K
120 min Summer	82.003	0.234	0.0	2.4	0.0	2.4	1.7	O K
180 min Summer	81.956	0.187	0.0	2.1	0.0	2.1	1.4	O K
240 min Summer	81.921	0.152	0.0	1.9	0.0	1.9	1.1	O K
360 min Summer	81.877	0.108	0.0	1.5	0.0	1.5	0.8	O K
480 min Summer	81.853	0.084	0.0	1.3	0.0	1.3	0.6	O K
600 min Summer	81.839	0.070	0.0	1.1	0.0	1.1	0.5	O K
720 min Summer	81.832	0.063	0.0	0.9	0.0	0.9	0.5	O K
960 min Summer	81.823	0.054	0.0	0.7	0.0	0.7	0.4	O K
1440 min Summer	81.813	0.044	0.0	0.5	0.0	0.5	0.3	O K
2160 min Summer	81.804	0.035	0.0	0.4	0.0	0.4	0.3	O K
2880 min Summer	81.799	0.030	0.0	0.3	0.0	0.3	0.2	O K
4320 min Summer	81.794	0.025	0.0	0.2	0.0	0.2	0.2	O K
5760 min Summer	81.792	0.023	0.0	0.2	0.0	0.2	0.2	O K
7200 min Summer	81.790	0.021	0.0	0.1	0.0	0.1	0.2	O K
8640 min Summer	81.789	0.020	0.0	0.1	0.0	0.1	0.1	O K
10080 min Summer	81.788	0.019	0.0	0.1	0.0	0.1	0.1	O K
15 min Winter	82.059	0.290	0.0	2.7	0.0	2.7	2.1	O K
30 min Winter	82.074	0.305	0.0	2.8	0.0	2.8	2.3	O K
60 min Winter	82.032	0.263	0.0	2.5	0.0	2.5	1.9	O K
120 min Winter	81.950	0.181	0.0	2.1	0.0	2.1	1.3	O K
180 min Winter	81.900	0.131	0.0	1.7	0.0	1.7	1.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	83.255	0.0	3.6	0.0	16
30 min Summer	53.786	0.0	4.7	0.0	24
60 min Summer	33.433	0.0	5.9	0.0	40
120 min Summer	20.390	0.0	7.2	0.0	72
180 min Summer	15.113	0.0	8.0	0.0	102
240 min Summer	12.136	0.0	8.6	0.0	132
360 min Summer	8.798	0.0	9.4	0.0	192
480 min Summer	6.947	0.0	9.9	0.0	250
600 min Summer	5.763	0.0	10.2	0.0	308
720 min Summer	4.936	0.0	10.5	0.0	368
960 min Summer	3.852	0.0	10.9	0.0	490
1440 min Summer	2.710	0.0	11.5	0.0	726
2160 min Summer	1.913	0.0	12.2	0.0	1080
2880 min Summer	1.502	0.0	12.7	0.0	1468
4320 min Summer	1.084	0.0	13.7	0.0	2200
5760 min Summer	0.870	0.0	14.6	0.0	2872
7200 min Summer	0.740	0.0	15.5	0.0	3640
8640 min Summer	0.652	0.0	16.3	0.0	4264
10080 min Summer	0.589	0.0	17.2	0.0	5064
15 min Winter	83.255	0.0	3.6	0.0	16
30 min Winter	53.786	0.0	4.7	0.0	25
60 min Winter	33.433	0.0	5.9	0.0	42
120 min Winter	20.390	0.0	7.2	0.0	74
180 min Winter	15.113	0.0	8.0	0.0	104

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	81.870	0.101	0.0	1.4	0.0	1.4	0.7	O K
360 min Winter	81.839	0.070	0.0	1.1	0.0	1.1	0.5	O K
480 min Winter	81.829	0.060	0.0	0.9	0.0	0.9	0.4	O K
600 min Winter	81.822	0.053	0.0	0.7	0.0	0.7	0.4	O K
720 min Winter	81.817	0.048	0.0	0.6	0.0	0.6	0.4	O K
960 min Winter	81.811	0.042	0.0	0.5	0.0	0.5	0.3	O K
1440 min Winter	81.802	0.033	0.0	0.3	0.0	0.3	0.2	O K
2160 min Winter	81.796	0.027	0.0	0.2	0.0	0.2	0.2	O K
2880 min Winter	81.793	0.024	0.0	0.2	0.0	0.2	0.2	O K
4320 min Winter	81.790	0.021	0.0	0.1	0.0	0.1	0.2	O K
5760 min Winter	81.787	0.018	0.0	0.1	0.0	0.1	0.1	O K
7200 min Winter	81.786	0.017	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	81.785	0.016	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	81.784	0.015	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	12.136	0.0	8.6	0.0	132
360 min Winter	8.798	0.0	9.4	0.0	188
480 min Winter	6.947	0.0	9.9	0.0	248
600 min Winter	5.763	0.0	10.2	0.0	312
720 min Winter	4.936	0.0	10.5	0.0	370
960 min Winter	3.852	0.0	10.9	0.0	490
1440 min Winter	2.710	0.0	11.5	0.0	730
2160 min Winter	1.913	0.0	12.2	0.0	1100
2880 min Winter	1.502	0.0	12.7	0.0	1428
4320 min Winter	1.084	0.0	13.7	0.0	2172
5760 min Winter	0.870	0.0	14.6	0.0	2928
7200 min Winter	0.740	0.0	15.5	0.0	3544
8640 min Winter	0.652	0.0	16.3	0.0	4384
10080 min Winter	0.589	0.0	17.2	0.0	5240

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Summary of Results for 100 year Return Period

Half Drain Time : 10 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.165	0.396	0.0	3.2	0.0	3.2	2.9	O K
30 min Summer	82.204	0.435	0.0	3.3	0.0	3.3	3.2	O K
60 min Summer	82.181	0.412	0.0	3.2	0.0	3.2	3.0	O K
120 min Summer	82.095	0.326	0.0	2.9	0.0	2.9	2.4	O K
180 min Summer	82.029	0.260	0.0	2.5	0.0	2.5	1.9	O K
240 min Summer	81.981	0.212	0.0	2.3	0.0	2.3	1.6	O K
360 min Summer	81.919	0.150	0.0	1.8	0.0	1.8	1.1	O K
480 min Summer	81.882	0.113	0.0	1.6	0.0	1.6	0.8	O K
600 min Summer	81.860	0.091	0.0	1.3	0.0	1.3	0.7	O K
720 min Summer	81.845	0.076	0.0	1.2	0.0	1.2	0.6	O K
960 min Summer	81.832	0.063	0.0	0.9	0.0	0.9	0.5	O K
1440 min Summer	81.819	0.050	0.0	0.7	0.0	0.7	0.4	O K
2160 min Summer	81.810	0.041	0.0	0.5	0.0	0.5	0.3	O K
2880 min Summer	81.803	0.034	0.0	0.4	0.0	0.4	0.3	O K
4320 min Summer	81.797	0.028	0.0	0.3	0.0	0.3	0.2	O K
5760 min Summer	81.794	0.025	0.0	0.2	0.0	0.2	0.2	O K
7200 min Summer	81.792	0.023	0.0	0.2	0.0	0.2	0.2	O K
8640 min Summer	81.791	0.022	0.0	0.2	0.0	0.2	0.2	O K
10080 min Summer	81.789	0.020	0.0	0.1	0.0	0.1	0.1	O K
15 min Winter	82.158	0.389	0.0	3.1	0.0	3.1	2.9	O K
30 min Winter	82.189	0.420	0.0	3.3	0.0	3.3	3.1	O K
60 min Winter	82.141	0.372	0.0	3.1	0.0	3.1	2.7	O K
120 min Winter	82.027	0.258	0.0	2.5	0.0	2.5	1.9	O K
180 min Winter	81.955	0.186	0.0	2.1	0.0	2.1	1.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	106.718	0.0	4.7	0.0	16
30 min Summer	69.623	0.0	6.1	0.0	25
60 min Summer	43.443	0.0	7.7	0.0	40
120 min Summer	26.110	0.0	9.3	0.0	72
180 min Summer	19.234	0.0	10.3	0.0	102
240 min Summer	15.397	0.0	10.9	0.0	132
360 min Summer	11.131	0.0	11.9	0.0	192
480 min Summer	8.775	0.0	12.5	0.0	252
600 min Summer	7.269	0.0	12.9	0.0	312
720 min Summer	6.220	0.0	13.3	0.0	370
960 min Summer	4.847	0.0	13.8	0.0	490
1440 min Summer	3.392	0.0	14.5	0.0	730
2160 min Summer	2.370	0.0	15.1	0.0	1092
2880 min Summer	1.844	0.0	15.7	0.0	1468
4320 min Summer	1.310	0.0	16.6	0.0	2200
5760 min Summer	1.038	0.0	17.5	0.0	2872
7200 min Summer	0.873	0.0	18.4	0.0	3552
8640 min Summer	0.762	0.0	19.2	0.0	4304
10080 min Summer	0.683	0.0	20.0	0.0	5024
15 min Winter	106.718	0.0	4.7	0.0	17
30 min Winter	69.623	0.0	6.1	0.0	25
60 min Winter	43.443	0.0	7.7	0.0	42
120 min Winter	26.110	0.0	9.3	0.0	74
180 min Winter	19.234	0.0	10.3	0.0	104

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Summary of Results for 100 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Outflow (1/s)	Max Volume (m ³)	Status
240 min Winter	81.911	0.142	0.0	1.8	0.0	1.8	1.0	O K
360 min Winter	81.862	0.093	0.0	1.4	0.0	1.4	0.7	O K
480 min Winter	81.839	0.070	0.0	1.1	0.0	1.1	0.5	O K
600 min Winter	81.831	0.062	0.0	0.9	0.0	0.9	0.5	O K
720 min Winter	81.825	0.056	0.0	0.8	0.0	0.8	0.4	O K
960 min Winter	81.817	0.048	0.0	0.6	0.0	0.6	0.4	O K
1440 min Winter	81.807	0.038	0.0	0.4	0.0	0.4	0.3	O K
2160 min Winter	81.799	0.030	0.0	0.3	0.0	0.3	0.2	O K
2880 min Winter	81.796	0.027	0.0	0.2	0.0	0.2	0.2	O K
4320 min Winter	81.792	0.023	0.0	0.2	0.0	0.2	0.2	O K
5760 min Winter	81.789	0.020	0.0	0.1	0.0	0.1	0.1	O K
7200 min Winter	81.787	0.018	0.0	0.1	0.0	0.1	0.1	O K
8640 min Winter	81.786	0.017	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	81.785	0.016	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	15.397	0.0	10.9	0.0	134
360 min Winter	11.131	0.0	11.9	0.0	192
480 min Winter	8.775	0.0	12.5	0.0	250
600 min Winter	7.269	0.0	12.9	0.0	308
720 min Winter	6.220	0.0	13.3	0.0	366
960 min Winter	4.847	0.0	13.8	0.0	484
1440 min Winter	3.392	0.0	14.5	0.0	736
2160 min Winter	2.370	0.0	15.1	0.0	1064
2880 min Winter	1.844	0.0	15.7	0.0	1448
4320 min Winter	1.310	0.0	16.6	0.0	2180
5760 min Winter	1.038	0.0	17.5	0.0	2912
7200 min Winter	0.873	0.0	18.4	0.0	3664
8640 min Winter	0.762	0.0	19.2	0.0	4416
10080 min Winter	0.683	0.0	20.0	0.0	5016

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Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 13 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	82.355	0.586	0.0	3.9	0.0	3.9	4.3	Flood Risk
30 min Summer	82.422	0.653	0.0	4.1	0.0	4.1	4.8	Flood Risk
60 min Summer	82.397	0.628	0.0	4.1	0.0	4.1	4.6	Flood Risk
120 min Summer	82.281	0.512	0.0	3.6	0.0	3.6	3.8	Flood Risk
180 min Summer	82.186	0.417	0.0	3.3	0.0	3.3	3.1	O K
240 min Summer	82.114	0.345	0.0	3.0	0.0	3.0	2.5	O K
360 min Summer	82.015	0.246	0.0	2.5	0.0	2.5	1.8	O K
480 min Summer	81.954	0.185	0.0	2.1	0.0	2.1	1.4	O K
600 min Summer	81.915	0.146	0.0	1.8	0.0	1.8	1.1	O K
720 min Summer	81.888	0.119	0.0	1.6	0.0	1.6	0.9	O K
960 min Summer	81.855	0.086	0.0	1.3	0.0	1.3	0.6	O K
1440 min Summer	81.831	0.062	0.0	0.9	0.0	0.9	0.5	O K
2160 min Summer	81.819	0.050	0.0	0.7	0.0	0.7	0.4	O K
2880 min Summer	81.812	0.043	0.0	0.5	0.0	0.5	0.3	O K
4320 min Summer	81.803	0.034	0.0	0.4	0.0	0.4	0.2	O K
5760 min Summer	81.798	0.029	0.0	0.3	0.0	0.3	0.2	O K
7200 min Summer	81.796	0.027	0.0	0.2	0.0	0.2	0.2	O K
8640 min Summer	81.794	0.025	0.0	0.2	0.0	0.2	0.2	O K
10080 min Summer	81.793	0.024	0.0	0.2	0.0	0.2	0.2	O K
15 min Winter	82.350	0.581	0.0	3.9	0.0	3.9	4.3	Flood Risk
30 min Winter	82.404	0.635	0.0	4.1	0.0	4.1	4.7	Flood Risk
60 min Winter	82.347	0.578	0.0	3.9	0.0	3.9	4.3	Flood Risk
120 min Winter	82.188	0.419	0.0	3.3	0.0	3.3	3.1	O K
180 min Winter	82.079	0.310	0.0	2.8	0.0	2.8	2.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
15 min Summer	149.405	0.0	6.6	0.0	17
30 min Summer	97.472	0.0	8.6	0.0	25
60 min Summer	60.820	0.0	10.8	0.0	42
120 min Summer	36.554	0.0	13.0	0.0	74
180 min Summer	26.928	0.0	14.4	0.0	104
240 min Summer	21.556	0.0	15.4	0.0	134
360 min Summer	15.584	0.0	16.7	0.0	194
480 min Summer	12.284	0.0	17.5	0.0	254
600 min Summer	10.177	0.0	18.2	0.0	314
720 min Summer	8.708	0.0	18.6	0.0	372
960 min Summer	6.785	0.0	19.4	0.0	492
1440 min Summer	4.749	0.0	20.3	0.0	734
2160 min Summer	3.318	0.0	21.3	0.0	1092
2880 min Summer	2.582	0.0	22.0	0.0	1456
4320 min Summer	1.834	0.0	23.4	0.0	2192
5760 min Summer	1.453	0.0	24.7	0.0	2848
7200 min Summer	1.222	0.0	25.9	0.0	3640
8640 min Summer	1.067	0.0	27.1	0.0	4288
10080 min Summer	0.956	0.0	28.3	0.0	5096
15 min Winter	149.405	0.0	6.6	0.0	17
30 min Winter	97.472	0.0	8.6	0.0	26
60 min Winter	60.820	0.0	10.8	0.0	44
120 min Winter	36.554	0.0	13.0	0.0	76
180 min Winter	26.928	0.0	14.4	0.0	108

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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Outflow (l/s)	Max Volume (m ³)	Status
240 min Winter	82.006	0.237	0.0	2.4	0.0	2.4	1.8	O K
360 min Winter	81.921	0.152	0.0	1.9	0.0	1.9	1.1	O K
480 min Winter	81.878	0.109	0.0	1.5	0.0	1.5	0.8	O K
600 min Winter	81.853	0.084	0.0	1.3	0.0	1.3	0.6	O K
720 min Winter	81.839	0.070	0.0	1.1	0.0	1.1	0.5	O K
960 min Winter	81.828	0.059	0.0	0.9	0.0	0.9	0.4	O K
1440 min Winter	81.816	0.047	0.0	0.6	0.0	0.6	0.3	O K
2160 min Winter	81.807	0.038	0.0	0.4	0.0	0.4	0.3	O K
2880 min Winter	81.801	0.032	0.0	0.3	0.0	0.3	0.2	O K
4320 min Winter	81.795	0.026	0.0	0.2	0.0	0.2	0.2	O K
5760 min Winter	81.793	0.024	0.0	0.2	0.0	0.2	0.2	O K
7200 min Winter	81.791	0.022	0.0	0.2	0.0	0.2	0.2	O K
8640 min Winter	81.789	0.020	0.0	0.1	0.0	0.1	0.1	O K
10080 min Winter	81.788	0.019	0.0	0.1	0.0	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Overflow Volume (m ³)	Time-Peak (mins)
240 min Winter	21.556	0.0	15.4	0.0	138
360 min Winter	15.584	0.0	16.7	0.0	196
480 min Winter	12.284	0.0	17.5	0.0	254
600 min Winter	10.177	0.0	18.2	0.0	314
720 min Winter	8.708	0.0	18.6	0.0	370
960 min Winter	6.785	0.0	19.4	0.0	486
1440 min Winter	4.749	0.0	20.3	0.0	722
2160 min Winter	3.318	0.0	21.3	0.0	1080
2880 min Winter	2.582	0.0	22.0	0.0	1436
4320 min Winter	1.834	0.0	23.4	0.0	2204
5760 min Winter	1.453	0.0	24.7	0.0	2840
7200 min Winter	1.222	0.0	25.9	0.0	3592
8640 min Winter	1.067	0.0	27.1	0.0	4272
10080 min Winter	0.956	0.0	28.3	0.0	5056

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 455061 221552 SP 55061 21552
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	1.000
Cv (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.018

Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)
0	4	0.010	4	8	0.008

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Model Details

Storage is Online Cover Level (m) 82.580

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	2.0
Membrane Percolation (mm/hr)	1000	Length (m)	12.3
Max Percolation (l/s)	6.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.769	Cap Volume Depth (m)	0.661

Orifice Outflow Control

Diameter (m) 0.050 Discharge Coefficient 0.600 Invert Level (m) 81.769

Weir Overflow Control

Discharge Coef 0.544 Width (m) 1.200 Invert Level (m) 82.430

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Summary of Results for 2 year Return Period

Half Drain Time : 0 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	81.646	0.000	0.0	2.9	2.9	0.0	O K
30 min Summer	81.646	0.000	0.0	2.8	2.8	0.0	O K
60 min Summer	81.646	0.000	0.0	2.3	2.3	0.0	O K
120 min Summer	81.646	0.000	0.0	1.8	1.8	0.0	O K
180 min Summer	81.646	0.000	0.0	1.5	1.5	0.0	O K
240 min Summer	81.646	0.000	0.0	1.2	1.2	0.0	O K
360 min Summer	81.646	0.000	0.0	0.9	0.9	0.0	O K
480 min Summer	81.646	0.000	0.0	0.8	0.8	0.0	O K
600 min Summer	81.646	0.000	0.0	0.6	0.6	0.0	O K
720 min Summer	81.646	0.000	0.0	0.6	0.6	0.0	O K
960 min Summer	81.646	0.000	0.0	0.4	0.4	0.0	O K
1440 min Summer	81.646	0.000	0.0	0.3	0.3	0.0	O K
2160 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
2880 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
4320 min Summer	81.646	0.000	0.0	0.1	0.1	0.0	O K
5760 min Summer	81.646	0.000	0.0	0.1	0.1	0.0	O K
7200 min Summer	81.646	0.000	0.0	0.1	0.1	0.0	O K
8640 min Summer	81.646	0.000	0.0	0.1	0.1	0.0	O K
10080 min Summer	81.646	0.000	0.0	0.1	0.1	0.0	O K
15 min Winter	81.646	0.000	0.0	2.9	2.9	0.0	O K
30 min Winter	81.646	0.000	0.0	2.5	2.5	0.0	O K
60 min Winter	81.646	0.000	0.0	1.8	1.8	0.0	O K
120 min Winter	81.646	0.000	0.0	1.3	1.3	0.0	O K
180 min Winter	81.646	0.000	0.0	1.0	1.0	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	35.940	0.0	1.6	0
30 min Summer	22.822	0.0	2.0	0
60 min Summer	14.078	0.0	2.5	0
120 min Summer	9.627	0.0	3.5	0
180 min Summer	7.475	0.0	4.1	0
240 min Summer	6.162	0.0	4.5	0
360 min Summer	4.600	0.0	5.1	0
480 min Summer	3.694	0.0	5.5	0
600 min Summer	3.102	0.0	5.7	0
720 min Summer	2.682	0.0	6.0	0
960 min Summer	2.123	0.0	6.3	0
1440 min Summer	1.527	0.0	6.8	0
2160 min Summer	1.107	0.0	7.3	0
2880 min Summer	0.888	0.0	7.8	0
4320 min Summer	0.664	0.0	8.7	0
5760 min Summer	0.548	0.0	9.6	0
7200 min Summer	0.477	0.0	10.4	0
8640 min Summer	0.429	0.0	11.2	0
10080 min Summer	0.394	0.0	11.9	0
15 min Winter	35.940	0.0	1.6	0
30 min Winter	22.822	0.0	2.0	0
60 min Winter	14.078	0.0	2.5	0
120 min Winter	9.627	0.0	3.5	0
180 min Winter	7.475	0.0	4.1	0

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Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
240 min Winter	81.646	0.000	0.0	0.8	0.8	0.0	O K
360 min Winter	81.646	0.000	0.0	0.6	0.6	0.0	O K
480 min Winter	81.646	0.000	0.0	0.5	0.5	0.0	O K
600 min Winter	81.646	0.000	0.0	0.4	0.4	0.0	O K
720 min Winter	81.646	0.000	0.0	0.4	0.4	0.0	O K
960 min Winter	81.646	0.000	0.0	0.3	0.3	0.0	O K
1440 min Winter	81.646	0.000	0.0	0.2	0.2	0.0	O K
2160 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
2880 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
4320 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
5760 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
7200 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
8640 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
10080 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
240 min Winter	6.162	0.0	4.5	0
360 min Winter	4.600	0.0	5.1	0
480 min Winter	3.694	0.0	5.5	0
600 min Winter	3.102	0.0	5.7	0
720 min Winter	2.682	0.0	6.0	0
960 min Winter	2.123	0.0	6.3	0
1440 min Winter	1.527	0.0	6.8	0
2160 min Winter	1.107	0.0	7.3	0
2880 min Winter	0.888	0.0	7.8	0
4320 min Winter	0.664	0.0	8.7	0
5760 min Winter	0.548	0.0	9.6	0
7200 min Winter	0.477	0.0	10.4	0
8640 min Winter	0.429	0.0	11.2	0
10080 min Winter	0.394	0.0	11.9	0

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Summary of Results for 30 year Return Period

Half Drain Time : 0 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	81.646	0.000	0.0	6.8	6.8	0.0	O K
30 min Summer	81.646	0.000	0.0	6.7	6.7	0.0	O K
60 min Summer	81.646	0.000	0.0	5.4	5.4	0.0	O K
120 min Summer	81.646	0.000	0.0	3.8	3.8	0.0	O K
180 min Summer	81.646	0.000	0.0	3.0	3.0	0.0	O K
240 min Summer	81.646	0.000	0.0	2.4	2.4	0.0	O K
360 min Summer	81.646	0.000	0.0	1.8	1.8	0.0	O K
480 min Summer	81.646	0.000	0.0	1.4	1.4	0.0	O K
600 min Summer	81.646	0.000	0.0	1.2	1.2	0.0	O K
720 min Summer	81.646	0.000	0.0	1.0	1.0	0.0	O K
960 min Summer	81.646	0.000	0.0	0.8	0.8	0.0	O K
1440 min Summer	81.646	0.000	0.0	0.6	0.6	0.0	O K
2160 min Summer	81.646	0.000	0.0	0.4	0.4	0.0	O K
2880 min Summer	81.646	0.000	0.0	0.3	0.3	0.0	O K
4320 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
5760 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
7200 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
8640 min Summer	81.646	0.000	0.0	0.1	0.1	0.0	O K
10080 min Summer	81.646	0.000	0.0	0.1	0.1	0.0	O K
15 min Winter	81.646	0.000	0.0	6.7	6.7	0.0	O K
30 min Winter	81.646	0.000	0.0	6.0	6.0	0.0	O K
60 min Winter	81.646	0.000	0.0	4.2	4.2	0.0	O K
120 min Winter	81.646	0.000	0.0	2.7	2.7	0.0	O K
180 min Winter	81.646	0.000	0.0	2.0	2.0	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	83.255	0.0	3.8	0
30 min Summer	53.786	0.0	5.0	0
60 min Summer	33.433	0.0	6.2	0
120 min Summer	20.390	0.0	7.6	0
180 min Summer	15.113	0.0	8.5	0
240 min Summer	12.136	0.0	9.1	0
360 min Summer	8.798	0.0	9.9	0
480 min Summer	6.947	0.0	10.4	0
600 min Summer	5.763	0.0	10.8	0
720 min Summer	4.936	0.0	11.1	0
960 min Summer	3.852	0.0	11.5	0
1440 min Summer	2.710	0.0	12.2	0
2160 min Summer	1.913	0.0	12.9	0
2880 min Summer	1.502	0.0	13.4	0
4320 min Summer	1.084	0.0	14.5	0
5760 min Summer	0.870	0.0	15.4	0
7200 min Summer	0.740	0.0	16.4	0
8640 min Summer	0.652	0.0	17.3	0
10080 min Summer	0.589	0.0	18.2	0
15 min Winter	83.255	0.0	3.8	0
30 min Winter	53.786	0.0	5.0	0
60 min Winter	33.433	0.0	6.2	0
120 min Winter	20.390	0.0	7.6	0
180 min Winter	15.113	0.0	8.5	0

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
240 min Winter	81.646	0.000	0.0	1.6	1.6	0.0	O K
360 min Winter	81.646	0.000	0.0	1.2	1.2	0.0	O K
480 min Winter	81.646	0.000	0.0	0.9	0.9	0.0	O K
600 min Winter	81.646	0.000	0.0	0.8	0.8	0.0	O K
720 min Winter	81.646	0.000	0.0	0.7	0.7	0.0	O K
960 min Winter	81.646	0.000	0.0	0.5	0.5	0.0	O K
1440 min Winter	81.646	0.000	0.0	0.4	0.4	0.0	O K
2160 min Winter	81.646	0.000	0.0	0.3	0.3	0.0	O K
2880 min Winter	81.646	0.000	0.0	0.2	0.2	0.0	O K
4320 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
5760 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
7200 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
8640 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
10080 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
240 min Winter	12.136	0.0	9.1	0
360 min Winter	8.798	0.0	9.9	0
480 min Winter	6.947	0.0	10.4	0
600 min Winter	5.763	0.0	10.8	0
720 min Winter	4.936	0.0	11.1	0
960 min Winter	3.852	0.0	11.5	0
1440 min Winter	2.710	0.0	12.2	0
2160 min Winter	1.913	0.0	12.9	0
2880 min Winter	1.502	0.0	13.4	0
4320 min Winter	1.084	0.0	14.5	0
5760 min Winter	0.870	0.0	15.4	0
7200 min Winter	0.740	0.0	16.4	0
8640 min Winter	0.652	0.0	17.3	0
10080 min Winter	0.589	0.0	18.2	0

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Summary of Results for 100 year Return Period

Half Drain Time : 0 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	81.646	0.000	0.0	8.7	8.7	0.0	O K
30 min Summer	81.646	0.000	0.0	8.7	8.7	0.0	O K
60 min Summer	81.646	0.000	0.0	7.1	7.1	0.0	O K
120 min Summer	81.646	0.000	0.0	4.9	4.9	0.0	O K
180 min Summer	81.646	0.000	0.0	3.8	3.8	0.0	O K
240 min Summer	81.646	0.000	0.0	3.1	3.1	0.0	O K
360 min Summer	81.646	0.000	0.0	2.3	2.3	0.0	O K
480 min Summer	81.646	0.000	0.0	1.8	1.8	0.0	O K
600 min Summer	81.646	0.000	0.0	1.5	1.5	0.0	O K
720 min Summer	81.646	0.000	0.0	1.3	1.3	0.0	O K
960 min Summer	81.646	0.000	0.0	1.0	1.0	0.0	O K
1440 min Summer	81.646	0.000	0.0	0.7	0.7	0.0	O K
2160 min Summer	81.646	0.000	0.0	0.5	0.5	0.0	O K
2880 min Summer	81.646	0.000	0.0	0.4	0.4	0.0	O K
4320 min Summer	81.646	0.000	0.0	0.3	0.3	0.0	O K
5760 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
7200 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
8640 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
10080 min Summer	81.646	0.000	0.0	0.1	0.1	0.0	O K
15 min Winter	81.646	0.000	0.0	8.6	8.6	0.0	O K
30 min Winter	81.646	0.000	0.0	7.7	7.7	0.0	O K
60 min Winter	81.646	0.000	0.0	5.5	5.5	0.0	O K
120 min Winter	81.646	0.000	0.0	3.4	3.4	0.0	O K
180 min Winter	81.646	0.000	0.0	2.5	2.5	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	106.718	0.0	4.9	0
30 min Summer	69.623	0.0	6.5	0
60 min Summer	43.443	0.0	8.1	0
120 min Summer	26.110	0.0	9.8	0
180 min Summer	19.234	0.0	10.8	0
240 min Summer	15.397	0.0	11.6	0
360 min Summer	11.131	0.0	12.5	0
480 min Summer	8.775	0.0	13.2	0
600 min Summer	7.269	0.0	13.7	0
720 min Summer	6.220	0.0	14.0	0
960 min Summer	4.847	0.0	14.6	0
1440 min Summer	3.392	0.0	15.3	0
2160 min Summer	2.370	0.0	16.0	0
2880 min Summer	1.844	0.0	16.5	0
4320 min Summer	1.310	0.0	17.6	0
5760 min Summer	1.038	0.0	18.5	0
7200 min Summer	0.873	0.0	19.4	0
8640 min Summer	0.762	0.0	20.3	0
10080 min Summer	0.683	0.0	21.1	0
15 min Winter	106.718	0.0	4.9	0
30 min Winter	69.623	0.0	6.5	0
60 min Winter	43.443	0.0	8.1	0
120 min Winter	26.110	0.0	9.8	0
180 min Winter	19.234	0.0	10.8	0

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Summary of Results for 100 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
240 min Winter	81.646	0.000	0.0	2.0	2.0	0.0	O K
360 min Winter	81.646	0.000	0.0	1.5	1.5	0.0	O K
480 min Winter	81.646	0.000	0.0	1.2	1.2	0.0	O K
600 min Winter	81.646	0.000	0.0	1.0	1.0	0.0	O K
720 min Winter	81.646	0.000	0.0	0.8	0.8	0.0	O K
960 min Winter	81.646	0.000	0.0	0.6	0.6	0.0	O K
1440 min Winter	81.646	0.000	0.0	0.5	0.5	0.0	O K
2160 min Winter	81.646	0.000	0.0	0.3	0.3	0.0	O K
2880 min Winter	81.646	0.000	0.0	0.2	0.2	0.0	O K
4320 min Winter	81.646	0.000	0.0	0.2	0.2	0.0	O K
5760 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
7200 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
8640 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
10080 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
240 min Winter	15.397	0.0	11.6	0
360 min Winter	11.131	0.0	12.5	0
480 min Winter	8.775	0.0	13.2	0
600 min Winter	7.269	0.0	13.7	0
720 min Winter	6.220	0.0	14.0	0
960 min Winter	4.847	0.0	14.6	0
1440 min Winter	3.392	0.0	15.3	0
2160 min Winter	2.370	0.0	16.0	0
2880 min Winter	1.844	0.0	16.5	0
4320 min Winter	1.310	0.0	17.6	0
5760 min Winter	1.038	0.0	18.5	0
7200 min Winter	0.873	0.0	19.4	0
8640 min Winter	0.762	0.0	20.3	0
10080 min Winter	0.683	0.0	21.1	0

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Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 0 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	81.646	0.000	0.0	12.2	12.2	0.0	O K
30 min Summer	81.646	0.000	0.0	12.1	12.1	0.0	O K
60 min Summer	81.646	0.000	0.0	9.9	9.9	0.0	O K
120 min Summer	81.646	0.000	0.0	6.8	6.8	0.0	O K
180 min Summer	81.646	0.000	0.0	5.3	5.3	0.0	O K
240 min Summer	81.646	0.000	0.0	4.3	4.3	0.0	O K
360 min Summer	81.646	0.000	0.0	3.2	3.2	0.0	O K
480 min Summer	81.646	0.000	0.0	2.5	2.5	0.0	O K
600 min Summer	81.646	0.000	0.0	2.1	2.1	0.0	O K
720 min Summer	81.646	0.000	0.0	1.8	1.8	0.0	O K
960 min Summer	81.646	0.000	0.0	1.4	1.4	0.0	O K
1440 min Summer	81.646	0.000	0.0	1.0	1.0	0.0	O K
2160 min Summer	81.646	0.000	0.0	0.7	0.7	0.0	O K
2880 min Summer	81.646	0.000	0.0	0.5	0.5	0.0	O K
4320 min Summer	81.646	0.000	0.0	0.4	0.4	0.0	O K
5760 min Summer	81.646	0.000	0.0	0.3	0.3	0.0	O K
7200 min Summer	81.646	0.000	0.0	0.3	0.3	0.0	O K
8640 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
10080 min Summer	81.646	0.000	0.0	0.2	0.2	0.0	O K
15 min Winter	81.646	0.000	0.0	12.1	12.1	0.0	O K
30 min Winter	81.646	0.000	0.0	10.8	10.8	0.0	O K
60 min Winter	81.646	0.000	0.0	7.6	7.6	0.0	O K
120 min Winter	81.646	0.000	0.0	4.8	4.8	0.0	O K
180 min Winter	81.646	0.000	0.0	3.6	3.6	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	149.405	0.0	7.0	0
30 min Summer	97.472	0.0	9.1	0
60 min Summer	60.820	0.0	11.4	0
120 min Summer	36.554	0.0	13.8	0
180 min Summer	26.928	0.0	15.2	0
240 min Summer	21.556	0.0	16.2	0
360 min Summer	15.584	0.0	17.6	0
480 min Summer	12.284	0.0	18.5	0
600 min Summer	10.177	0.0	19.2	0
720 min Summer	8.708	0.0	19.7	0
960 min Summer	6.785	0.0	20.5	0
1440 min Summer	4.749	0.0	21.5	0
2160 min Summer	3.318	0.0	22.5	0
2880 min Summer	2.582	0.0	23.3	0
4320 min Summer	1.834	0.0	24.8	0
5760 min Summer	1.453	0.0	26.1	0
7200 min Summer	1.222	0.0	27.4	0
8640 min Summer	1.067	0.0	28.6	0
10080 min Summer	0.956	0.0	29.9	0
15 min Winter	149.405	0.0	7.0	0
30 min Winter	97.472	0.0	9.1	0
60 min Winter	60.820	0.0	11.4	0
120 min Winter	36.554	0.0	13.8	0
180 min Winter	26.928	0.0	15.2	0

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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
240 min Winter	81.646	0.000	0.0	2.9	2.9	0.0	O K
360 min Winter	81.646	0.000	0.0	2.1	2.1	0.0	O K
480 min Winter	81.646	0.000	0.0	1.6	1.6	0.0	O K
600 min Winter	81.646	0.000	0.0	1.4	1.4	0.0	O K
720 min Winter	81.646	0.000	0.0	1.2	1.2	0.0	O K
960 min Winter	81.646	0.000	0.0	0.9	0.9	0.0	O K
1440 min Winter	81.646	0.000	0.0	0.6	0.6	0.0	O K
2160 min Winter	81.646	0.000	0.0	0.4	0.4	0.0	O K
2880 min Winter	81.646	0.000	0.0	0.3	0.3	0.0	O K
4320 min Winter	81.646	0.000	0.0	0.2	0.2	0.0	O K
5760 min Winter	81.646	0.000	0.0	0.2	0.2	0.0	O K
7200 min Winter	81.646	0.000	0.0	0.2	0.2	0.0	O K
8640 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K
10080 min Winter	81.646	0.000	0.0	0.1	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
240 min Winter	21.556	0.0	16.2	0
360 min Winter	15.584	0.0	17.6	0
480 min Winter	12.284	0.0	18.5	0
600 min Winter	10.177	0.0	19.2	0
720 min Winter	8.708	0.0	19.7	0
960 min Winter	6.785	0.0	20.5	0
1440 min Winter	4.749	0.0	21.5	0
2160 min Winter	3.318	0.0	22.5	0
2880 min Winter	2.582	0.0	23.3	0
4320 min Winter	1.834	0.0	24.8	0
5760 min Winter	1.453	0.0	26.1	0
7200 min Winter	1.222	0.0	27.4	0
8640 min Winter	1.067	0.0	28.6	0
10080 min Winter	0.956	0.0	29.9	0

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 455061 221552 SP 55061 21552
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	1.000
Cv (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.019

Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)
0	4	0.010	4	8	0.009

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Model Details

Storage is Online Cover Level (m) 82.457

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	2.0
Membrane Percolation (mm/hr)	1000	Length (m)	12.3
Max Percolation (l/s)	6.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.646	Cap Volume Depth (m)	0.661

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0197-2000-1132-2000
Design Head (m)	1.132
Design Flow (l/s)	20.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	197
Invert Level (m)	81.175
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.132	20.0	Kick-Flo®	0.790	16.8
Flush-Flo™	0.363	19.9	Mean Flow over Head Range	-	17.0

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

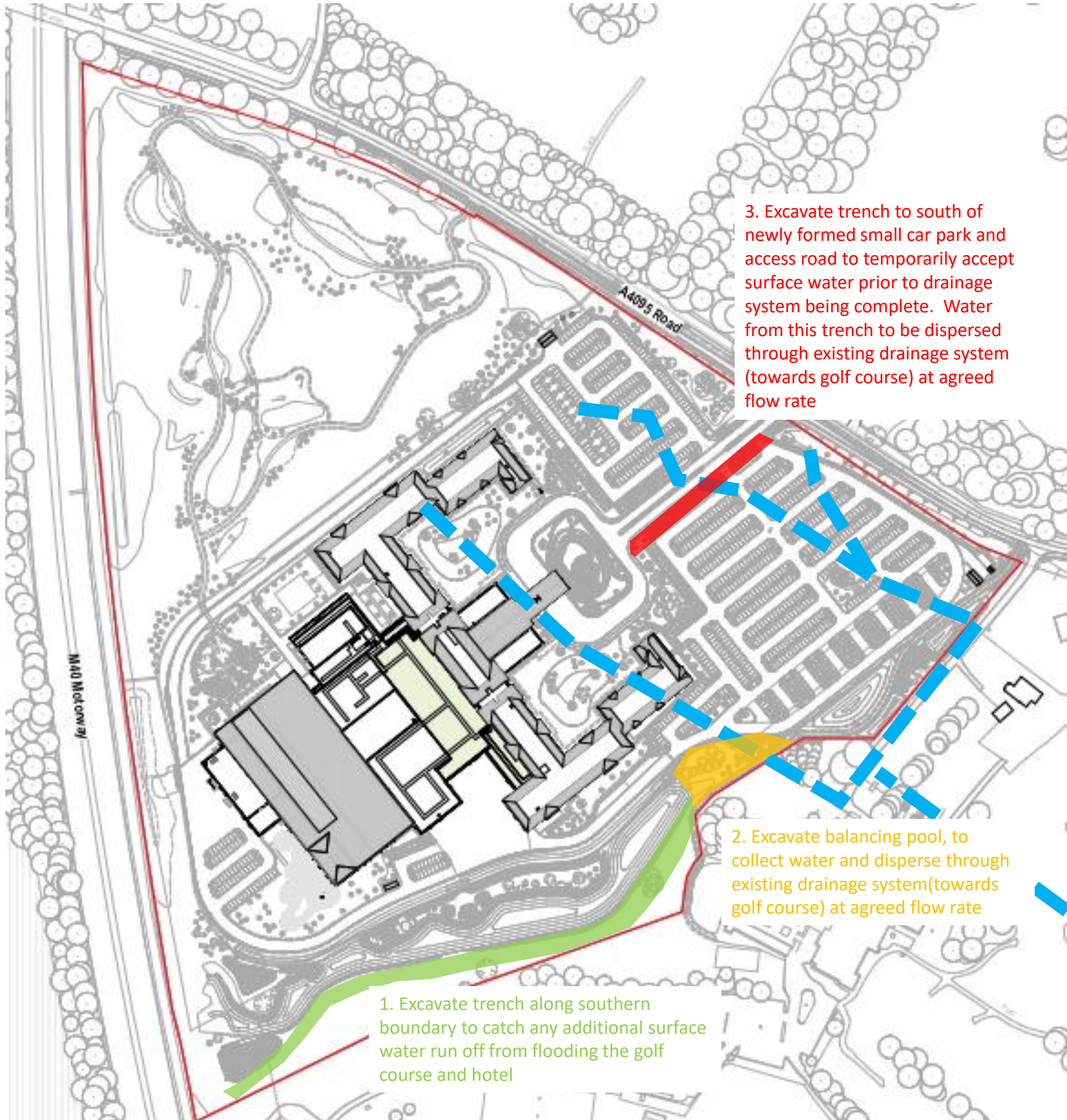
Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.8	0.800	16.9	2.000	26.2	4.000	36.6	7.000	48.0
0.200	18.4	1.000	18.8	2.200	27.4	4.500	38.7	7.500	49.6
0.300	19.8	1.200	20.5	2.400	28.6	5.000	40.7	8.000	51.2
0.400	19.9	1.400	22.1	2.600	29.7	5.500	42.7	8.500	52.7
0.500	19.6	1.600	23.6	3.000	31.8	6.000	44.5	9.000	54.2
0.600	19.2	1.800	24.9	3.500	34.3	6.500	46.3	9.500	55.6

| John Sisk & Son Temporary Surface Water Drainage
Plans





Existing Surface water drainage (French drains) overlaid with proposed building

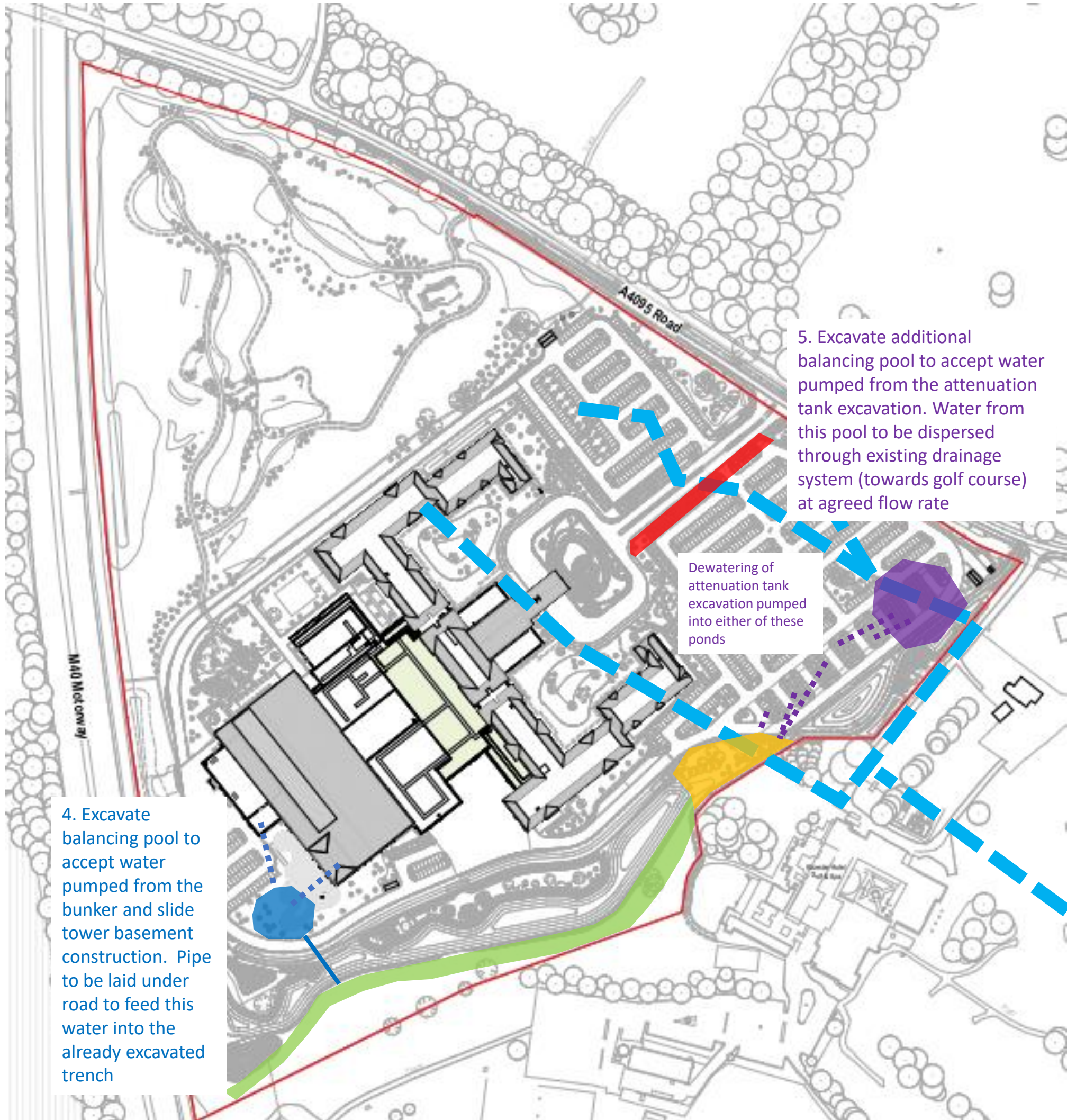


3. Excavate trench to south of newly formed small car park and access road to temporarily accept surface water prior to drainage system being complete. Water from this trench to be dispersed through existing drainage system (towards golf course) at agreed flow rate

2. Excavate balancing pool, to collect water and disperse through existing drainage system (towards golf course) at agreed flow rate

1. Excavate trench along southern boundary to catch any additional surface water run off from flooding the golf course and hotel

Stage 1 – Dewatering Strategy



4. Excavate balancing pool to accept water pumped from the bunker and slide tower basement construction. Pipe to be laid under road to feed this water into the already excavated trench

5. Excavate additional balancing pool to accept water pumped from the attenuation tank excavation. Water from this pool to be dispersed through existing drainage system (towards golf course) at agreed flow rate

Dewatering of attenuation tank excavation pumped into either of these ponds

Stage 2 – Dewatering Strategy



6. Southern perimeter trench to be connected into surface water system. Trench can be removed once swales and landscaped mounds are complete

Stage 3 – Dewatering Strategy

J FP McCann Pre-cast Concrete Tank Brochure

FP MCCANN'S STORMSTORE™ RANGE OF TANK AND CHAMBER SYSTEMS

FP McCann's Stormstore™ range of precast tank and chamber systems is the most extensive in the UK. Products manufactured include StormTank™ bespoke precast concrete panel system, StormChamber™ bespoke precast concrete chamber system, a precast concrete storm and waste water management system called Modular Tank System and StormHold™ stormwater management system. Complementary products include StormCleanser™ hydrodynamic separator, StormBrake™ vortex flow control system and StormChannel™ heavy-duty precast concrete slotted drainage channel.

KEY ADVANTAGES OF OUR RANGE

- From receiving the specification, designs can be returned within 2 days
- Complete design package provided, including calculations and drawings
- Manufactured off-site, including factory-fitted pipework and flow control connections, ensures consistent quality, lower construction costs, faster installation and lower health and safety issues
- Design service life of 100 years
- Overall cost of the project can be estimated no matter how complicated the design
- Bespoke designs can be used for reproductions and for future alterations
- No vertical shuttering required, unless an in-situ floor is installed
- Complies with all relevant British Standards and Eurocodes



STORMTANK™

MULTIPURPOSE PANEL SYSTEM

The StormTank™ multipurpose panel system is an underground structure consisting of wall panels, an in-situ or precast concrete base and cover slab, which are assembled on-site by the contractor or an approved installer using a range of standard jointing types. The panels can be made with cast-in pipe connections, recesses and openings and have penstocks or flap valves pre-installed. Internal weir-walls, overflows, underpasses and baffle walls can also be incorporated into the structure.

This system can be used for a variety of uses such as CSO chambers, storage tanks, large size manholes, pumping stations, valve chambers etc. The main advantage of using this system is that there is no size limitation, except for the height, which cannot exceed six metres, with a two metre overburden. A detailed installation guide is available. Please contact FP McCann for further details.

PRODUCT APPLICATIONS

- Air-infiltration chambers
- Hydro-brake chambers
- Large CSO chambers
- Water storage tanks
- Pumping stations
- Attenuation tanks
- Large manholes
- ASP structures
- Sludge tanks
- Basements
- Headwalls

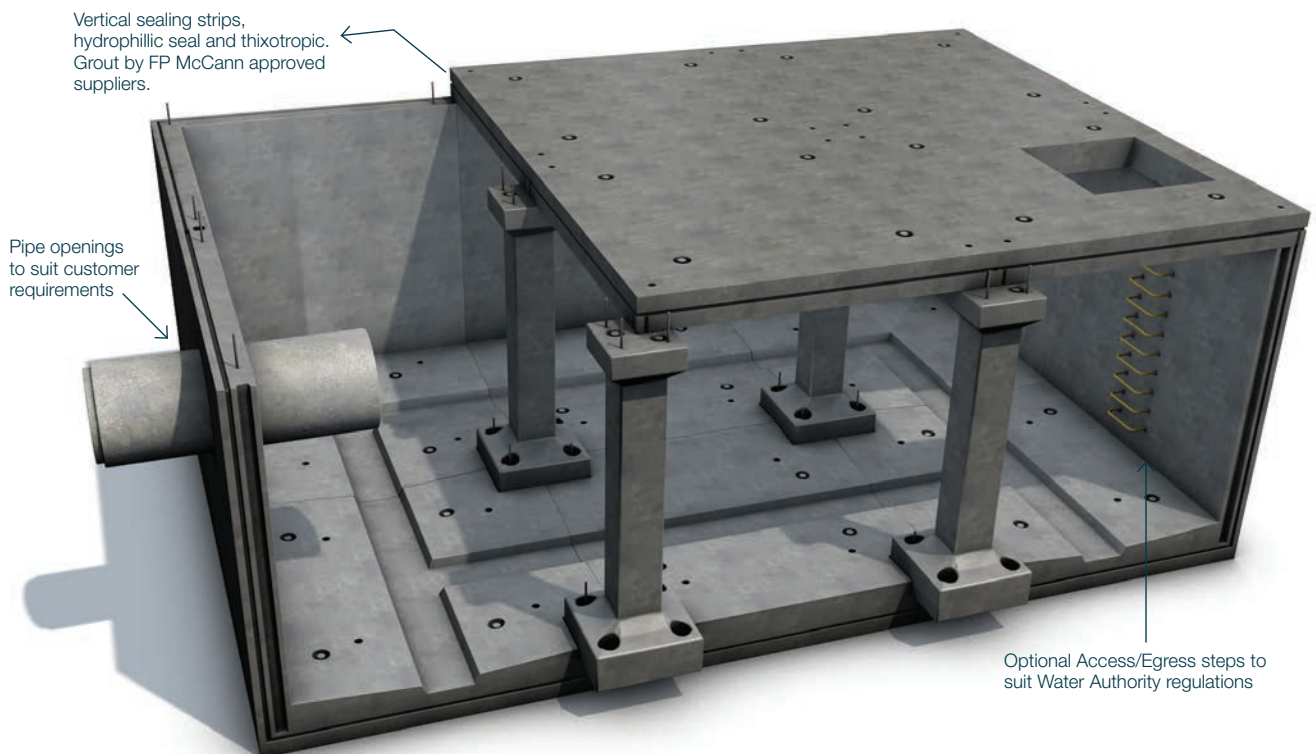




MODULAR TANK SYSTEM



FP McCann’s modular, storm and waste water management system provides a multifunctional, durable solution for the detention, retention, infiltration, harvesting and treatment of water, comprising of a combination of standardised precast concrete elements, which are designed to solve your storm and waste water management needs.



DETENTION

Provides a cost-effective solution for site applications where stormwater needs to be detained and allowed to discharge at a controlled rate.

RETENTION

Modular retention systems are ideal for applications where the goal is to retain rainwater or stormwater for some type of harvest and reuse applications.

INFILTRATION

Eliminates the issues created with discharging stormwater off-site by using the modular system to infiltrate stormwater into the soil for natural treatment and to replenish local aquifers.

HARVESTING

Water harvesting is the collection, storage, cleaning and recycling of stormwater to replace or reduce the consumption of municipal potable water.

TREATMENT

Stormwater treatment options such as pre-treatment, post-treatment and oil water separators are available as stand-alone systems, as well as integrated modular systems

BENEFITS OF MODULAR TANK SYSTEM

MANUFACTURING BENEFITS

- Manufactured locally
- Bespoke inlets and outlets
- An adoptable system which can cater for the 1 in 30 and 1 in 100 year storm event
- FP McCann uses state-of-the-art tooling to manufacture products of the highest quality
- A fully modular system encompassing inherent health and safety benefits

MAINTENANCE AND CLEANING BENEFITS

- The modular system excels where most other systems fail, incorporating features that provide maximum system performance and life cycles. As with all stormwater systems, inspection and maintenance of the modular system is vital for satisfactory performance and extended life cycle of the stormwater management system
- A self-cleansing and easy maintainable system which includes silt collection areas
- Designed to create safe walking channels during the maintenance, cleaning and inspection process
- Easily inspected visually, offering reduced inspection costs
- System provides clear lines of sight to aid health and safety during maintenance and cleaning

DESIGN BENEFITS

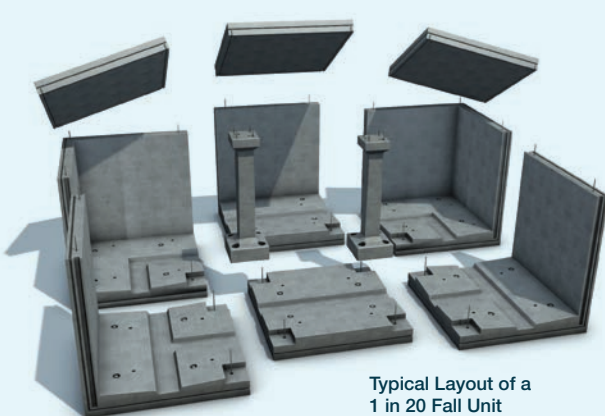
- Complies with BS EN 1992
- Grated inlets may also be incorporated to accommodate surface stormwater flows directly into the modular system, reducing the requirements for conventional site drainage components. Any grated inlets may also include pre-treatment devices for pollutant removal
- Standard units reduce design cost
- No requirement for in-situ structural topping to roof slab –

offering reduced fill depths and cost savings

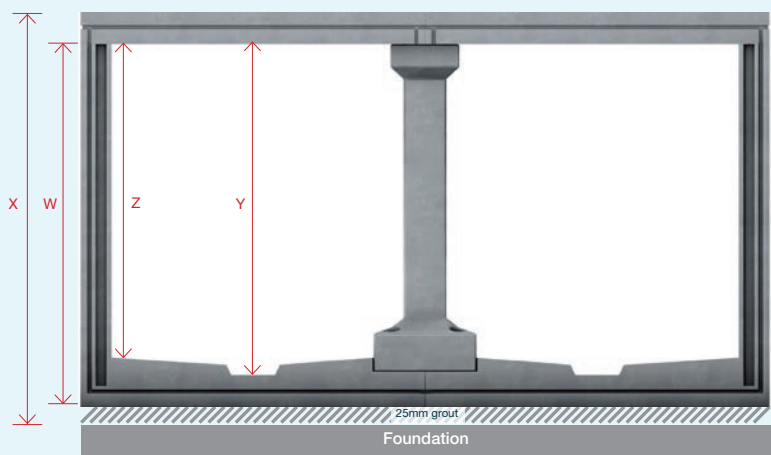
- Fully accessible system with the option of including step rungs or ladders
- A fully modular system that brings with it inherent health and safety benefits
- The design and performance meets CESWI 7th edition
- Standard internal heights from underside of roof slab to the channel inverts of 1500, 1800, 2100 and 2400mm. All available with either 1 in 4 or 1 in 20 benching gradients
- The system fully meets CE Marking requirements
- The system and installation is approved by WRc
- Complies with Sewers for Adoption 7th edition and Sewers for Scotland 3rd Edition 2015
- Precast elements manufactured using concrete with a DC4 design chemical class in accordance with BRE SD1
- Up to 2.5m overburden with a 10kN/m² surcharge
- 100 year design life
- Complies with watertightness class 1 of BS EN 1992-3
- Assumed water table at roof slab level
- Suitable for use within wastewater and stormwater drainage systems

INSTALLATION BENEFITS

- Potential savings on temporary works
- Reduced disruption due to speed of installation
- No need to wait 28 days before back filling. Backfilling can follow on after installation
- No requirement for in-situ concrete topping to roof slab
- No requirement for on-site in-situ benching
- No requirement for in-situ joint-stitching



Typical Layout of a 1 in 20 Fall Unit (Exploded View)



See tables opposite for dimensions

STORMWATER 1 IN 20 FALL UNIT DIMENSIONS

2400 internal height tank

Benching		1 in 20 fall	
Height from Top of Unit to Channel Invert (Y)	2400 internal height tank	Unit Height (W)	2650
Overall Construction Height (X)	*2925	Internal Height from top of Benching (Z)	2275
		** Weight (T)	Storage m3
Corner Unit		11.41	11.88
Type 1 Wall Unit		8.49	12.95
Type 2 Wall Unit		8.34	13.01
^Intermediate Base Unit		5.31	14.05
Column		0.88	N/A
Roof		3.88	N/A

1800 internal height tank

Benching		1 in 20 fall	
Height from Top of Unit to Channel Invert (Y)	1800 internal height tank	Unit Height (W)	2050
Overall Construction Height (X)	*2325	Internal Height from top of Benching (Z)	1675
		** Weight (T)	Storage m3
Corner Unit		9.81	8.79
Type 1 Wall Unit		7.66	9.56
Type 2 Wall Unit		7.50	9.63
^Intermediate Base Unit		5.31	10.36
Column		0.75	N/A
Roof		3.88	N/A

2100 internal height tank

Benching		1 in 20 fall	
Height from Top of Unit to Channel Invert (Y)	2100 internal height tank	Unit Height (W)	2350
Overall Construction Height (X)	*2625	Internal Height from top of Benching (Z)	1975
		** Weight (T)	Storage m3
Corner Unit		10.61	10.33
Type 1 Wall Unit		8.08	11.26
Type 2 Wall Unit		7.92	11.32
^Intermediate Base Unit		5.31	12.20
Column		0.82	N/A
Roof		3.88	N/A

1500 internal height tank

Benching		1 in 20 fall	
Height from Top of Unit to Channel Invert (Y)	1500 internal height tank	Unit Height (W)	1750
Overall Construction Height (X)	*2025	Internal Height from top of Benching (Z)	1375
		** Weight (T)	Storage m3
Corner Unit		9.01	7.24
Type 1 Wall Unit		7.24	7.87
Type 2 Wall Unit		7.09	7.94
^Intermediate Base Unit		5.31	8.51
Column		0.68	N/A
Roof		3.88	N/A

* Includes a 25mm allowance for base grout / ** All weights are approx / ^ Each unit has an overall base area of 2.5 x 2.5m

COMBINED & WASTEWATER 1 IN 4 FALL UNIT DIMENSIONS

2400 internal height tank

Benching		1 in 4 fall	
Height from Top of Unit to Channel Invert (Y)	2400 internal height tank	Unit Height (W)	2650
Overall Construction Height (X)	*2925	Internal Height from top of Benching (Z)	2120
		** Weight (T)	Storage m3
Corner Unit		12.26	11.54
Type 1 Wall Unit		9.55	12.53
Type 2 Wall Unit		9.10	12.71
^Intermediate Base Unit		6.57	13.55
Column		0.86	N/A
Roof		3.88	N/A

1800 internal height tank

Benching		1 in 4 fall	
Height from Top of Unit to Channel Invert (Y)	1800 internal height tank	Unit Height (W)	2050
Overall Construction Height (X)	*2325	Internal Height from top of Benching (Z)	1520
		** Weight (T)	Storage m3
Corner Unit		10.66	8.45
Type 1 Wall Unit		8.72	9.14
Type 2 Wall Unit		8.27	9.32
^Intermediate Base Unit		6.57	9.85
Column		0.73	N/A
Roof		3.88	N/A

2100 internal height tank

Benching		1 in 4 fall	
Height from Top of Unit to Channel Invert (Y)	2100 internal height tank	Unit Height (W)	2350
Overall Construction Height (X)	*2625	Internal Height from top of Benching (Z)	1820
		** Weight (T)	Storage m3
Corner Unit		11.46	9.99
Type 1 Wall Unit		9.13	10.84
Type 2 Wall Unit		8.68	11.02
^Intermediate Base Unit		6.57	11.70
Column		0.80	N/A
Roof		3.88	N/A

1500 internal height tank

Benching		1 in 4 fall	
Height from Top of Unit to Channel Invert (Y)	1500 internal height tank	Unit Height (W)	1750
Overall Construction Height (X)	*2025	Internal Height from top of Benching (Z)	1220
		** Weight (T)	Storage m3
Corner Unit		9.86	6.90
Type 1 Wall Unit		8.30	7.45
Type 2 Wall Unit		7.85	7.63
^Intermediate Base Unit		6.57	8.00
Column		0.66	N/A
Roof		3.88	N/A

* Includes a 25mm allowance for base grout / ** All weights are approx / ^ Each unit has an overall base area of 2.5 x 2.5m



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