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Cedar Barn White Lodge Walgrave Northampton NN6 9PY	Highover Farm, Walsworth Surface Water Network Details	
Date 31/07/2026 13:57 File Drainage Network1.MDX	Designed by SWF Checked by	
XP Solutions	Network 2020.1.3	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	20.000	Add Flow / Climate Change (%)	0
Ratio R	0.450	Minimum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	550	Maximum Backdrop Height (m)	0.000
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm at outfall SHMH265 (pipe S1.006)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.707	4-8	0.182

Total Area Contributing (ha) = 0.889

Total Pipe Volume (m³) = 25.070

Time Area Diagram at outfall SSMH158 (pipe S5.001)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.105	4-8	0.047

Total Area Contributing (ha) = 0.152

Total Pipe Volume (m³) = 3.143

Time Area Diagram at outfall SHMH279 (pipe S7.005)

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.500	4-8	0.152

Total Area Contributing (ha) = 0.652

Total Pipe Volume (m³) = 15.211

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<u>Time Area Diagram at outfall SSMH293 (pipe S9.001)</u> <table><thead><tr><th>Time (mins)</th><th>Area (ha)</th><th>Time (mins)</th><th>Area (ha)</th></tr></thead><tbody><tr><td>0-4</td><td>0.135</td><td>4-8</td><td>0.022</td></tr></tbody></table> Total Area Contributing (ha) = 0.157 Total Pipe Volume (m³) = 1.349 <u>Time Area Diagram at outfall SSMH294 (pipe S10.004)</u> <table><thead><tr><th>Time (mins)</th><th>Area (ha)</th><th>Time (mins)</th><th>Area (ha)</th></tr></thead><tbody><tr><td>0-4</td><td>0.245</td><td>4-8</td><td>0.041</td></tr></tbody></table> Total Area Contributing (ha) = 0.286 Total Pipe Volume (m³) = 4.489 <u>Time Area Diagram at outfall SSMH331 (pipe S11.001)</u> <table><thead><tr><th>Time (mins)</th><th>Area (ha)</th><th>Time (mins)</th><th>Area (ha)</th></tr></thead><tbody><tr><td>0-4</td><td>0.116</td><td>4-8</td><td>0.026</td></tr></tbody></table> Total Area Contributing (ha) = 0.142 Total Pipe Volume (m³) = 2.134 <u>Time Area Diagram at outfall SSMH286 (pipe S12.003)</u> <table><thead><tr><th>Time (mins)</th><th>Area (ha)</th><th>Time (mins)</th><th>Area (ha)</th></tr></thead><tbody><tr><td>0-4</td><td>0.303</td><td>4-8</td><td>0.071</td></tr></tbody></table> Total Area Contributing (ha) = 0.374 Total Pipe Volume (m³) = 6.362												Time (mins)	Area (ha)	Time (mins)	Area (ha)	0-4	0.135	4-8	0.022	Time (mins)	Area (ha)	Time (mins)	Area (ha)	0-4	0.245	4-8	0.041	Time (mins)	Area (ha)	Time (mins)	Area (ha)	0-4	0.116	4-8	0.026	Time (mins)	Area (ha)	Time (mins)	Area (ha)	0-4	0.303	4-8	0.071
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PN Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design																																	
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Network Design Table for Storm												
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section	Type	Auto Design
S1.000	36.768	0.450	81.7	0.074	5.00	0.0	0.600	o	225	Pipe/Conduit		
S1.001	16.342	0.310	52.7	0.074	0.00	0.0	0.600	o	300	Pipe/Conduit		
S1.002	28.907	0.790	36.6	0.074	0.00	0.0	0.600	o	300	Pipe/Conduit		
S1.003	24.995	0.875	28.6	0.074	0.00	0.0	0.600	o	300	Pipe/Conduit		
S1.004	29.749	1.195	24.9	0.074	0.00	0.0	0.600	o	300	Pipe/Conduit		
S2.000	17.902	0.225	79.6	0.074	5.00	0.0	0.600	o	225	Pipe/Conduit		
S2.001	35.689	0.300	119.0	0.074	0.00	0.0	0.600	o	300	Pipe/Conduit		
S3.000	45.506	1.050	43.3	0.074	5.00	0.0	0.600	o	225	Pipe/Conduit		
S2.002	19.688	0.175	112.5	0.074	0.00	0.0	0.600	o	300	Pipe/Conduit		
S2.003	41.317	0.795	52.0	0.074	0.00	0.0	0.600	o	450	Pipe/Conduit		
S4.000	23.831	0.170	140.2	0.074	5.00	0.0	0.600	o	225	Pipe/Conduit		
S1.005	7.073	0.150	47.2	0.075	0.00	0.0	0.600	o	450	Pipe/Conduit		
S1.006	9.184	0.430	21.4	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit		
S5.000	61.685	1.150	53.6	0.100	5.00	0.0	0.600	o	225	Pipe/Conduit		
S6.000	18.920	0.150	126.1	0.052	5.00	0.0	0.600	o	150	Pipe/Conduit		
Network Results Table												
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)		
S1.000	71.99	5.42	70.925	0.074	0.0	0.0	0.0	1.45	57.6	14.4		
S1.001	71.24	5.55	70.400	0.148	0.0	0.0	0.0	2.17	153.4	28.6		
S1.002	70.16	5.73	70.090	0.222	0.0	0.0	0.0	2.61	184.3	42.2		
S1.003	69.37	5.87	69.300	0.296	0.0	0.0	0.0	2.95	208.7	55.6		
S1.004	68.51	6.03	68.425	0.370	0.0	0.0	0.0	3.16	223.7	68.6		
S2.000	73.34	5.20	68.800	0.074	0.0	0.0	0.0	1.47	58.3	14.7		
S2.001	70.84	5.62	68.500	0.148	0.0	0.0	0.0	1.44	101.8	28.4		
S3.000	72.24	5.38	69.325	0.074	0.0	0.0	0.0	1.99	79.2	14.5		
S2.002	69.57	5.84	68.200	0.296	0.0	0.0	0.0	1.48	104.7	55.8		
S2.003	68.24	6.08	67.875	0.370	0.0	0.0	0.0	2.83	449.3	68.4		
S4.000	72.37	5.36	67.475	0.074	0.0	0.0	0.0	1.10	43.8	14.5		
S1.005	68.03	6.12	67.080	0.889	0.0	0.0	0.0	2.97	471.8	163.8		
S1.006	67.84	6.16	66.930	0.889	0.0	0.0	0.0	4.41	702.1	163.8		
S5.000	71.08	5.57	70.475	0.100	0.0	0.0	0.0	1.79	71.2	19.3		
S6.000	72.41	5.35	69.550	0.052	0.0	0.0	0.0	0.89	15.8	10.2		
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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S5.001	5.037	0.075	67.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S7.000	58.915	1.650	35.7	0.082	5.00	0.0	0.600	o	225	Pipe/Conduit	
S7.001	36.242	0.220	164.7	0.082	0.00	0.0	0.600	o	300	Pipe/Conduit	
S7.002	43.445	1.180	36.8	0.098	0.00	0.0	0.600	o	300	Pipe/Conduit	
S7.003	19.453	0.225	86.5	0.098	0.00	0.0	0.600	o	300	Pipe/Conduit	
S7.004	25.533	0.635	40.2	0.098	0.00	0.0	0.600	o	375	Pipe/Conduit	
S8.000	26.278	0.160	164.2	0.096	5.00	0.0	0.600	o	225	Pipe/Conduit	
S7.005	18.073	0.110	164.3	0.098	0.00	0.0	0.600	o	375	Pipe/Conduit	
S9.000	17.931	0.275	65.2	0.078	5.00	0.0	0.600	o	225	Pipe/Conduit	
S9.001	16.007	0.605	26.5	0.079	0.00	0.0	0.600	o	225	Pipe/Conduit	
S10.000	33.187	0.225	147.5	0.057	5.00	0.0	0.600	o	150	Pipe/Conduit	
S10.001	45.019	1.850	24.3	0.057	0.00	0.0	0.600	o	225	Pipe/Conduit	
S10.002	18.864	0.950	19.9	0.057	0.00	0.0	0.600	o	225	Pipe/Conduit	
S10.003	29.177	1.752	16.7	0.057	0.00	0.0	0.600	o	225	Pipe/Conduit	
S10.004	5.087	0.188	27.1	0.058	0.00	0.0	0.600	o	225	Pipe/Conduit	
Network Results Table											
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	
S5.001	70.83	5.62	69.250	0.152		0.0	0.0	0.0	1.92	135.8	29.2
S7.000	71.84	5.45	70.100	0.082		0.0	0.0	0.0	2.20	87.3	16.0
S7.001	69.00	5.94	68.375	0.164		0.0	0.0	0.0	1.22	86.4	30.6
S7.002	67.51	6.22	68.155	0.262		0.0	0.0	0.0	2.60	183.7	47.9
S7.003	66.52	6.41	66.975	0.360		0.0	0.0	0.0	1.69	119.6	64.9
S7.004	65.78	6.56	66.675	0.458		0.0	0.0	0.0	2.86	316.4	81.6
S8.000	71.94	5.43	66.350	0.096		0.0	0.0	0.0	1.02	40.5	18.7
S7.005	64.75	6.77	66.040	0.652		0.0	0.0	0.0	1.41	155.8	114.3
S9.000	73.46	5.18	69.650	0.078		0.0	0.0	0.0	1.62	64.5	15.5
S9.001	72.81	5.29	69.375	0.157		0.0	0.0	0.0	2.55	101.5	31.0
S10.000	70.53	5.67	72.225	0.057		0.0	0.0	0.0	0.83	14.6	10.9
S10.001	68.94	5.95	71.925	0.114		0.0	0.0	0.0	2.66	105.9	21.3
S10.002	68.36	6.06	70.075	0.171		0.0	0.0	0.0	2.95	117.3	31.7
S10.003	67.56	6.21	69.125	0.228		0.0	0.0	0.0	3.22	128.1	41.7
S10.004	67.39	6.24	67.373	0.286		0.0	0.0	0.0	2.53	100.4	52.2
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S11.000	55.787	2.450	22.8	0.071	5.00	0.0	0.600	o	150	Pipe/Conduit	
S11.001	28.873	1.300	22.2	0.071	0.00	0.0	0.600	o	225	Pipe/Conduit	
S12.000	24.182	0.775	31.2	0.053	5.00	0.0	0.600	o	150	Pipe/Conduit	
S12.001	44.250	2.932	15.1	0.053	0.00	0.0	0.600	o	225	Pipe/Conduit	
S12.002	4.839	0.093	52.0	0.053	0.00	0.0	0.600	o	225	Pipe/Conduit	
S13.000	22.938	1.125	20.4	0.053	5.00	0.0	0.600	o	150	Pipe/Conduit	
S13.001	5.520	0.025	220.8	0.054	0.00	0.0	0.600	o	225	Pipe/Conduit	
S14.000	29.418	1.650	17.8	0.054	5.00	0.0	0.600	o	150	Pipe/Conduit	
S14.001	33.022	0.200	165.1	0.054	0.00	0.0	0.600	o	225	Pipe/Conduit	
S12.003	21.570	0.744	29.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
Network Results Table											
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	
S11.000	71.89	5.44	72.150	0.071	0.0	0.0	0.0	2.12	37.5	13.8	
S11.001	70.87	5.61	69.625	0.142	0.0	0.0	0.0	2.79	110.9	27.3	
S12.000	73.22	5.22	67.950	0.053	0.0	0.0	0.0	1.81	32.0	10.5	
S12.001	71.88	5.44	67.100	0.106	0.0	0.0	0.0	3.39	134.6	20.6	
S12.002	71.61	5.49	64.168	0.159	0.0	0.0	0.0	1.82	72.3	30.8	
S13.000	73.55	5.17	65.300	0.053	0.0	0.0	0.0	2.24	39.6	10.6	
S13.001	72.89	5.28	64.100	0.107	0.0	0.0	0.0	0.88	34.8	21.1	
S14.000	73.34	5.20	66.000	0.054	0.0	0.0	0.0	2.40	42.4	10.7	
S14.001	70.09	5.75	64.275	0.108	0.0	0.0	0.0	1.01	40.3	20.5	
S12.003	69.40	5.87	64.000	0.374	0.0	0.0	0.0	2.93	207.2	70.3	
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Manhole Schedules for Storm											
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backd (mm)
SA1	72.350	1.425	Open Manhole	1350	S1.000	70.925	225				
SA2	71.900	1.500	Open Manhole	1350	S1.001	70.400	300	S1.000	70.475	225	
SA3	71.750	1.660	Open Manhole	1350	S1.002	70.090	300	S1.001	70.090	300	
SA4	70.800	1.500	Open Manhole	1350	S1.003	69.300	300	S1.002	69.300	300	
SA5	69.925	1.500	Open Manhole	1500	S1.004	68.425	300	S1.003	68.425	300	
SA6	70.275	1.475	Open Manhole	1350	S2.000	68.800	225				
SA7	70.000	1.500	Open Manhole	1350	S2.001	68.500	300	S2.000	68.575	225	
SA8	70.750	1.425	Open Manhole	1350	S3.000	69.325	225				
SA9	69.700	1.500	Open Manhole	1500	S2.002	68.200	300	S2.001	68.200	300	
								S3.000	68.275	225	
SA10	69.525	1.650	Open Manhole	1500	S2.003	67.875	450	S2.002	68.025	300	
SA11	68.900	1.425	Open Manhole	1350	S4.000	67.475	225				
SA12	69.050	1.970	Open Manhole	1800	S1.005	67.080	450	S1.004	67.230	300	
								S2.003	67.080	450	
								S4.000	67.305	225	
SA13	68.600	1.670	Open Manhole	1500	S1.006	66.930	450	S1.005	66.930	450	
SHMH265	67.000	0.500	Open Manhole	0		OUTFALL		S1.006	66.500	450	
SA14	71.900	1.425	Open Manhole	1350	S5.000	70.475	225				
SA15	70.900	1.350	Open Manhole	1350	S6.000	69.550	150				
SA16	71.400	2.150	Open Manhole	1350	S5.001	69.250	300	S5.000	69.325	225	
								S6.000	69.400	150	
SSMH158	71.201	2.026	Open Manhole	0		OUTFALL		S5.001	69.175	300	
SA17	71.525	1.425	Open Manhole	1350	S7.000	70.100	225				
SA18	69.875	1.500	Open Manhole	1350	S7.001	68.375	300	S7.000	68.450	225	
SA19	69.875	1.720	Open Manhole	1350	S7.002	68.155	300	S7.001	68.155	300	
SA20	68.475	1.500	Open Manhole	1800	S7.003	66.975	300	S7.002	66.975	300	
SA21	68.250	1.575	Open Manhole	1500	S7.004	66.675	375	S7.003	66.750	300	
SA22	67.775	1.425	Open Manhole	1500	S8.000	66.350	225				
SA23	68.000	1.960	Open Manhole	1800	S7.005	66.040	375	S7.004	66.040	375	
								S8.000	66.190	225	
SHMH279	66.704	0.774	Open Manhole	0		OUTFALL		S7.005	65.930	375	
SA25	71.075	1.425	Open Manhole	1350	S9.000	69.650	225				
SA26	70.800	1.425	Open Manhole	1350	S9.001	69.375	225	S9.000	69.375	225	
SSMH293	70.550	1.780	Open Manhole	0		OUTFALL		S9.001	68.770	225	
SA27	73.575	1.350	Open Manhole	1350	S10.000	72.225	150				
SA28	73.775	1.850	Open Manhole	1350	S10.001	71.925	225	S10.000	72.000	150	
SA29	71.500	1.425	Open Manhole	1350	S10.002	70.075	225	S10.001	70.075	225	
SA30	70.550	1.425	Open Manhole	1350	S10.003	69.125	225	S10.002	69.125	225	
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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backd (mm)
SA31	69.025	1.652	Open Manhole	1350	S10.004	67.373	225	S10.003	67.373	225	
SSMH294	68.825	1.640	Open Manhole	0		OUTFALL		S10.004	67.185	225	
SA32	73.500	1.350	Open Manhole	1350	S11.000	72.150	150				
SA33	71.050	1.425	Open Manhole	1350	S11.001	69.625	225	S11.000	69.700	150	
SSMH331	69.800	1.475	Open Manhole	0		OUTFALL		S11.001	68.325	225	
SA34	69.300	1.350	Open Manhole	1350	S12.000	67.950	150				
SA35	68.525	1.425	Open Manhole	1350	S12.001	67.100	225	S12.000	67.175	150	
SA36	66.450	2.282	Open Manhole	1350	S12.002	64.168	225	S12.001	64.168	225	
SA37	66.650	1.350	Open Manhole	1350	S13.000	65.300	150				
SA38	66.425	2.325	Open Manhole	1350	S13.001	64.100	225	S13.000	64.175	150	
SA39	67.350	1.350	Open Manhole	1350	S14.000	66.000	150				
SA40	66.800	2.525	Open Manhole	1500	S14.001	64.275	225	S14.000	64.350	150	
SA41	66.375	2.375	Open Manhole	1500	S12.003	64.000	300	S12.002	64.075	225	
								S13.001	64.075	225	
								S14.001	64.075	225	
SSMH286	66.375	3.119	Open Manhole	0		OUTFALL		S12.003	63.256	300	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SA1	519979.120	231149.292	519979.120	231149.292	Required	
SA2	519966.958	231183.991	519966.958	231183.991	Required	
SA3	519970.924	231199.844	519970.924	231199.844	Required	
SA4	519944.744	231212.098	519944.744	231212.098	Required	
SA5	519924.578	231226.867	519924.578	231226.867	Required	
SA6	519852.640	231143.085	519852.640	231143.085	Required	
SA7	519846.694	231159.971	519846.694	231159.971	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SA8	519905.269	231166.120	519905.269	231166.120	Required	
SA9	519866.375	231189.743	519866.375	231189.743	Required	
SA10	519875.578	231207.148	519875.578	231207.148	Required	
SA11	519912.029	231261.144	519912.029	231261.144	Required	
SA12	519898.638	231241.431	519898.638	231241.431	Required	
SA13	519892.754	231245.356	519892.754	231245.356	Required	
SHMH265	519885.265	231250.673			No Entry	
SA14	519927.516	231123.145	519927.516	231123.145	Required	
SA15	519864.546	231120.963	519864.546	231120.963	Required	
SA16	519869.332	231102.659	519869.332	231102.659	Required	
SSMH158	519864.673	231100.746			No Entry	
SA17	520025.271	231223.533	520025.271	231223.533	Required	
SA18	520005.053	231278.870	520005.053	231278.870	Required	
SA19	519970.511	231267.900	519970.511	231267.900	Required	
SA20	519934.483	231292.180	519934.483	231292.180	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)
SA21	519943.078	231309.631	519943.078	231309.631	Required	
SA22	519986.646	231336.564	519986.646	231336.564	Required	
SA23	519962.492	231326.215	519962.492	231326.215	Required	
SHMH279	519951.551	231340.600			No Entry	
SA25	520054.617	231233.297	520054.617	231233.297	Required	
SA26	520071.648	231238.908	520071.648	231238.908	Required	
SSMH293	520087.632	231239.758			No Entry	
SA27	520139.271	231193.764	520139.271	231193.764	Required	
SA28	520169.366	231207.752	520169.366	231207.752	Required	
SA29	520150.841	231248.784	520150.841	231248.784	Required	
SA30	520138.647	231263.177	520138.647	231263.177	Required	
SA31	520114.078	231278.913	520114.078	231278.913	Required	
SSMH294	520109.723	231281.543			No Entry	
SA32	520222.345	231232.910	520222.345	231232.910	Required	
SA33	520204.977	231285.924	520204.977	231285.924	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SSMH331	520187.105	231308.601			No Entry	
SA34	520029.423	231288.328	520029.423	231288.328	Required	
SA35	520052.106	231296.710	520052.106	231296.710	Required	
SA36	520071.580	231336.445	520071.580	231336.445	Required	
SA37	520102.243	231332.777	520102.243	231332.777	Required	
SA38	520080.121	231338.840	520080.121	231338.840	Required	
SA39	520013.421	231346.842	520013.421	231346.842	Required	
SA40	520042.795	231348.443	520042.795	231348.443	Required	
SA41	520074.747	231340.104	520074.747	231340.104	Required	
SSMH286	520079.841	231361.064			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	225	SA1	72.350	70.925	1.200	Open Manhole	1350
S1.001	o	300	SA2	71.900	70.400	1.200	Open Manhole	1350
S1.002	o	300	SA3	71.750	70.090	1.360	Open Manhole	1350
S1.003	o	300	SA4	70.800	69.300	1.200	Open Manhole	1350
S1.004	o	300	SA5	69.925	68.425	1.200	Open Manhole	1500
S2.000	o	225	SA6	70.275	68.800	1.250	Open Manhole	1350
S2.001	o	300	SA7	70.000	68.500	1.200	Open Manhole	1350
S3.000	o	225	SA8	70.750	69.325	1.200	Open Manhole	1350
S2.002	o	300	SA9	69.700	68.200	1.200	Open Manhole	1500
S2.003	o	450	SA10	69.525	67.875	1.200	Open Manhole	1500
S4.000	o	225	SA11	68.900	67.475	1.200	Open Manhole	1350
S1.005	o	450	SA12	69.050	67.080	1.520	Open Manhole	1800
S1.006	o	450	SA13	68.600	66.930	1.220	Open Manhole	1500
S5.000	o	225	SA14	71.900	70.475	1.200	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)
S1.000	36.768	81.7	SA2	71.900	70.475	1.200	Open Manhole	1350
S1.001	16.342	52.7	SA3	71.750	70.090	1.360	Open Manhole	1350
S1.002	28.907	36.6	SA4	70.800	69.300	1.200	Open Manhole	1350
S1.003	24.995	28.6	SA5	69.925	68.425	1.200	Open Manhole	1500
S1.004	29.749	24.9	SA12	69.050	67.230	1.520	Open Manhole	1800
S2.000	17.902	79.6	SA7	70.000	68.575	1.200	Open Manhole	1350
S2.001	35.689	119.0	SA9	69.700	68.200	1.200	Open Manhole	1500
S3.000	45.506	43.3	SA9	69.700	68.275	1.200	Open Manhole	1500
S2.002	19.688	112.5	SA10	69.525	68.025	1.200	Open Manhole	1500
S2.003	41.317	52.0	SA12	69.050	67.080	1.520	Open Manhole	1800
S4.000	23.831	140.2	SA12	69.050	67.305	1.520	Open Manhole	1800
S1.005	7.073	47.2	SA13	68.600	66.930	1.220	Open Manhole	1500
S1.006	9.184	21.4	SHMH265	67.000	66.500	0.050	Open Manhole	0
S5.000	61.685	53.6	SA16	71.400	69.325	1.850	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)
S6.000	o	150	SA15	70.900	69.550	1.200	Open Manhole	1350
S5.001	o	300	SA16	71.400	69.250	1.850	Open Manhole	1350
S7.000	o	225	SA17	71.525	70.100	1.200	Open Manhole	1350
S7.001	o	300	SA18	69.875	68.375	1.200	Open Manhole	1350
S7.002	o	300	SA19	69.875	68.155	1.420	Open Manhole	1350
S7.003	o	300	SA20	68.475	66.975	1.200	Open Manhole	1800
S7.004	o	375	SA21	68.250	66.675	1.200	Open Manhole	1500
S8.000	o	225	SA22	67.775	66.350	1.200	Open Manhole	1500
S7.005	o	375	SA23	68.000	66.040	1.585	Open Manhole	1800
S9.000	o	225	SA25	71.075	69.650	1.200	Open Manhole	1350
S9.001	o	225	SA26	70.800	69.375	1.200	Open Manhole	1350
S10.000	o	150	SA27	73.575	72.225	1.200	Open Manhole	1350
S10.001	o	225	SA28	73.775	71.925	1.625	Open Manhole	1350
S10.002	o	225	SA29	71.500	70.075	1.200	Open Manhole	1350
S10.003	o	225	SA30	70.550	69.125	1.200	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)
S6.000	18.920	126.1	SA16	71.400	69.400	1.850	Open Manhole	1350
S5.001	5.037	67.2	SSMH158	71.201	69.175	1.726	Open Manhole	0
S7.000	58.915	35.7	SA18	69.875	68.450	1.200	Open Manhole	1350
S7.001	36.242	164.7	SA19	69.875	68.155	1.420	Open Manhole	1350
S7.002	43.445	36.8	SA20	68.475	66.975	1.200	Open Manhole	1800
S7.003	19.453	86.5	SA21	68.250	66.750	1.200	Open Manhole	1500
S7.004	25.533	40.2	SA23	68.000	66.040	1.585	Open Manhole	1800
S8.000	26.278	164.2	SA23	68.000	66.190	1.585	Open Manhole	1800
S7.005	18.073	164.3	SHMH279	66.704	65.930	0.399	Open Manhole	0
S9.000	17.931	65.2	SA26	70.800	69.375	1.200	Open Manhole	1350
S9.001	16.007	26.5	SSMH293	70.550	68.770	1.555	Open Manhole	0
S10.000	33.187	147.5	SA28	73.775	72.000	1.625	Open Manhole	1350
S10.001	45.019	24.3	SA29	71.500	70.075	1.200	Open Manhole	1350
S10.002	18.864	19.9	SA30	70.550	69.125	1.200	Open Manhole	1350
S10.003	29.177	16.7	SA31	69.025	67.373	1.427	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)
S10.004	o	225	SA31	69.025	67.373	1.427	Open Manhole	1350
S11.000	o	150	SA32	73.500	72.150	1.200	Open Manhole	1350
S11.001	o	225	SA33	71.050	69.625	1.200	Open Manhole	1350
S12.000	o	150	SA34	69.300	67.950	1.200	Open Manhole	1350
S12.001	o	225	SA35	68.525	67.100	1.200	Open Manhole	1350
S12.002	o	225	SA36	66.450	64.168	2.057	Open Manhole	1350
S13.000	o	150	SA37	66.650	65.300	1.200	Open Manhole	1350
S13.001	o	225	SA38	66.425	64.100	2.100	Open Manhole	1350
S14.000	o	150	SA39	67.350	66.000	1.200	Open Manhole	1350
S14.001	o	225	SA40	66.800	64.275	2.300	Open Manhole	1500
S12.003	o	300	SA41	66.375	64.000	2.075	Open Manhole	1500

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)
S10.004	5.087	27.1	SSMH294	68.825	67.185	1.415	Open Manhole	0
S11.000	55.787	22.8	SA33	71.050	69.700	1.200	Open Manhole	1350
S11.001	28.873	22.2	SSMH331	69.800	68.325	1.250	Open Manhole	0
S12.000	24.182	31.2	SA35	68.525	67.175	1.200	Open Manhole	1350
S12.001	44.250	15.1	SA36	66.450	64.168	2.057	Open Manhole	1350
S12.002	4.839	52.0	SA41	66.375	64.075	2.075	Open Manhole	1500
S13.000	22.938	20.4	SA38	66.425	64.175	2.100	Open Manhole	1350
S13.001	5.520	220.8	SA41	66.375	64.075	2.075	Open Manhole	1500
S14.000	29.418	17.8	SA40	66.800	64.350	2.300	Open Manhole	1500
S14.001	33.022	165.1	SA41	66.375	64.075	2.075	Open Manhole	1500
S12.003	21.570	29.0	SSMH286	66.375	63.256	2.819	Open Manhole	0