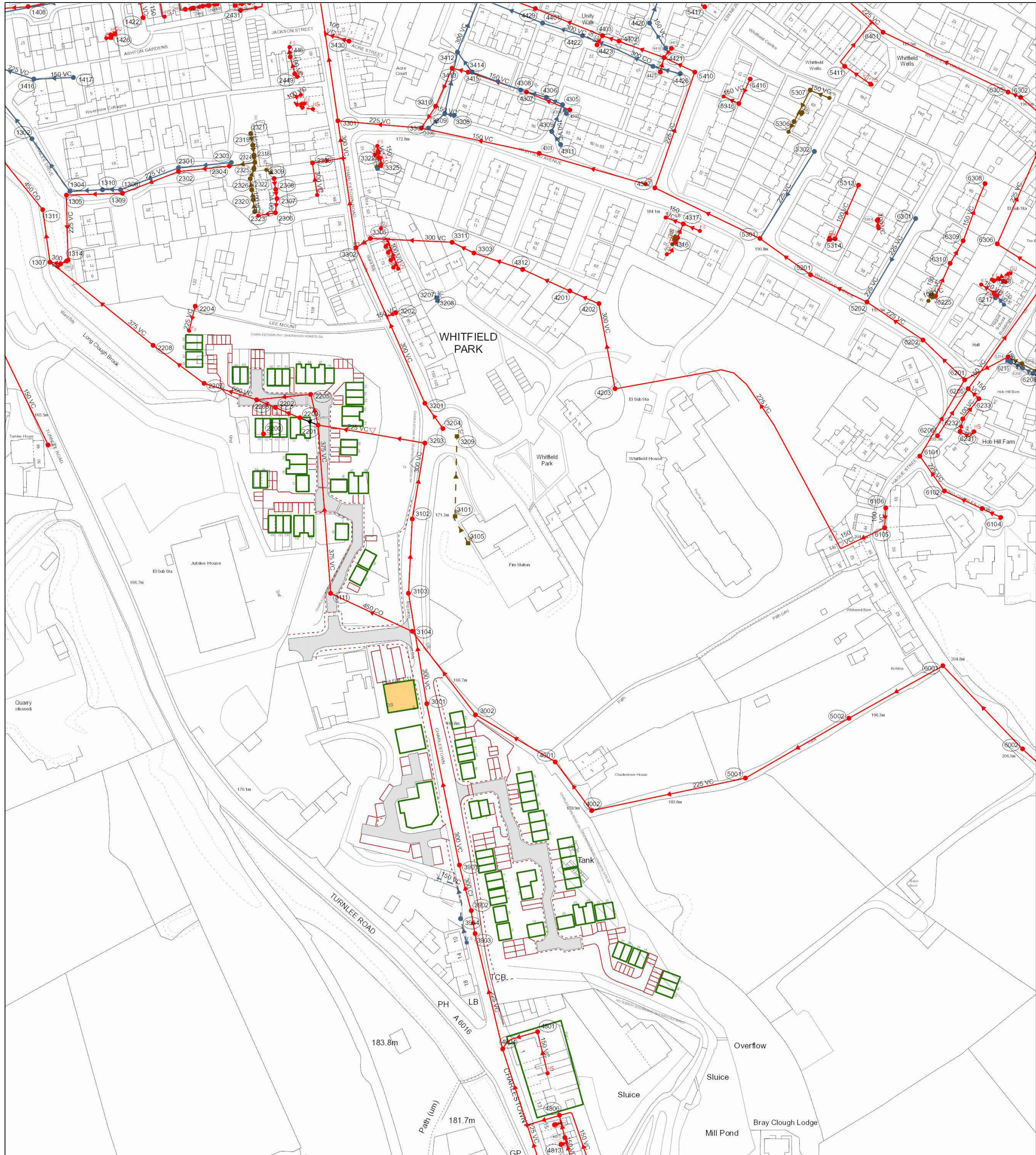




Reho	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
1417	163.31	SW	162.05	150			VC	22.02271	
6103		CO	0	225			VC	22.83866	
2309		CO	0	100			VC	6.160254	
2208	167.63	CO	165.97	375			VC	73.24954	1 in 23
6210	208.22	SW	204.1	375			VC	7.316601	1 in 73
3415	173.61	CO	177.81	150			VC	9.219544	1 in 34
2425		CO	0	100			VC	4.529499	0
6106		CO	0	100			VC	11.08181	0
3322		CO	0	100			VC	3.816468	1 in 15
2303	165.95	SW	164.48	225			VC	29.15476	1 in 15
5307		FO	162.5	150			VC	19.34705	1 in 12
2301	163.7	SW	162.5	225			VC	34.17601	1 in 12
4307	176.16	CO	174.24	150			VC	33.83755	1 in 14
4301	164.8	CO	163.5	150			VC	34.4903	1 in 8
4303	178.09	CO	176.4	150			VC	28	1 in 12
1304	159.83	SW	157.48	225			VC	35.85053	1 in 16
1408	159.18	CO	153.93	450			CO	16.03222	1 in 5
3001	165.9	CO	163.24	300			VC	61.81424	1 in 199
4201		CO	0	300			VC	28.63664	0
5202	198	CO	194.31	225			VC	34.43555	1 in 26
3309	173.85	SW	170.35	300			VC	34.71311	1 in 14
1312	157.48	CO	153.32	300			VC	2.828427	1 in 295
6102		CO	0	150			VC	23.44584	0
4401	175.33	SW	173.35	300			VC	37.89616	1 in 14
4304	178.05	SW	176.44	150			VC	5.385165	1 in 7
3301	173.28	CO	171.4	300			VC	84.02206	1 in 43
4301	178.01	CO	175.93	150			VC	86.4956	1 in 14
3601	166.25	CO	163.69	300			VC	80.80158	1 in 202
1307	156.8	CO	152.76	450			CO	29.27456	1 in 46
1422		CO	0	150			VC	17.91763	0
6306	201.41	CO	199.84	225			VC	54.626	0
1201	163.28	CO	164.25	150			VC	151.1668	0
6002	205.22	CO	202.79	225			VC	63.65532	1 in 73
1305	156.77	CO	157.15	225			VC	36.13389	1 in 41
6206		CO	0	150			VC	31.06445	0
1312	157.48	CO	153.15	300			VC	6.082763	1 in 30
4001		CO	0	100			VC	22.59169	0
5314		CO	0	100			VC	32.24767	0
6232		CO	0	100			VC	14.43019	0
3904		SW	150				VC	30.74857	0
6201	205.54	CO	202.9	225			VC	31.82786	1 in 10
6231		CO	0	100			VC	7.202855	0
1302	156.87	SW	155.27	225			VC	27.01851	1 in 23
3602	166.83	CO	165.77	300			VC	26.12662	1 in 54
3111	162.89	CO	161.37	375			VC	93.26307	1 in 52
4311	178.62	CO	178.07	150			VC	8.603225	1 in 20
3306	173.08	CO	171.04	225			VC	46.17358	1 in 17
3203	172.81	CO	162.35	300			VC	29.42788	1 in 19
6305	194.38	CO	192.48	225			VC	76.48629	1 in 8
4317		CO	0	150			VC	10.43143	0
5411		CO	0	150			VC	31.5699	0
3301	170.77	CO	167.8	300			VC	68.73148	0
6231		CO	0	204			VC	1.13574	1 in 3
6215	205.68	SW	204	225			VC	3.244032	1 in 8
1314	156.77	CO	154.22	225			VC	4.472136	1 in 7
5306	159.28	FO	156.28	150			VC	6.399777	0
4411	189.89	CO	179.01	150			VC	6.403124	1 in 12
3310	173.82	CO	171.46	150			VC	14.4222	1 in 40
4424	180.53	SW	178.55	300			CO	21.0238	1 in 19
4420		CO	0	150			VC	17.68901	0
4804	170.59	CO	168.27	225			VC	65.34876	1 in 29
3302	172.11	CO	169.23	300			VC	49.92272	1 in 54
3903	167.19	CO	166.01	225			VC	12.86355	1 in 29
6238		CO	0	150			VC	1.202026	0
2305	163.39	CO	159	375			VC	30.14863	1 in 29
5002	194.98	CO	192.04	225			VC	65.86349	1 in 10
4002		CO	0	300			VC	17.25347	0
3102	171.43	CO	162.77	300			VC	42.57934	1 in 10
4302		CO	0	225			VC	33.60059	0
4309	178.02	SW	176.45	150			VC	16.15549	1 in 22
3412	173.25	SW	170.83	300			VC	32.10089	1 in 215
4312		CO	0	300			VC	28.4605	0
6213	205.12	FO	205	150			VC	8.528469	1 in 14
6208	207.53	SW	206	225			VC	6.337348	1 in 3
4426	181.93	SW	179.34	300			CO	15.52417	1 in 20
2446		CO	0	100			VC	6.012399	0
4403	175.9	CO	0	225			VC	39.92493	0
3104	167.75	CO	162.9	450			VC	49.55884	1 in 32
4410	180.57	SW	178.97	150			VC	16.64332	0
6101		CO	0	225			VC	48.87002	0
2308		CO	0	100			VC	5.083012	0
4202		CO	0	300			VC	17.46425	0
4302	195.28	CO	193.17	225			VC	7.415773	1 in 9
1308	161.2	SW	159.68	225			VC	10	1 in 11
5417		CO	0	150			VC	23.89788	0
4302	184.23	CO	182.05	225			VC	67.6757	1 in 40
1311	155.02	CO	152.12	450			CO	79.64699	1 in 52
2207	159.86	CO	157.09	375			VC	35	1 in 31
4001	175.2	CO	173.82	225			VC	51.10773	1 in 8
4402	177.1	CO	174.11	225			VC	9.468633	0
2304	165.91	CO	164.21	225			VC	28.16026	1 in 14
6301	195.15	SW	195.02	225			VC	53.33854	1 in 86
2438		CO	0	150			VC	20.91241	0
3430	176.25	CO	169.58	150			VC	6.324555	1 in 0
5302	189.54	SW	186.46	225			VC	56.60389	1 in 118
4422	178.25	SW	176.52	300			VC	23.08679	1 in 7
6105		CO	0	150			VC	26.98999	0
2436		CO	0	150			VC	5.173705	0
3308	173.99	SW	172.22	150			VC	5.09902	1 in 4
2431		CO	0	100			VC	18.41538	0
6001	204.79	SW	201.92	225			VC	59.5399	1 in 7
2302	163.67	CO	162.25	225			VC	33.24154	1 in 12
3307	173.26	SW	171.22	300			VC	12.04159	1 in 46
1310	160.19	SW	158.79	225			VC	18.52776	1 in 14
3103	169.18	CO	162.93	300			VC	41.04875	1 in 257
6202	201.81	CO	198.37	225			VC	37.44309	1 in 9
2202		CO	0	600			VC	11.39448	0
4305	177.75	SW	175.68	150			VC	9.848858	1 in 12
6214	205.98	CO	203.59	225			VC	27.00724	1 in 208
1309	181.24	CO	180.36	225			VC	31.01812	1 in 14
5410	182.19	CO	180.29	225			VC	18.78629	1 in 10
4306	177.24	SW	174.67	150			VC	14.56022	1 in 12
4203		CO	0	300			VC	47.85384	0
2203		CO	0	600			VC	14.55499	0
2449		CO	0	100			VC	9.699177	0
3204	173.51	CO	170.71	300			VC	17.20465	0
6233		CO	0	150			VC	7.821001	1 in 7
4425	180.97	CO	179.71	150			VC	8.246211	0
6309		CO	0	150			VC	33.81347	0
5001	188.01	CO	185.05	225			VC	86.88498	0
4423	177.69	CO	175.76	150			VC	5.830562	0
6310		CO	0	100			VC	14.35206	0
1416		SW	0	225			VC	28.4605	1 in 61
6205	205.78	CO	204.37	150			VC	70.21596	0
3303		CO	0	300			VC	13.41641	0
4429	174.77	CO	172.61	300			VC	38.27032	1 in 23
3413	173.31	CO	171.54	150			VC	22.84752	1 in 286
2206	162.68	CO	157.9	600			VC	30.36445	1 in 42
4308	175.9	SW	173.62	150			VC	28.76236	1 in 14
3311	175.22	CO	173.36	300			VC	45.04442	1 in 17
2201	160.29	CO	159.42	375			VC	17.46425	1 in 42
2437		CO	0	150			VC	4.517224	0
3414	173.73	SW	171.55	150			VC	13.60147	1 in 30
5301	191.09	CO	187.98	225			VC	64.40467	1 in 11
3202	173.32	CO	172.32	150			VC	5.385165	0
6401	184.94	CO	183.04	225			VC	53.81465	1 in 15
3305	172.1	CO	170.76	300			VC	9.433681	1 in 8
2307		CO	0	100			VC	7.753675	0
2428		CO	0	150			VC	3.660119	0
6304		CO	0	150			VC	1.016714	0
4421	180.59	CO	178.36	225			VC	26.57068	1 in 7
3002	189.11	CO	186.46	225			VC	57.80138	1 in 16
2306		CO	0	100			VC	9.73145	0
2204		CO	0	225			VC	13.91064	0
2303		CO	0	100			VC	6.636654	0
5316		FO	0	150			VC	9.395679	0
2322		FO	0	150			VC	6.174046	0
4806		CO	0	150			VC	18.55701	0
2219		FO	0	150			VC	5.573135	0
2305		FO	0	100			VC	5.657879	0
2321		FO	0	150			VC	6.489888	0
2304		FO	0	150			VC	14.20163	0
2330		FO	0	100			VC	5.530284	0
5416		CO	0	150			VC	15.05491	0
4811		CO							

Appendix E - Flood map for planning



Flood map for planning

Your reference
glossop

Location (easting/northing)
403400/393158

Scale
1:2500

Created
28 Feb 2023 22:26

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area


0 20 40 60m

Appendix F - Hydraulic Calculations

		Glossop Fire Station Surface Water Network V3 27.02.23	Page 1
Date 27/02/2023 File Glossop FS - SW Network...		Designed by paulg Checked by	
Innovyze		Network 2017.1.2	

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)	18.800	Add Flow / Climate Change (%)	0
Ratio R	0.312	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
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

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.265	4-8	0.042

Total Area Contributing (ha) = 0.307

Total Pipe Volume (m³) = 4.828

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
1.000	10.000	0.100	100.0	0.009	4.00	0.0	0.600	o	100	Pipe/Conduit	
1.001	21.500	0.470	45.7	0.014	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.000	3.000	0.170	17.6	0.158	4.00	0.0	0.600	o	225	Pipe/Conduit	
1.002	5.000	0.030	166.7	0.000	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)
1.000	50.00	4.22	174.950	0.009	0.0	0.0	0.0	0.77	6.0	1.2
1.001	50.00	4.46	174.800	0.023	0.0	0.0	0.0	1.49	26.4	3.1
2.000	50.00	4.02	174.500	0.158	0.0	0.0	0.0	3.13	124.4	21.4
1.002	50.00	4.54	174.255	0.181	0.0	0.0	0.0	1.01	40.2	24.5

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Glossop Fire Station
Surface Water Network
V3 27.02.23



Date 27/02/2023
File Glossop FS - SW Network...

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Network 2017.1.2

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
3.000	3.000	0.020	150.0	0.007	4.00	0.0	0.600	o	300	Pipe/Conduit		🛢️
1.003	32.000	0.200	160.0	0.018	0.00	0.0	0.600	o	300	Pipe/Conduit		🛢️
4.000	20.000	0.250	80.0	0.048	4.00	0.0	0.600	o	150	Pipe/Conduit		🛢️
4.001	8.000	0.160	50.0	0.008	0.00	0.0	0.600	o	150	Pipe/Conduit		🛢️
5.000	21.000	0.200	105.0	0.045	4.00	0.0	0.600	o	225	Pipe/Conduit		🛢️
1.004	14.000	1.500	9.3	0.000	0.00	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)
3.000	50.00	4.04	173.800	0.007	0.0	0.0	0.0	1.28	90.6	0.9
1.003	50.00	4.97	173.780	0.206	0.0	0.0	0.0	1.24	87.7	27.9
4.000	50.00	4.30	174.300	0.048	0.0	0.0	0.0	1.12	19.9	6.5
4.001	50.00	4.39	174.050	0.056	0.0	0.0	0.0	1.43	25.2	7.6
5.000	50.00	4.27	173.900	0.045	0.0	0.0	0.0	1.28	50.7	6.1
1.004	50.00	5.04	173.505	0.307	0.0	0.0	0.0	3.32	58.6	41.6

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Innovyze	Network 2017.1.2	

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)
1.000	o	100	SW01	176.250	174.950	1.200	Open Manhole	1200
1.001	o	150	SW02	176.240	174.800	1.290	Open Manhole	1200
2.000	o	225	CHANNEL	175.660	174.500	0.935	Open Manhole	300
1.002	o	225	SW03	175.680	174.255	1.200	Open Manhole	1200
3.000	o	300	TANK	175.660	173.800	1.560	Open Manhole	300
1.003	o	300	SW04	175.680	173.780	1.600	Open Manhole	1200
4.000	o	150	SW06	175.650	174.300	1.200	Open Manhole	1200
4.001	o	150	SW07	175.820	174.050	1.620	Open Manhole	1200
5.000	o	225	CHANNEL	174.900	173.900	0.775	Open Manhole	300
1.004	o	150	SW08	175.600	173.505	1.945	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)
1.000	10.000	100.0	SW02	176.240	174.850	1.290	Open Manhole	1200
1.001	21.500	45.7	SW03	175.680	174.330	1.200	Open Manhole	1200
2.000	3.000	17.6	SW03	175.680	174.330	1.125	Open Manhole	1200
1.002	5.000	166.7	SW04	175.680	174.225	1.230	Open Manhole	1200
3.000	3.000	150.0	SW04	175.680	173.780	1.600	Open Manhole	1200
1.003	32.000	160.0	SW08	175.600	173.580	1.720	Open Manhole	1500
4.000	20.000	80.0	SW07	175.820	174.050	1.620	Open Manhole	1200
4.001	8.000	50.0	SW08	175.600	173.890	1.560	Open Manhole	1500
5.000	21.000	105.0	SW08	175.600	173.700	1.675	Open Manhole	1500
1.004	14.000	9.3	sewer	173.500	172.005	1.345	Open Manhole	0

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)
1.004	sewer	173.500	172.005	171.800	0	0

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	Glossop Fire Station Surface Water Network V3 27.02.23																					
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Innovyze	Network 2017.1.2																					
<u>Simulation Criteria for Storm</u> Volumetric Runoff Coeff 0.750 Additional Flow - % of Total Flow 0.000 Areal Reduction Factor 1.000 MADD Factor * 10m³/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 Storage Structures 1 Number of Online Controls 1 Number of Time/Area Diagrams 0 Number of Offline Controls 0 Number of Real Time Controls 0 <u>Synthetic Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FSR</td> <td>Profile Type</td> <td>Summer</td> </tr> <tr> <td>Return Period (years)</td> <td>2</td> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>M5-60 (mm)</td> <td>18.800</td> <td>Storm Duration (mins)</td> <td>30</td> </tr> <tr> <td>Ratio R</td> <td>0.312</td> <td></td> <td></td> </tr> </table>			Rainfall Model	FSR	Profile Type	Summer	Return Period (years)	2	Cv (Summer)	0.750	Region	England and Wales	Cv (Winter)	0.840	M5-60 (mm)	18.800	Storm Duration (mins)	30	Ratio R	0.312		
Rainfall Model	FSR	Profile Type	Summer																			
Return Period (years)	2	Cv (Summer)	0.750																			
Region	England and Wales	Cv (Winter)	0.840																			
M5-60 (mm)	18.800	Storm Duration (mins)	30																			
Ratio R	0.312																					
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Online Controls for Storm

Hydro-Brake® Optimum Manhole: SW08, DS/PN: 1.004, Volume (m³): 6.8

Unit Reference	MD-SHE-0100-5000-1350-5000
Design Head (m)	1.350
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	100
Invert Level (m)	173.505
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.350	5.0
Flush-Flo™	0.400	5.0
Kick-Flo®	0.829	4.0
Mean Flow over Head Range	-	4.4

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)
0.100	3.3	1.200	4.7	3.000	7.3	7.000	10.9
0.200	4.6	1.400	5.1	3.500	7.8	7.500	11.2
0.300	4.9	1.600	5.4	4.000	8.3	8.000	11.6
0.400	5.0	1.800	5.7	4.500	8.8	8.500	11.9
0.500	5.0	2.000	6.0	5.000	9.2	9.000	12.2
0.600	4.8	2.200	6.3	5.500	9.7	9.500	12.6
0.800	4.2	2.400	6.5	6.000	10.1		
1.000	4.4	2.600	6.8	6.500	10.5		

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	Glossop Fire Station Surface Water Network V3 27.02.23																																																																																					
Date 27/02/2023 File Glossop FS - SW Network...	Designed by paulg Checked by																																																																																					
Innovyze	Network 2017.1.2																																																																																					
Storage Structures for Storm Cellular Storage Manhole: TANK, DS/PN: 3.000 Invert Level (m) 173.800 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.00000 <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr><tr><td>0.000</td><td>180.0</td><td>180.0</td><td>5.200</td><td>0.0</td><td>223.0</td></tr><tr><td>0.400</td><td>180.0</td><td>201.5</td><td>5.600</td><td>0.0</td><td>223.0</td></tr><tr><td>0.800</td><td>180.0</td><td>222.9</td><td>6.000</td><td>0.0</td><td>223.0</td></tr><tr><td>0.801</td><td>0.0</td><td>223.0</td><td>6.400</td><td>0.0</td><td>223.0</td></tr><tr><td>1.600</td><td>0.0</td><td>223.0</td><td>6.800</td><td>0.0</td><td>223.0</td></tr><tr><td>2.000</td><td>0.0</td><td>223.0</td><td>7.200</td><td>0.0</td><td>223.0</td></tr><tr><td>2.400</td><td>0.0</td><td>223.0</td><td>7.600</td><td>0.0</td><td>223.0</td></tr><tr><td>2.800</td><td>0.0</td><td>223.0</td><td>8.000</td><td>0.0</td><td>223.0</td></tr><tr><td>3.200</td><td>0.0</td><td>223.0</td><td>8.400</td><td>0.0</td><td>223.0</td></tr><tr><td>3.600</td><td>0.0</td><td>223.0</td><td>8.800</td><td>0.0</td><td>223.0</td></tr><tr><td>4.000</td><td>0.0</td><td>223.0</td><td>9.200</td><td>0.0</td><td>223.0</td></tr><tr><td>4.400</td><td>0.0</td><td>223.0</td><td>9.600</td><td>0.0</td><td>223.0</td></tr><tr><td>4.800</td><td>0.0</td><td>223.0</td><td>10.000</td><td>0.0</td><td>223.0</td></tr></table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	180.0	180.0	5.200	0.0	223.0	0.400	180.0	201.5	5.600	0.0	223.0	0.800	180.0	222.9	6.000	0.0	223.0	0.801	0.0	223.0	6.400	0.0	223.0	1.600	0.0	223.0	6.800	0.0	223.0	2.000	0.0	223.0	7.200	0.0	223.0	2.400	0.0	223.0	7.600	0.0	223.0	2.800	0.0	223.0	8.000	0.0	223.0	3.200	0.0	223.0	8.400	0.0	223.0	3.600	0.0	223.0	8.800	0.0	223.0	4.000	0.0	223.0	9.200	0.0	223.0	4.400	0.0	223.0	9.600	0.0	223.0	4.800	0.0	223.0	10.000	0.0	223.0
Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)																																																																																	
0.000	180.0	180.0	5.200	0.0	223.0																																																																																	
0.400	180.0	201.5	5.600	0.0	223.0																																																																																	
0.800	180.0	222.9	6.000	0.0	223.0																																																																																	
0.801	0.0	223.0	6.400	0.0	223.0																																																																																	
1.600	0.0	223.0	6.800	0.0	223.0																																																																																	
2.000	0.0	223.0	7.200	0.0	223.0																																																																																	
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2.800	0.0	223.0	8.000	0.0	223.0																																																																																	
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	Glossop Fire Station Surface Water Network V3 27.02.23	
Date 27/02/2023	Designed by paulg	
File Glossop FS - SW Network...	Checked by	
Innovyze	Network 2017.1.2	

1 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 Coeffiecient	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 Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.312
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.800	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

Water									
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)
1.000	SW01	15 Summer	1	+0%	100/15 Summer				174.981
1.001	SW02	15 Winter	1	+0%	100/15 Summer				174.832
2.000	CHANNEL	15 Summer	1	+0%	30/15 Summer				174.592
1.002	SW03	15 Summer	1	+0%	30/15 Summer				174.407
3.000	TANK	60 Winter	1	+0%	30/60 Winter				173.879
1.003	SW04	15 Winter	1	+0%	1/15 Summer				174.124
4.000	SW06	15 Winter	1	+0%	30/15 Summer				174.359
4.001	SW07	15 Winter	1	+0%	30/15 Summer				174.174
5.000	CHANNEL	15 Winter	1	+0%	1/15 Summer				174.173
1.004	SW08	15 Winter	1	+0%	1/15 Summer				174.155

PN	US/MH Name	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)			Flow (l/s)		
1.000	SW01	-0.069	0.000	0.21		1.2	OK	
1.001	SW02	-0.118	0.000	0.10		2.6	OK	

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	Glossop Fire Station Surface Water Network V3 27.02.23	
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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Surcharged Flooded		Pipe		Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)	
2.000	CHANNEL	-0.133	0.000	0.35		20.4	OK
1.002	SW03	-0.073	0.000	0.78		22.9	OK
3.000	TANK	-0.221	0.000	0.08		4.3	OK
1.003	SW04	0.044	0.000	0.17		13.6	SURCHARGED
4.000	SW06	-0.091	0.000	0.33		6.2	OK
4.001	SW07	-0.026	0.000	0.31		6.8	OK
5.000	CHANNEL	0.048	0.000	0.11		5.1	SURCHARGED
1.004	SW08	0.501	0.000	0.09		5.0	SURCHARGED

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		Glossop Fire Station Surface Water Network V3 27.02.23							
Date 27/02/2023 File Glossop FS - SW Network...	Designed by paulg Checked by								
Innovyze	Network 2017.1.2								
30 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 Coeffiecient 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 Storage Structures 1									
Number of Online Controls 1 Number of Time/Area Diagrams 0									
Number of Offline Controls 0 Number of Real Time Controls 0									
Synthetic Rainfall Details									
Rainfall Model		FSR	Ratio R 0.312						
Region England and Wales Cv (Summer)		0.750							
M5-60 (mm)		18.800 Cv (Winter)	0.840						
Margin for Flood Risk Warning (mm)		300.0							
Analysis Timestep 2.5 Second Increment (Extended)									
DTS Status		OFF							
DVD Status		ON							
Inertia Status		ON							
Profile(s) Summer and Winter									
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440							
Return Period(s) (years)		1, 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.	
1.000	SW01	15 Summer	30	+0%	100/15 Summer				
1.001	SW02	15 Summer	30	+0%	100/15 Summer				
2.000	CHANNEL	15 Winter	30	+0%	30/15 Summer				
1.002	SW03	15 Winter	30	+0%	30/15 Summer				
3.000	TANK	120 Winter	30	+0%	30/60 Winter				
1.003	SW04	15 Winter	30	+0%	1/15 Summer				
4.000	SW06	15 Summer	30	+0%	30/15 Summer				
4.001	SW07	15 Summer	30	+0%	30/15 Summer				
5.000	CHANNEL	15 Winter	30	+0%	1/15 Summer				
1.004	SW08	15 Winter	30	+0%	1/15 Summer				
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	SW01	175.000	-0.050	0.000	0.51		2.8	OK	
1.001	SW02	174.855	-0.095	0.000	0.29		7.3	OK	
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		Glossop Fire Station Surface Water Network V3 27.02.23							
Date 27/02/2023 File Glossop FS - SW Network...	Designed by paulg Checked by								
Innovyze	Network 2017.1.2								
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>									
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 Storage Structures 1							
Number of Online Controls 1		Number of Time/Area Diagrams 0							
Number of Offline Controls 0		Number of Real Time Controls 0							
Synthetic Rainfall Details									
Rainfall Model FSR		Ratio R 0.312							
Region England and Wales Cv (Summer) 0.750									
M5-60 (mm) 18.800		Cv (Winter) 0.840							
Margin for Flood Risk Warning (mm)		300.0							
Analysis Timestep 2.5		Second Increment (Extended)							
DTS Status		OFF							
DVD Status		ON							
Inertia Status		ON							
Profile(s)		Summer and Winter							
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440							
Return Period(s) (years)		1, 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.	
1.000	SW01	15 Winter	100	+40%	100/15	Summer			
1.001	SW02	15 Winter	100	+40%	100/15	Summer			
2.000	CHANNEL	15 Winter	100	+40%	30/15	Summer			
1.002	SW03	15 Winter	100	+40%	30/15	Summer			
3.000	TANK	240 Winter	100	+40%	30/60	Winter			
1.003	SW04	240 Winter	100	+40%	1/15	Summer			
4.000	SW06	15 Winter	100	+40%	30/15	Summer			
4.001	SW07	15 Winter	100	+40%	30/15	Summer			
5.000	CHANNEL	240 Winter	100	+40%	1/15	Summer			
1.004	SW08	240 Winter	100	+40%	1/15	Summer			
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	SW01	175.065	0.015	0.000	0.86		4.8	SURCHARGED	
1.001	SW02	175.005	0.055	0.000	0.50		12.5	SURCHARGED	
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