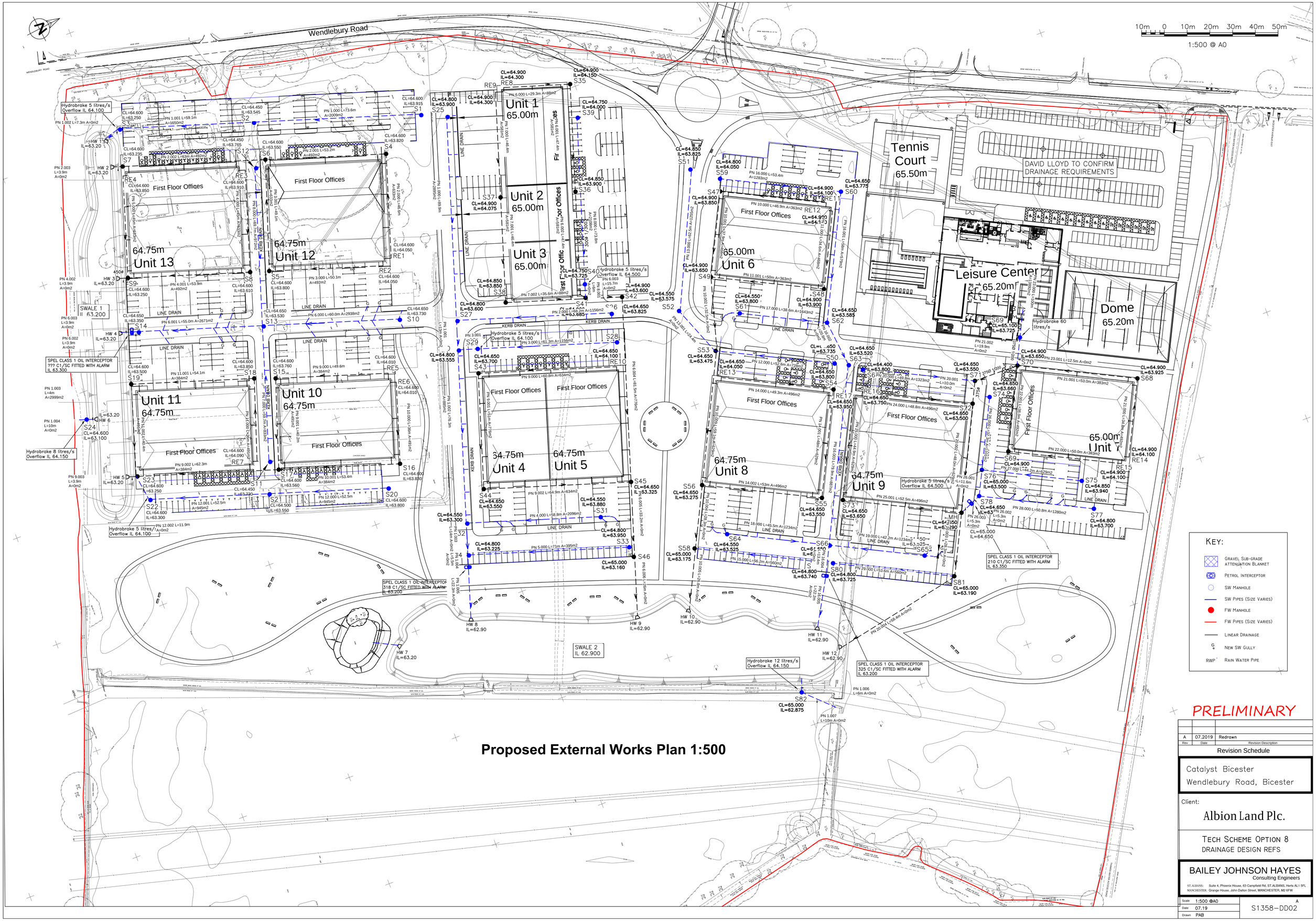
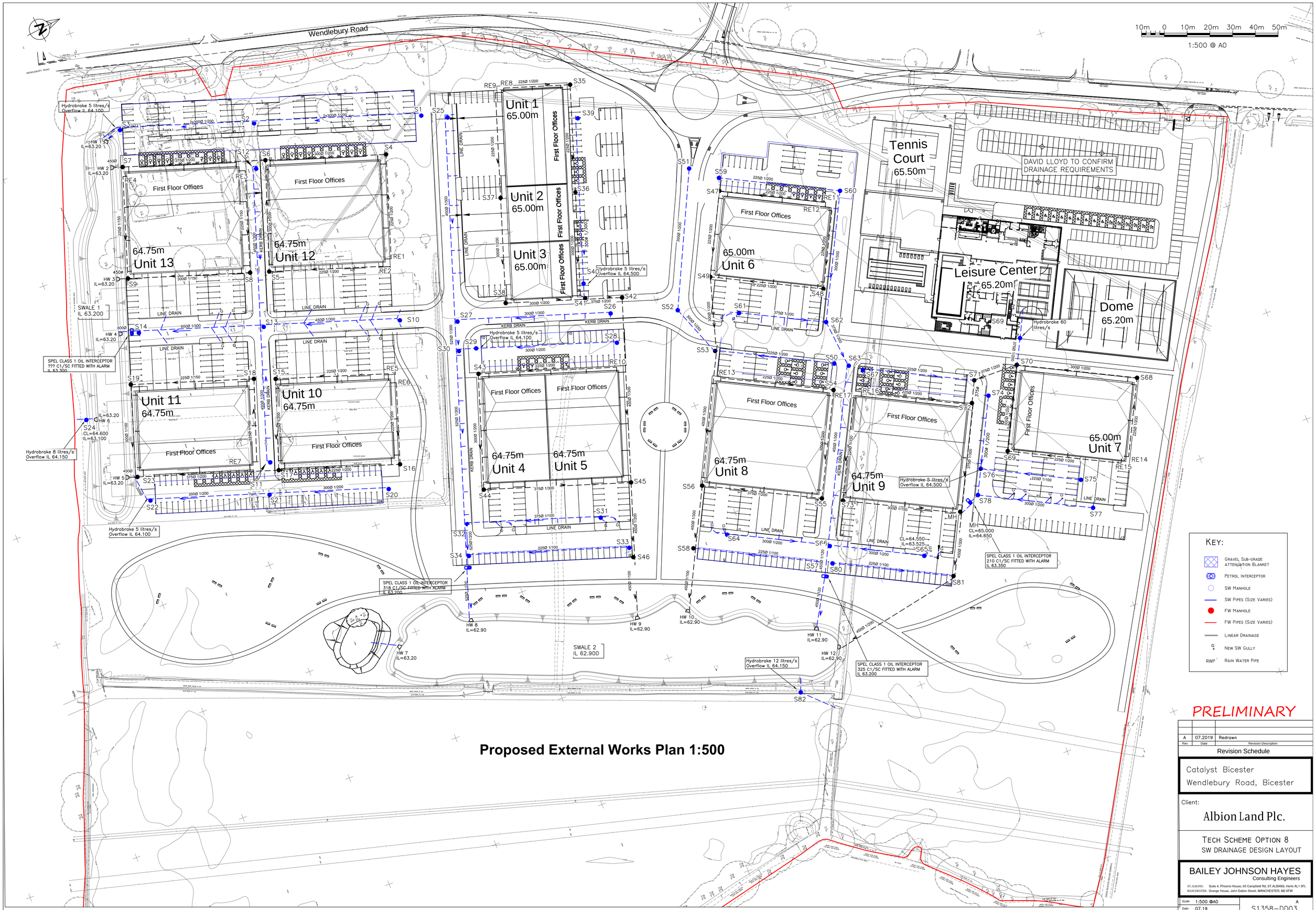
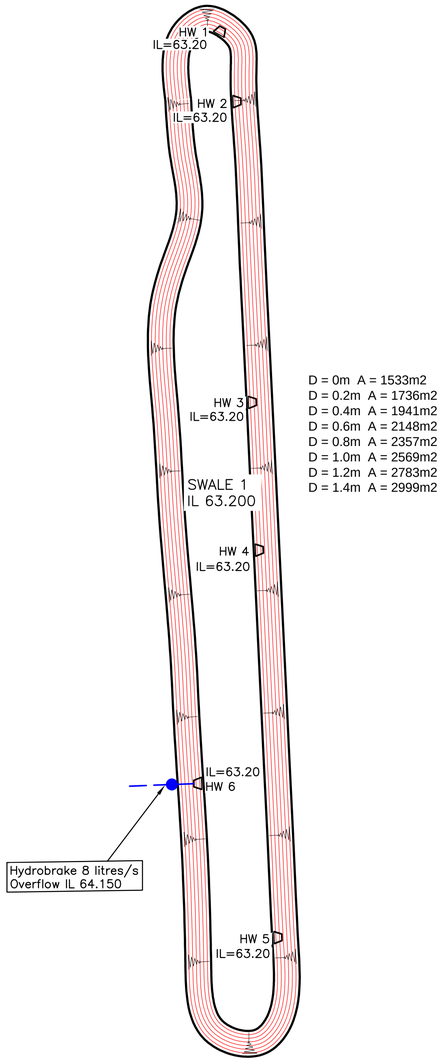

Wendlebury Road
1:500 @ A0
Unit 1
65.00m
Unit 2
65.00m
Unit 3
65.00m
Unit 4
64.75m
Unit 5
64.75m
Unit 6
65.00m
Unit 7
65.00m
Unit 8
64.75m
Unit 9
64.75m
Unit 10
64.75m
Unit 11
64.75m
Unit 12
64.75m
Unit 13
64.75m
Tennis Court
65.50m
Leisure Centre
65.20m
Dome
65.20m
DAVID LLOYD TO CONFIRM DRAINAGE REQUIREMENTS
First Floor Offices
SWALE 1
IL 63.200
SWALE 2
IL 62.900
SPEL CLASS 1 OIL INTERCEPTOR ??? C1/SC FITTED WITH ALARM IL 63.300
SPEL CLASS 1 OIL INTERCEPTOR 318 C1/SC FITTED WITH ALARM IL 63.200
SPEL CLASS 1 OIL INTERCEPTOR 210 C1/SC FITTED WITH ALARM IL 63.350
SPEL CLASS 1 OIL INTERCEPTOR 325 C1/SC FITTED WITH ALARM IL 63.200
Hydrobrake 5 litres/s Overflow IL 64.100
Hydrobrake 8 litres/s Overflow IL 64.150
Hydrobrake 12 litres/s Overflow IL 64.150
Hydrobrake 60 litres/s
LINE DRAIN
KERB DRAIN
Proposed External Works Plan 1:500
KEY:
Gravel Sub-grade Attenuation Blanket
Petrol Interceptor
SW Manhole
SW Pipes (Size Varies)
FW Manhole
FW Pipes (Size Varies)
Linear Drainage
New SW Gully
RWP Rain Water Pipe
PRELIMINARY
A 07.2019 Redrawn
Rev Date Revision Description
Revision Schedule
Catalyst Bicester
Wendlebury Road, Bicester
Client:
Albion Land Plc.
Tech Scheme Option 8
Drainage Design Refs
BAILEY JOHNSON HAYES
Consulting Engineers
ST.ALBANS: Suite 4, Phoenix House, 63 Campfield Rd, ST.ALBANS, Herts AL1 5FL
MANCHESTER: Grange House, John Dalton Street, MANCHESTER, M2 6FW
Scale 1:500 @A0
Date 07.19
Drawn PAB
A
S1358-DD02



Proposed External Works Plan 1:500



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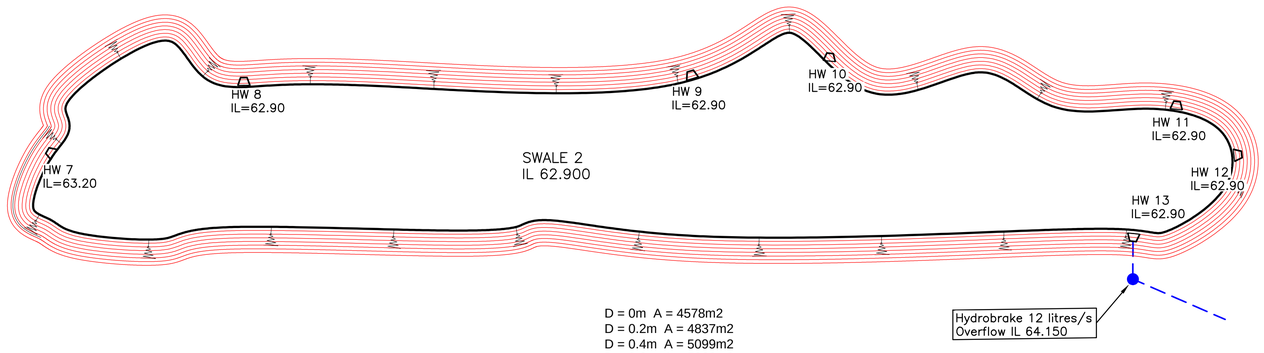
D = 0.2m A = 1736m2
D = 0.4m A = 1941m2
D = 0.6m A = 2148m2
D = 0.8m A = 2357m2
D = 1.0m A = 2569m2
D = 1.2m A = 2783m2
D = 1.4m A = 2999m2



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D = 0.6m A = 5363m2
D = 0.8m A = 5630m2
D = 1.0m A = 5898m2
D = 1.2m A = 6169m2
D = 1.4m A = 6443m2

PRELIMINARY

Rev	Date	Revision Description
A	07.2019	Redrawn

Revision Schedule

Catalyst Bicester
Wendlebury Road, Bicester

Client:
Albion Land Plc.

TECH SCHEME OPTION 8
SWALE AREAS

BAILEY JOHNSON HAYES
Consulting Engineers
ST.ALBANS: Suite 4, Phoenix House, 63 Campfield Rd, ST.ALBANS, Herts AL1 5FL
MANCHESTER: Grange House, John Dalton Street, MANCHESTER, M2 6FW

Scale	1:500 @A0
Date	07.19
Drawn	PAB

A
S1358–DD04

APPENDIX C

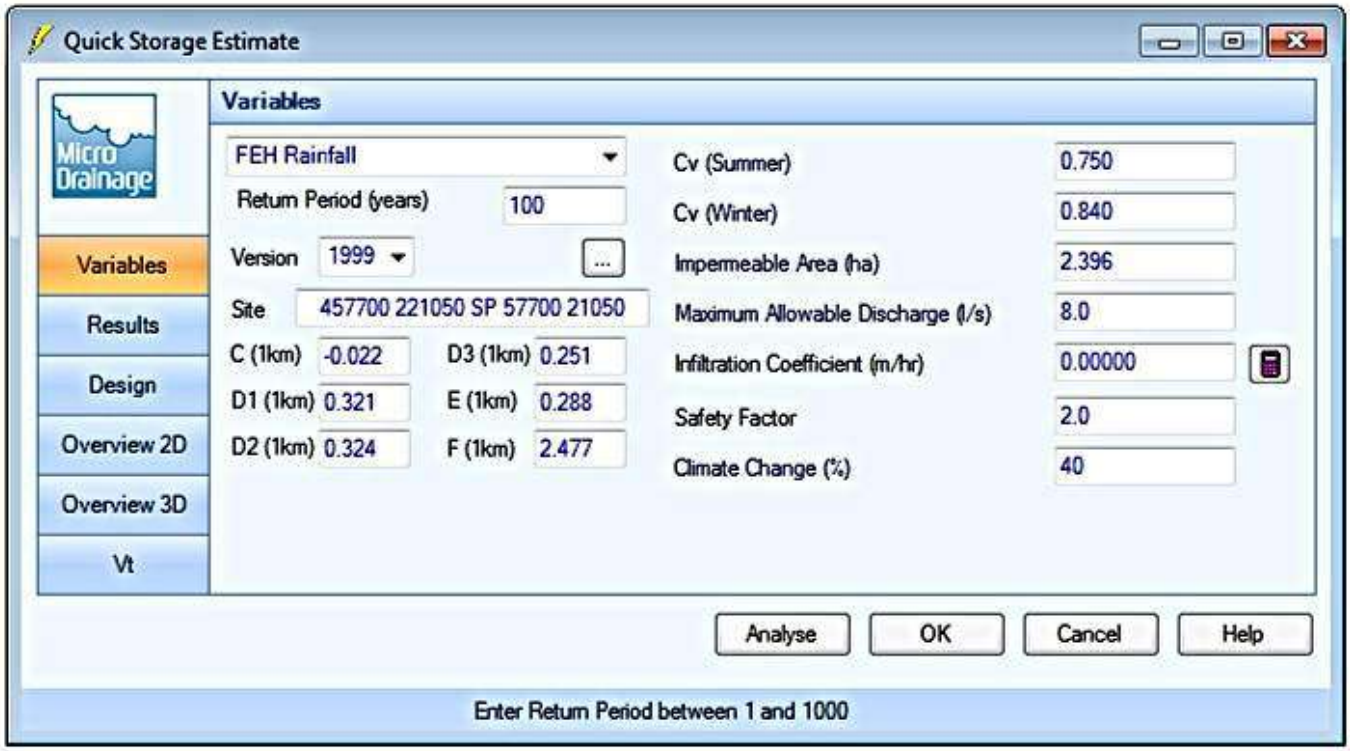
MICRODRAINAGE CALCULATIONS

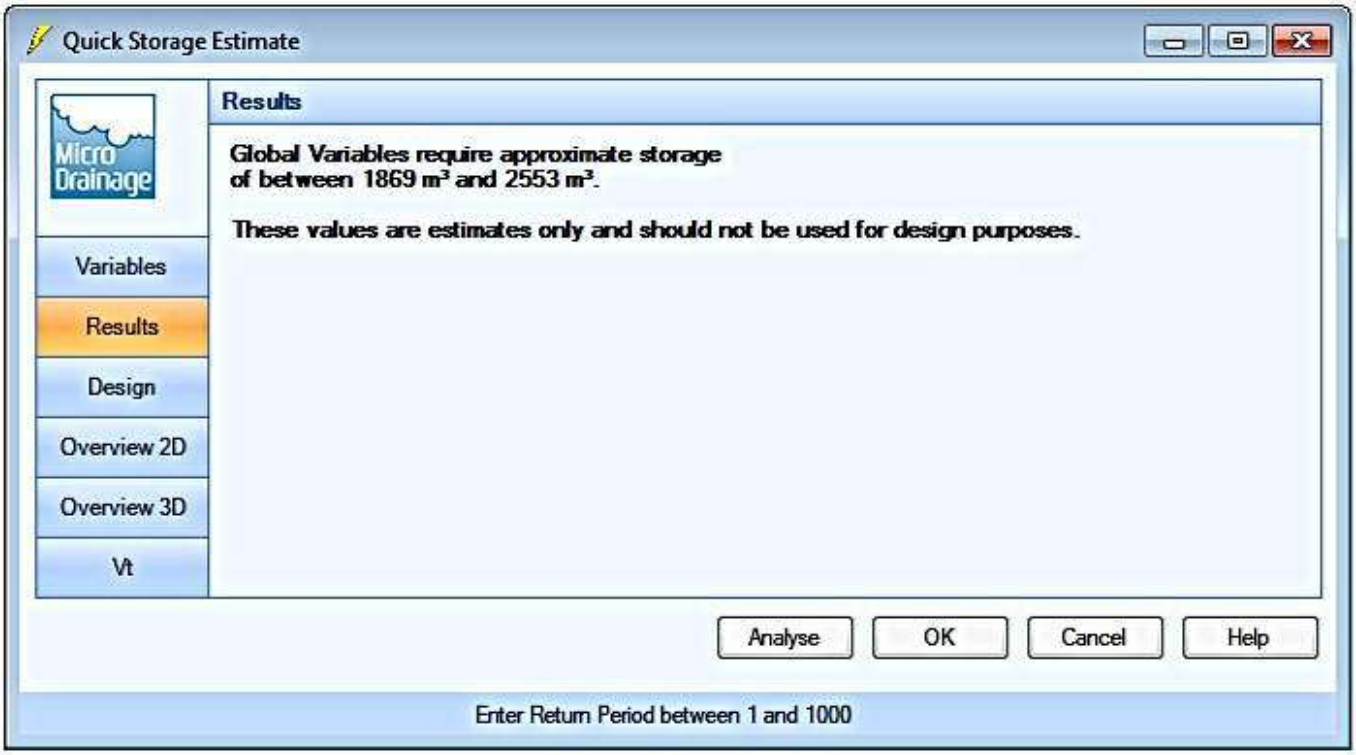
Quick Storage Estimate

Pages 1-4 – 100yr+40% Source Control

Pages 5-14 – 100yr+40% 2880min storm Sim

Pages 15-24 – 30yr 2880min storm Sim


Quick Storage Estimate
Micro Drainage
Variables
Results
Design
Overview 2D
Overview 3D
Vt
Variables
FEH Rainfall
Return Period (years) 100
Version 1999
Site 457700 221050 SP 57700 21050
C (1km) -0.022
D3 (1km) 0.251
D1 (1km) 0.321
E (1km) 0.288
D2 (1km) 0.324
F (1km) 2.477
Cv (Summer) 0.750
Cv (Winter) 0.840
Impermeable Area (ha) 2.396
Maximum Allowable Discharge (l/s) 8.0
Infiltration Coefficient (m/hr) 0.00000
Safety Factor 2.0
Climate Change (%) 40
Analyse
OK
Cancel
Help
Enter Return Period between 1 and 1000


Quick Storage Estimate
Micro Drainage
Results
Variables
Results
Design
Overview 2D
Overview 3D
Vt
Global Variables require approximate storage
of between 1869 m³ and 2553 m³.
These values are estimates only and should not be used for design purposes.
Analyse
OK
Cancel
Help
Enter Return Period between 1 and 1000

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

Half Drain Time : 1963 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	63.740	0.540	0.0	8.0	8.0	821.1	O K
30 min Summer	63.826	0.626	0.0	8.0	8.0	952.1	O K
60 min Summer	63.923	0.723	0.0	8.0	8.0	1098.7	O K
120 min Summer	64.028	0.828	0.0	8.0	8.0	1257.9	O K
180 min Summer	64.090	0.890	0.0	8.0	8.0	1353.1	O K
240 min Summer	64.134	0.934	0.0	8.1	8.1	1419.4	O K
360 min Summer	64.191	0.991	0.0	8.3	8.3	1506.7	O K
480 min Summer	64.226	1.026	0.0	8.5	8.5	1560.1	O K
600 min Summer	64.249	1.049	0.0	8.5	8.5	1593.9	O K
720 min Summer	64.262	1.062	0.0	8.6	8.6	1614.8	O K
960 min Summer	64.274	1.074	0.0	8.6	8.6	1633.2	O K
1440 min Summer	64.262	1.062	0.0	8.6	8.6	1613.8	O K
2160 min Summer	64.222	1.022	0.0	8.4	8.4	1554.0	O K
2880 min Summer	64.186	0.986	0.0	8.3	8.3	1498.2	O K
4320 min Summer	64.084	0.884	0.0	8.0	8.0	1343.6	O K
5760 min Summer	63.999	0.799	0.0	8.0	8.0	1214.8	O K
7200 min Summer	63.923	0.723	0.0	8.0	8.0	1098.9	O K
8640 min Summer	63.850	0.650	0.0	8.0	8.0	988.6	O K
10080 min Summer	63.776	0.576	0.0	8.0	8.0	876.2	O K
15 min Winter	63.806	0.606	0.0	8.0	8.0	921.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	184.917	0.0	664.9	27
30 min Summer	107.674	0.0	640.7	42
60 min Summer	62.697	0.0	1127.6	72
120 min Summer	36.508	0.0	1284.9	130
180 min Summer	26.607	0.0	1294.4	190
240 min Summer	21.258	0.0	1295.3	250
360 min Summer	15.493	0.0	1296.3	368
480 min Summer	12.378	0.0	1298.4	486
600 min Summer	10.400	0.0	1301.0	606
720 min Summer	9.021	0.0	1303.8	724
960 min Summer	7.214	0.0	1310.4	964
1440 min Summer	5.264	0.0	1326.2	1430
2160 min Summer	3.841	0.0	2488.5	1772
2880 min Summer	3.071	0.0	2544.9	2144
4320 min Summer	2.176	0.0	2334.5	2948
5760 min Summer	1.704	0.0	2944.2	3800
7200 min Summer	1.409	0.0	3042.7	4616
8640 min Summer	1.207	0.0	3127.1	5448
10080 min Summer	1.059	0.0	3200.8	6264
15 min Winter	184.917	0.0	647.0	27

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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 Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	63.903	0.703	0.0	8.0	8.0	1068.3	O K
60 min Winter	64.012	0.812	0.0	8.0	8.0	1233.9	O K
120 min Winter	64.131	0.931	0.0	8.1	8.1	1415.6	O K
180 min Winter	64.204	1.004	0.0	8.4	8.4	1525.7	O K
240 min Winter	64.255	1.055	0.0	8.6	8.6	1603.2	O K
360 min Winter	64.323	1.123	0.0	8.8	8.8	1707.7	O K
480 min Winter	64.367	1.167	0.0	8.9	8.9	1774.2	Flood Risk
600 min Winter	64.396	1.196	0.0	9.0	9.0	1818.6	Flood Risk
720 min Winter	64.416	1.216	0.0	9.1	9.1	1848.4	Flood Risk
960 min Winter	64.438	1.238	0.0	9.2	9.2	1881.9	Flood Risk
1440 min Winter	64.441	1.241	0.0	9.2	9.2	1885.6	Flood Risk
2160 min Winter	64.398	1.198	0.0	9.0	9.0	1821.6	Flood Risk
2880 min Winter	64.353	1.153	0.0	8.9	8.9	1752.4	Flood Risk
4320 min Winter	64.219	1.019	0.0	8.4	8.4	1548.3	O K
5760 min Winter	64.100	0.900	0.0	8.0	8.0	1367.7	O K
7200 min Winter	63.990	0.790	0.0	8.0	8.0	1201.2	O K
8640 min Winter	63.885	0.685	0.0	8.0	8.0	1041.2	O K
10080 min Winter	63.774	0.574	0.0	8.0	8.0	872.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	107.674	0.0	626.3	41
60 min Winter	62.697	0.0	1262.8	70
120 min Winter	36.508	0.0	1297.7	128
180 min Winter	26.607	0.0	1300.9	186
240 min Winter	21.258	0.0	1304.7	246
360 min Winter	15.493	0.0	1314.5	362
480 min Winter	12.378	0.0	1325.2	478
600 min Winter	10.400	0.0	1336.8	594
720 min Winter	9.021	0.0	1349.7	710
960 min Winter	7.214	0.0	1374.5	940
1440 min Winter	5.264	0.0	1391.5	1386
2160 min Winter	3.841	0.0	2668.7	1996
2880 min Winter	3.071	0.0	2618.0	2256
4320 min Winter	2.176	0.0	2444.4	3196
5760 min Winter	1.704	0.0	3296.5	4096
7200 min Winter	1.409	0.0	3408.9	4984
8640 min Winter	1.207	0.0	3503.8	5888
10080 min Winter	1.059	0.0	3585.4	6768

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Model Details

Storage is Online Cover Level (m) 64.625

Dry Swale Structure

Infiltration Coefficient Base (m/hr)	0.00000	Trench Length (m)	160.0
Infiltration Coefficient Side (m/hr)	0.00000	Trench Infiltration Side (m/hr)	0.00000
Safety Factor	2.0	Trench Porosity	1.00
Porosity	1.00	Side Slope (1:X)	3.0
Invert Level (m)	63.200	Slope (1:X)	0.0
Trench Height (m)	1.400	Cap Volume Depth (m)	1.400
Trench Width (m)	9.5	Cap Infiltration Depth (m)	0.000

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0132-8000-1000-8000
Design Head (m)	1.000
Design Flow (l/s)	8.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	132
Invert Level (m)	63.100
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	**Head (m)**	**Flow (l/s)**
Design Point (Calculated)	1.000	8.0
Flush-Flo™	0.302	8.0
Kick-Flo®	0.664	6.6
Mean Flow over Head Range	-	6.9

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	4.7	1.200	8.7	3.000	13.4	7.000	20.1
0.200	7.8	1.400	9.4	3.500	14.5	7.500	20.8
0.300	8.0	1.600	10.0	4.000	15.4	8.000	21.5
0.400	7.9	1.800	10.5	4.500	16.3	8.500	22.1
0.500	7.7	2.000	11.1	5.000	17.1	9.000	22.7
0.600	7.2	2.200	11.6	5.500	17.9	9.500	23.3
0.800	7.2	2.400	12.1	6.000	18.7		
1.000	8.0	2.600	12.6	6.500	19.4		

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Existing Network Details for Storm

* - Indicates pipe has been modified outside of System 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type
1.000	73.600	0.370	198.9	0.201	5.00	0.600	oo	300	Double Pipe
1.001	59.100	0.295	200.3	0.165	0.00	0.600	oo	300	Double Pipe
1.002	7.300	0.050	146.0	0.000	0.00	0.600	o	450	Pipe/Conduit
2.000	46.600	0.230	202.6	0.063	5.00	0.600	o	225	Pipe/Conduit
* 2.001	53.200	0.270	197.0	0.049	0.00	0.600	o	300	Pipe/Conduit
3.000	50.100	0.250	200.4	0.049	5.00	0.600	o	225	Pipe/Conduit
* 3.001	49.100	0.250	196.4	0.063	0.00	0.600	o	300	Pipe/Conduit
* 2.002	63.000	0.315	200.0	0.049	0.00	0.600	o	375	Pipe/Conduit
2.003	3.900	0.035	111.4	0.000	0.00	0.600	o	450	Pipe/Conduit
4.000	45.000	0.300	150.0	0.063	5.00	0.600	o	225	Pipe/Conduit
* 4.001	53.900	0.360	149.7	0.049	0.00	0.600	o	300	Pipe/Conduit
5.000	45.000	0.600	75.0	0.063	5.00	0.600	o	225	Pipe/Conduit
4.002	3.900	0.050	78.0	0.000	0.00	0.600	o	450	Pipe/Conduit

PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
1.000	S1	64.600	63.915	0.385	64.450	63.545	0.605		1500
1.001	S2	64.450	63.545	0.605	64.600	63.250	1.050		1500
1.002	S3	64.600	63.250	0.900	64.600	63.200	0.950	Hydro-Brake®	1500
2.000	RE1	64.600	64.050	0.325	64.600	63.820	0.555		1200
* 2.001	S4	64.600	63.820	0.480	64.600	63.550	0.750		1200
3.000	RE2	64.600	64.050	0.325	64.600	63.800	0.575		1200
* 3.001	S5	64.600	63.800	0.500	64.600	63.550	0.750		1200
* 2.002	S6	64.600	63.550	0.675	64.600	63.235	0.990		1200
2.003	S7	64.600	63.235	0.915	64.600	63.200	0.950		1350
4.000	RE3	64.600	63.910	0.465	64.600	63.610	0.765		1200
* 4.001	S8	64.600	63.610	0.690	64.600	63.250	1.050		1200
5.000	RE4	64.600	63.850	0.525	64.600	63.250	1.125		1200
4.002	S9	64.600	63.250	0.900	64.600	63.200	0.950		1350

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Existing Network Details for Storm

	PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type
*	6.000	60.000	0.200	300.0	0.294	5.00	0.600	o	450	Pipe/Conduit
*	7.000	59.700	0.200	298.5	0.083	5.00	0.600	o	450	Pipe/Conduit
*	8.000	69.700	0.235	296.6	0.097	5.00	0.600	o	450	Pipe/Conduit
*	6.001	55.000	0.180	305.6	0.267	0.00	0.600	o	600	Pipe/Conduit
*	6.002	3.900	0.050	78.0	0.000	0.00	0.600	o	600	Pipe/Conduit
*	6.003	3.900	0.050	78.0	0.000	0.00	0.600	o	600	Pipe/Conduit
	9.000	49.600	0.250	198.4	0.038	5.00	0.600	o	225	Pipe/Conduit
	9.001	40.200	0.200	201.0	0.049	0.00	0.600	o	225	Pipe/Conduit
	10.000	36.000	0.180	200.0	0.049	5.00	0.600	o	225	Pipe/Conduit
	10.001	53.400	0.270	197.8	0.038	0.00	0.600	o	225	Pipe/Conduit
*	9.002	62.300	0.310	201.0	0.038	0.00	0.600	o	375	Pipe/Conduit
	11.000	36.000	0.240	150.0	0.049	5.00	0.600	o	225	Pipe/Conduit
	11.001	54.100	0.350	154.6	0.038	0.00	0.600	o	225	Pipe/Conduit
*	11.002	40.400	0.250	161.6	0.049	0.00	0.600	o	300	Pipe/Conduit

	PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
*	6.000	S10	64.650	63.730	0.470	64.650	63.530	0.670		1200
*	7.000	S11	64.450	63.730	0.270	64.650	63.530	0.670		1200
*	8.000	S12	64.450	63.765	0.235	64.650	63.530	0.670		1200
*	6.001	S13	64.650	63.530	0.520	64.650	63.350	0.700		1350
*	6.002	S14	64.650	63.350	0.700	64.650	63.300	0.750		1350
*	6.003	PI Unit 15	64.650	63.250	0.900	64.600	63.200	0.900		1350
	9.000	RE5	64.600	64.010	0.365	64.600	63.760	0.615		1200
	9.001	S15	64.600	63.760	0.615	64.600	63.560	0.815		1200
	10.000	RE6	64.600	64.010	0.365	64.600	63.830	0.545		1200
	10.001	S16	64.600	63.830	0.545	64.600	63.560	0.815		1200
*	9.002	S17	64.600	63.560	0.665	64.600	63.250	0.975		1200
	11.000	RE7	64.600	64.090	0.285	64.600	63.850	0.525		1200
	11.001	S18	64.600	63.850	0.525	64.600	63.500	0.875		1200
*	11.002	S19	64.600	63.500	0.800	64.600	63.250	1.050		1200

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Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type
12.000	52.500	0.250	210.0	0.095	5.00	0.600	o	300	Pipe/Conduit
12.001	52.500	0.250	210.0	0.095	0.00	0.600	o	300	Pipe/Conduit
12.002	11.900	0.050	238.0	0.000	0.00	0.600	o	300	Pipe/Conduit
9.003	3.900	0.050	78.0	0.000	0.00	0.600	o	450	Pipe/Conduit
1.003	4.000	0.050	80.0	0.300	0.00	0.600	o	600	Pipe/Conduit
1.004	10.000	0.100	100.0	0.000	0.00	0.600	o	600	Pipe/Conduit

PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
12.000	S20	64.600	63.800	0.500	64.500	63.550	0.650		1200
12.001	S21	64.500	63.550	0.650	64.600	63.300	1.000		1200
12.002	S22	64.600	63.300	1.000	64.600	63.250	1.050	Hydro-Brake®	1200
9.003	S23	64.600	63.250	0.900	64.600	63.200	0.950		1350
1.003	HW1-5	64.600	63.200	0.800	64.600	63.150	0.850		1500
1.004	S24	64.600	63.150	0.850	64.600	63.050	0.950	Hydro-Brake®	1500

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	S24	64.600	63.050	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	4320
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	24

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

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Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	2160

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: S3, DS/PN: 1.002, Volume (m³): 10.5

Unit Reference	MD-SHE-0111-5000-0600-5000
Design Head (m)	0.600
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	111
Invert Level (m)	63.250
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	**Head (m)**	**Flow (l/s)**
Design Point (Calculated)	0.600	5.0
Flush-Flo™	0.193	5.0
Kick-Flo®	0.428	4.3
Mean Flow over Head Range	-	4.2

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	3.9	1.200	6.9	3.000	10.6	7.000	15.9
0.200	5.0	1.400	7.4	3.500	11.4	7.500	16.5
0.300	4.9	1.600	7.9	4.000	12.2	8.000	17.0
0.400	4.5	1.800	8.4	4.500	12.9	8.500	17.6
0.500	4.6	2.000	8.8	5.000	13.6	9.000	18.1
0.600	5.0	2.200	9.2	5.500	14.2	9.500	18.6
0.800	5.7	2.400	9.6	6.000	14.8		
1.000	6.3	2.600	9.9	6.500	15.3		

Hydro-Brake® Optimum Manhole: S22, DS/PN: 12.002, Volume (m³): 5.1

Unit Reference	MD-SHE-0111-5000-0600-5000
Design Head (m)	0.600
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	111
Invert Level (m)	63.300
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

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Hydro-Brake® Optimum Manhole: S22, DS/PN: 12.002, Volume (m³): 5.1

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.600	5.0
Flush-Flo™	0.193	5.0
Kick-Flo®	0.428	4.3
Mean Flow over Head Range	-	4.2

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	3.9	1.200	6.9	3.000	10.6	7.000	15.9
0.200	5.0	1.400	7.4	3.500	11.4	7.500	16.5
0.300	4.9	1.600	7.9	4.000	12.2	8.000	17.0
0.400	4.5	1.800	8.4	4.500	12.9	8.500	17.6
0.500	4.6	2.000	8.8	5.000	13.6	9.000	18.1
0.600	5.0	2.200	9.2	5.500	14.2	9.500	18.6
0.800	5.7	2.400	9.6	6.000	14.8		
1.000	6.3	2.600	9.9	6.500	15.3		

Hydro-Brake® Optimum Manhole: S24, DS/PN: 1.004, Volume (m³): 3.3

Unit Reference	MD-SHE-0132-8000-1000-8000
Design Head (m)	1.000
Design Flow (l/s)	8.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	132
Invert Level (m)	63.150
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	8.0
Flush-Flo™	0.302	8.0
Kick-Flo®	0.664	6.6
Mean Flow over Head Range	-	6.9

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	4.7	0.300	8.0	0.500	7.7	0.800	7.2
0.200	7.8	0.400	7.9	0.600	7.2	1.000	8.0

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Hydro-Brake® Optimum Manhole: S24, DS/PN: 1.004, Volume (m³): 3.3

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
1.200	8.7	2.400	12.1	5.000	17.1	8.000	21.5
1.400	9.4	2.600	12.6	5.500	17.9	8.500	22.1
1.600	10.0	3.000	13.4	6.000	18.7	9.000	22.7
1.800	10.5	3.500	14.5	6.500	19.4	9.500	23.3
2.000	11.1	4.000	15.4	7.000	20.1		
2.200	11.6	4.500	16.3	7.500	20.8		

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Offline Controls for Storm

Pipe Manhole: S3, DS/PN: 1.002, Loop to PN: 1.001

Diameter (m)	0.150	Roughness k (mm)	0.600
Section Type	Pipe/Conduit	Entry Loss Coefficient	0.500
Slope (1:X)	5.9	Coefficient of Contraction	0.600
Length (m)	5.000	Upstream Invert Level (m)	64.100

Pipe Manhole: S22, DS/PN: 12.002, Loop to PN: 12.001

Diameter (m)	0.150	Roughness k (mm)	0.600
Section Type	Pipe/Conduit	Entry Loss Coefficient	0.500
Slope (1:X)	6.3	Coefficient of Contraction	0.600
Length (m)	5.000	Upstream Invert Level (m)	64.100

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Storage Structures for Storm

Infiltration Blanket Manhole: S2, DS/PN: 1.001

Infiltration Coefficient Base (m/hr)	0.00000	Diameter/Width (m)	22.0
Safety Factor	2.0	Length (m)	125.0
Porosity	0.30	Cap Volume Depth (m)	0.400
Invert Level (m)	63.800		

Infiltration Blanket Manhole: S21, DS/PN: 12.001

Infiltration Coefficient Base (m/hr)	0.00000	Diameter/Width (m)	13.0
Safety Factor	2.0	Length (m)	100.0
Porosity	0.30	Cap Volume Depth (m)	0.400
Invert Level (m)	63.800		

Tank or Pond Manhole: HW1-5, DS/PN: 1.003

Invert Level (m) 63.200

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1533.0	0.400	1941.0	0.800	2357.0	1.200	2783.0
0.200	1736.0	0.600	2148.0	1.000	2569.0	1.400	2999.0

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Summary of Results for 2160 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.018	-0.197	0.000	0.03		4.5	OK
1.001	S2	64.018	0.173	0.000	0.04		5.5	SURCHARGED
1.002	S3	64.035	0.335	0.000	0.03	0.0	5.0	SURCHARGED
2.000	RE1	64.079	-0.196	0.000	0.04		1.4	OK
2.001	S4	63.995	-0.125	0.000	0.03		2.5	OK
3.000	RE2	64.076	-0.199	0.000	0.03		1.1	OK
3.001	S5	63.995	-0.105	0.000	0.03		2.5	OK
2.002	S6	63.995	0.070	0.000	0.04		5.9	SURCHARGED
2.003	S7	63.995	0.310	0.000	0.04		5.6	SURCHARGED
4.000	RE3	63.995	-0.140	0.000	0.04		1.4	OK
4.001	S8	63.995	0.085	0.000	0.03		2.5	SURCHARGED
5.000	RE4	63.995	-0.080	0.000	0.02		1.4	OK
4.002	S9	63.995	0.295	0.000	0.02		3.7	SURCHARGED
6.000	S10	63.995	-0.185	0.000	0.04		6.6	OK
7.000	S11	63.995	-0.185	0.000	0.01		1.9	OK
8.000	S12	63.995	-0.220	0.000	0.01		2.2	OK
6.001	S13	63.995	-0.135	0.000	0.05		15.9	OK
6.002	S14	63.995	0.045	0.000	0.04		15.3	SURCHARGED
6.003	PI Unit 15	63.995	0.145	0.000	0.07		15.3	SURCHARGED
9.000	RE5	64.034	-0.201	0.000	0.02		0.9	OK
9.001	S15	63.996	0.011	0.000	0.06		2.0	SURCHARGED
10.000	RE6	64.036	-0.199	0.000	0.03		1.1	OK
10.001	S16	63.996	-0.059	0.000	0.06		2.0	OK
9.002	S17	63.995	0.060	0.000	0.03		4.6	SURCHARGED
11.000	RE7	64.115	-0.200	0.000	0.03		1.1	OK
11.001	S18	63.996	-0.079	0.000	0.05		2.0	OK
11.002	S19	63.995	0.195	0.000	0.04		2.9	SURCHARGED
12.000	S20	64.011	-0.089	0.000	0.03		2.1	OK
12.001	S21	64.011	0.161	0.000	0.05		3.8	SURCHARGED
12.002	S22	64.011	0.411	0.000	0.06	0.0	3.7	SURCHARGED
9.003	S23	63.995	0.295	0.000	0.06		10.8	SURCHARGED
1.003	HW1-5	63.995	0.195	0.000	0.02		8.2	SURCHARGED
1.004	S24	63.976	0.226	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	2880
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	24

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	1440

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Summary of Results for 1440 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.023	-0.192	0.000	0.04		6.2	OK
1.001	S2	64.023	0.178	0.000	0.04		6.0	SURCHARGED
1.002	S3	64.037	0.337	0.000	0.03	0.0	5.0	SURCHARGED
2.000	RE1	64.084	-0.191	0.000	0.06		1.9	OK
2.001	S4	64.004	-0.116	0.000	0.05		3.5	OK
3.000	RE2	64.080	-0.195	0.000	0.04		1.5	OK
3.001	S5	64.005	-0.095	0.000	0.05		3.5	OK
2.002	S6	64.004	0.079	0.000	0.06		8.0	SURCHARGED
2.003	S7	64.004	0.319	0.000	0.05		7.6	SURCHARGED
4.000	RE3	64.005	-0.130	0.000	0.05		1.9	OK
4.001	S8	64.004	0.094	0.000	0.04		3.4	SURCHARGED
5.000	RE4	64.004	-0.071	0.000	0.03		1.9	OK
4.002	S9	64.004	0.304	0.000	0.03		5.0	SURCHARGED
6.000	S10	64.005	-0.175	0.000	0.05		9.0	OK
7.000	S11	64.005	-0.175	0.000	0.01		2.5	OK
8.000	S12	64.005	-0.210	0.000	0.02		3.0	OK
6.001	S13	64.005	-0.125	0.000	0.06		21.8	OK
6.002	S14	64.005	0.055	0.000	0.06		21.0	SURCHARGED
6.003	PI Unit 15	64.005	0.155	0.000	0.10		20.9	SURCHARGED
9.000	RE5	64.037	-0.198	0.000	0.03		1.2	OK
9.001	S15	64.005	0.020	0.000	0.08		2.7	SURCHARGED
10.000	RE6	64.040	-0.195	0.000	0.04		1.5	OK
10.001	S16	64.005	-0.050	0.000	0.08		2.7	OK
9.002	S17	64.005	0.070	0.000	0.05		6.2	SURCHARGED
11.000	RE7	64.118	-0.197	0.000	0.04		1.5	OK
11.001	S18	64.006	-0.069	0.000	0.07		2.7	OK
11.002	S19	64.005	0.205	0.000	0.05		4.0	SURCHARGED
12.000	S20	64.016	-0.084	0.000	0.04		2.9	OK
12.001	S21	64.016	0.166	0.000	0.07		4.8	SURCHARGED
12.002	S22	64.016	0.416	0.000	0.08	0.0	4.6	SURCHARGED
9.003	S23	64.005	0.305	0.000	0.08		13.7	SURCHARGED
1.003	HW1-5	64.004	0.204	0.000	0.02		8.6	SURCHARGED
1.004	S24	64.080	0.330	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	1920
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	16

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	960

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Summary of Results for 960 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.017	-0.198	0.000	0.06		8.5	OK
1.001	S2	64.017	0.172	0.000	0.04		6.6	SURCHARGED
1.002	S3	64.047	0.347	0.000	0.03	0.0	5.0	SURCHARGED
2.000	RE1	64.091	-0.184	0.000	0.08		2.7	OK
2.001	S4	63.997	-0.123	0.000	0.06		4.7	OK
3.000	RE2	64.085	-0.190	0.000	0.06		2.1	OK
3.001	S5	63.997	-0.103	0.000	0.06		4.7	OK
2.002	S6	63.996	0.071	0.000	0.08		11.1	SURCHARGED
2.003	S7	63.996	0.311	0.000	0.07		10.5	SURCHARGED
4.000	RE3	63.996	-0.139	0.000	0.07		2.7	OK
4.001	S8	63.995	0.085	0.000	0.05		4.7	SURCHARGED
5.000	RE4	63.996	-0.079	0.000	0.05		2.7	OK
4.002	S9	63.996	0.296	0.000	0.04		6.9	SURCHARGED
6.000	S10	63.996	-0.184	0.000	0.07		12.4	OK
7.000	S11	63.996	-0.184	0.000	0.02		3.5	OK
8.000	S12	63.996	-0.219	0.000	0.02		4.1	OK
6.001	S13	63.996	-0.134	0.000	0.09		30.2	OK
6.002	S14	63.996	0.046	0.000	0.08		29.0	SURCHARGED
6.003	PI Unit 15	63.996	0.146	0.000	0.13		28.9	SURCHARGED
9.000	RE5	64.041	-0.194	0.000	0.05		1.6	OK
9.001	S15	63.997	0.012	0.000	0.11		3.7	SURCHARGED
10.000	RE6	64.045	-0.190	0.000	0.06		2.1	OK
10.001	S16	63.997	-0.058	0.000	0.10		3.7	OK
9.002	S17	63.996	0.061	0.000	0.07		8.6	SURCHARGED
11.000	RE7	64.123	-0.192	0.000	0.05		2.1	OK
11.001	S18	63.998	-0.077	0.000	0.09		3.7	OK
11.002	S19	63.996	0.196	0.000	0.07		5.5	SURCHARGED
12.000	S20	64.002	-0.098	0.000	0.06		4.0	OK
12.001	S21	64.002	0.152	0.000	0.08		5.5	SURCHARGED
12.002	S22	64.003	0.403	0.000	0.09	0.0	5.0	SURCHARGED
9.003	S23	63.996	0.296	0.000	0.10		17.7	SURCHARGED
1.003	HW1-5	63.995	0.195	0.000	0.03		9.3	SURCHARGED
1.004	S24	64.088	0.338	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	1440
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	12

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	720

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Summary of Results for 720 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.013	-0.202	0.000	0.07		10.6	OK
1.001	S2	64.013	0.168	0.000	0.05		7.1	SURCHARGED
1.002	S3	64.082	0.382	0.000	0.03	0.0	5.0	SURCHARGED
2.000	RE1	64.097	-0.178	0.000	0.10		3.3	OK
2.001	S4	63.982	-0.138	0.000	0.08		5.9	OK
3.000	RE2	64.090	-0.185	0.000	0.07		2.6	OK
3.001	S5	63.982	-0.118	0.000	0.08		5.9	OK
2.002	S6	63.981	0.056	0.000	0.11		14.0	SURCHARGED
2.003	S7	63.981	0.296	0.000	0.08		13.1	SURCHARGED
4.000	RE3	63.981	-0.154	0.000	0.08		3.3	OK
4.001	S8	63.980	0.070	0.000	0.07		5.9	SURCHARGED
5.000	RE4	63.981	-0.094	0.000	0.06		3.3	OK
4.002	S9	63.980	0.280	0.000	0.05		8.6	SURCHARGED
6.000	S10	63.981	-0.199	0.000	0.09		15.5	OK
7.000	S11	63.981	-0.199	0.000	0.03		4.4	OK
8.000	S12	63.981	-0.234	0.000	0.03		5.1	OK
6.001	S13	63.981	-0.149	0.000	0.11		38.0	OK
6.002	S14	63.981	0.031	0.000	0.11		36.5	SURCHARGED
6.003	PI Unit 15	63.981	0.131	0.000	0.17		36.4	SURCHARGED
9.000	RE5	64.045	-0.190	0.000	0.06		2.0	OK
9.001	S15	63.982	-0.003	0.000	0.13		4.6	OK
10.000	RE6	64.051	-0.184	0.000	0.08		2.6	OK
10.001	S16	63.982	-0.073	0.000	0.13		4.6	OK
9.002	S17	63.981	0.046	0.000	0.08		10.9	SURCHARGED
11.000	RE7	64.127	-0.188	0.000	0.06		2.6	OK
11.001	S18	63.982	-0.093	0.000	0.11		4.6	OK
11.002	S19	63.981	0.181	0.000	0.09		6.9	SURCHARGED
12.000	S20	63.987	-0.113	0.000	0.07		5.0	OK
12.001	S21	63.987	0.137	0.000	0.08		5.9	SURCHARGED
12.002	S22	63.988	0.388	0.000	0.09	0.0	5.0	SURCHARGED
9.003	S23	63.981	0.281	0.000	0.13		21.3	SURCHARGED
1.003	HW1-5	63.980	0.180	0.000	0.03		9.9	SURCHARGED
1.004	S24	64.257	0.507	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	1200
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	10

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	600

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Summary of Results for 600 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.014	-0.201	0.000	0.08		12.2	OK
1.001	S2	64.013	0.168	0.000	0.05		7.7	SURCHARGED
1.002	S3	64.097	0.397	0.000	0.03	0.1	5.0	SURCHARGED
2.000	RE1	64.100	-0.175	0.000	0.11		3.8	OK
2.001	S4	63.968	-0.152	0.000	0.09		6.8	OK
3.000	RE2	64.094	-0.181	0.000	0.09		3.0	OK
3.001	S5	63.968	-0.132	0.000	0.09		6.8	OK
2.002	S6	63.967	0.042	0.000	0.12		16.2	SURCHARGED
2.003	S7	63.967	0.282	0.000	0.10		15.3	SURCHARGED
4.000	RE3	63.968	-0.167	0.000	0.10		3.8	OK
4.001	S8	63.966	0.056	0.000	0.08		6.8	SURCHARGED
5.000	RE4	63.967	-0.108	0.000	0.07		3.8	OK
4.002	S9	63.966	0.266	0.000	0.06		9.9	SURCHARGED
6.000	S10	63.969	-0.211	0.000	0.10		17.9	OK
7.000	S11	63.967	-0.213	0.000	0.03		5.1	OK
8.000	S12	63.967	-0.248	0.000	0.03		5.9	OK
6.001	S13	63.967	-0.163	0.000	0.13		44.0	OK
6.002	S14	63.967	0.017	0.000	0.12		42.3	SURCHARGED
6.003	PI Unit 15	63.967	0.117	0.000	0.19		42.1	SURCHARGED
9.000	RE5	64.047	-0.188	0.000	0.07		2.3	OK
9.001	S15	63.969	-0.016	0.000	0.15		5.3	OK
10.000	RE6	64.054	-0.181	0.000	0.09		3.0	OK
10.001	S16	63.969	-0.086	0.000	0.15		5.3	OK
9.002	S17	63.967	0.032	0.000	0.10		12.7	SURCHARGED
11.000	RE7	64.130	-0.185	0.000	0.07		3.0	OK
11.001	S18	63.969	-0.106	0.000	0.13		5.3	OK
11.002	S19	63.967	0.167	0.000	0.10		8.0	SURCHARGED
12.000	S20	63.978	-0.122	0.000	0.08		5.8	OK
12.001	S21	63.978	0.128	0.000	0.09		6.2	SURCHARGED
12.002	S22	63.978	0.378	0.000	0.09	0.0	5.0	SURCHARGED
9.003	S23	63.967	0.267	0.000	0.14		24.1	SURCHARGED
1.003	HW1-5	63.967	0.167	0.000	0.03		9.8	SURCHARGED
1.004	S24	64.142	0.392	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	960
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	8

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	480

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Summary of Results for 480 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.014	-0.201	0.000	0.10		14.6	OK
1.001	S2	64.013	0.168	0.000	0.05		8.1	SURCHARGED
1.002	S3	64.100	0.400	0.000	0.03	0.2	5.0	SURCHARGED
2.000	RE1	64.104	-0.171	0.000	0.13		4.6	OK
2.001	S4	63.949	-0.171	0.000	0.11		8.1	OK
3.000	RE2	64.098	-0.177	0.000	0.10		3.6	OK
3.001	S5	63.949	-0.151	0.000	0.11		8.1	OK
2.002	S6	63.948	0.023	0.000	0.15		19.4	SURCHARGED
2.003	S7	63.947	0.262	0.000	0.12		18.2	SURCHARGED
4.000	RE3	63.960	-0.175	0.000	0.11		4.6	OK
4.001	S8	63.947	0.037	0.000	0.09		8.1	SURCHARGED
5.000	RE4	63.948	-0.127	0.000	0.08		4.6	OK
4.002	S9	63.947	0.247	0.000	0.07		11.7	SURCHARGED
6.000	S10	63.950	-0.230	0.000	0.12		21.4	OK
7.000	S11	63.949	-0.231	0.000	0.04		6.0	OK
8.000	S12	63.949	-0.266	0.000	0.04		7.0	OK
6.001	S13	63.949	-0.181	0.000	0.15		52.6	OK
6.002	S14	63.948	-0.002	0.000	0.15		50.7	OK
6.003	PI Unit 15	63.947	0.097	0.000	0.23		50.5	SURCHARGED
9.000	RE5	64.052	-0.183	0.000	0.08		2.8	OK
9.001	S15	63.949	-0.036	0.000	0.18		6.3	OK
10.000	RE6	64.058	-0.177	0.000	0.10		3.6	OK
10.001	S16	63.950	-0.105	0.000	0.18		6.3	OK
9.002	S17	63.947	0.012	0.000	0.11		15.1	SURCHARGED
11.000	RE7	64.135	-0.180	0.000	0.09		3.6	OK
11.001	S18	63.950	-0.125	0.000	0.16		6.3	OK
11.002	S19	63.948	0.148	0.000	0.12		9.5	SURCHARGED
12.000	S20	63.971	-0.129	0.000	0.09		6.9	OK
12.001	S21	63.970	0.120	0.000	0.09		6.6	SURCHARGED
12.002	S22	63.969	0.369	0.000	0.09	0.0	5.0	SURCHARGED
9.003	S23	63.947	0.247	0.000	0.16		27.6	SURCHARGED
1.003	HW1-5	63.947	0.147	0.000	0.03		10.9	SURCHARGED
1.004	S24	64.310	0.560	0.000	0.02		8.0	FLOOD RISK

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	720
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	6

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	360

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Summary of Results for 360 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.016	-0.199	0.000	0.12		18.3	OK
1.001	S2	64.014	0.169	0.000	0.05		7.9	SURCHARGED
1.002	S3	64.124	0.424	0.000	0.03	0.4	5.0	SURCHARGED
2.000	RE1	64.111	-0.164	0.000	0.16		5.7	OK
2.001	S4	63.921	-0.199	0.000	0.14		10.2	OK
3.000	RE2	64.103	-0.172	0.000	0.13		4.5	OK
3.001	S5	63.921	-0.179	0.000	0.14		10.2	OK
2.002	S6	63.919	-0.006	0.000	0.18		24.4	OK
2.003	S7	63.918	0.233	0.000	0.14		22.7	SURCHARGED
4.000	RE3	63.966	-0.169	0.000	0.14		5.7	OK
4.001	S8	63.919	0.009	0.000	0.12		10.1	SURCHARGED
5.000	RE4	63.919	-0.156	0.000	0.10		5.7	OK
4.002	S9	63.918	0.218	0.000	0.09		14.7	SURCHARGED
6.000	S10	63.921	-0.259	0.000	0.16		26.7	OK
7.000	S11	63.920	-0.260	0.000	0.04		7.5	OK
8.000	S12	63.920	-0.295	0.000	0.05		8.8	OK
6.001	S13	63.920	-0.210	0.000	0.19		66.1	OK
6.002	S14	63.918	-0.032	0.000	0.18		63.8	OK
6.003	PI Unit 15	63.918	0.068	0.000	0.29		63.5	SURCHARGED
9.000	RE5	64.057	-0.178	0.000	0.10		3.5	OK
9.001	S15	63.921	-0.064	0.000	0.23		7.9	OK
10.000	RE6	64.063	-0.172	0.000	0.13		4.5	OK
10.001	S16	63.921	-0.134	0.000	0.22		7.9	OK
9.002	S17	63.919	-0.016	0.000	0.14		18.9	OK
11.000	RE7	64.140	-0.175	0.000	0.11		4.5	OK
11.001	S18	63.921	-0.154	0.000	0.20		7.9	OK
11.002	S19	63.919	0.119	0.000	0.15		12.0	SURCHARGED
12.000	S20	63.967	-0.133	0.000	0.12		8.6	OK
12.001	S21	63.966	0.116	0.000	0.10		7.1	SURCHARGED
12.002	S22	63.988	0.388	0.000	0.09	0.0	5.0	SURCHARGED
9.003	S23	63.918	0.218	0.000	0.20		33.5	SURCHARGED
1.003	HW1-5	63.918	0.118	0.000	0.04		13.5	SURCHARGED
1.004	S24	64.207	0.457	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	480
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	4

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	240

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Summary of Results for 240 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.017	-0.198	0.000	0.17		25.0	OK
1.001	S2	64.015	0.170	0.000	0.05		8.1	SURCHARGED
1.002	S3	64.121	0.421	0.000	0.03	0.8	5.0	SURCHARGED
2.000	RE1	64.122	-0.153	0.000	0.23		7.8	OK
2.001	S4	63.907	-0.213	0.000	0.19		13.9	OK
3.000	RE2	64.113	-0.162	0.000	0.17		6.1	OK
3.001	S5	63.887	-0.213	0.000	0.19		14.0	OK
2.002	S6	63.873	-0.052	0.000	0.26		33.9	OK
2.003	S7	63.871	0.186	0.000	0.20		31.5	SURCHARGED
4.000	RE3	63.977	-0.158	0.000	0.19		7.8	OK
4.001	S8	63.872	-0.038	0.000	0.16		14.0	OK
5.000	RE4	63.905	-0.170	0.000	0.14		7.9	OK
4.002	S9	63.871	0.171	0.000	0.12		20.1	SURCHARGED
6.000	S10	63.875	-0.305	0.000	0.21		36.6	OK
7.000	S11	63.873	-0.307	0.000	0.06		10.3	OK
8.000	S12	63.874	-0.341	0.000	0.07		12.1	OK
6.001	S13	63.873	-0.257	0.000	0.26		91.9	OK
6.002	S14	63.872	-0.078	0.000	0.26		88.9	OK
6.003	PI Unit 15	63.872	0.022	0.000	0.40		88.5	SURCHARGED
9.000	RE5	64.065	-0.170	0.000	0.13		4.7	OK
9.001	S15	63.876	-0.109	0.000	0.31		10.8	OK
10.000	RE6	64.073	-0.162	0.000	0.18		6.1	OK
10.001	S16	63.915	-0.140	0.000	0.31		10.8	OK
9.002	S17	63.873	-0.062	0.000	0.20		26.3	OK
11.000	RE7	64.148	-0.167	0.000	0.15		6.1	OK
11.001	S18	63.929	-0.146	0.000	0.27		10.8	OK
11.002	S19	63.873	0.073	0.000	0.21		16.6	SURCHARGED
12.000	S20	63.975	-0.125	0.000	0.16		11.7	OK
12.001	S21	63.972	0.122	0.000	0.11		7.8	SURCHARGED
12.002	S22	64.045	0.445	0.000	0.09	0.0	5.0	SURCHARGED
9.003	S23	63.872	0.172	0.000	0.26		44.5	SURCHARGED
1.003	HW1-5	63.871	0.071	0.000	0.05		15.9	SURCHARGED
1.004	S24	64.161	0.411	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	360
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	3

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	180

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Summary of Results for 180 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.016	-0.199	0.000	0.21		31.2	OK
1.001	S2	64.014	0.169	0.000	0.07		10.0	SURCHARGED
1.002	S3	64.130	0.430	0.000	0.03	0.9	5.0	SURCHARGED
2.000	RE1	64.131	-0.144	0.000	0.28		9.8	OK
2.001	S4	63.918	-0.202	0.000	0.23		17.4	OK
3.000	RE2	64.121	-0.154	0.000	0.22		7.6	OK
3.001	S5	63.898	-0.202	0.000	0.23		17.4	OK
2.002	S6	63.839	-0.086	0.000	0.32		42.3	OK
2.003	S7	63.839	0.154	0.000	0.25		39.4	SURCHARGED
4.000	RE3	63.985	-0.150	0.000	0.24		9.8	OK
4.001	S8	63.839	-0.071	0.000	0.20		17.4	OK
5.000	RE4	63.912	-0.163	0.000	0.17		9.8	OK
4.002	S9	63.839	0.139	0.000	0.15		25.2	SURCHARGED
6.000	S10	63.888	-0.292	0.000	0.27		45.7	OK
7.000	S11	63.840	-0.340	0.000	0.08		12.9	OK
8.000	S12	63.859	-0.356	0.000	0.09		15.1	OK
6.001	S13	63.840	-0.290	0.000	0.33		114.7	OK
6.002	S14	63.839	-0.111	0.000	0.33		113.0	OK
6.003	PI Unit 15	63.839	-0.011	0.000	0.51		112.7	OK
9.000	RE5	64.072	-0.163	0.000	0.17		5.9	OK
9.001	S15	63.857	-0.128	0.000	0.39		13.5	OK
10.000	RE6	64.081	-0.154	0.000	0.22		7.6	OK
10.001	S16	63.926	-0.129	0.000	0.38		13.5	OK
9.002	S17	63.839	-0.096	0.000	0.25		32.9	OK
11.000	RE7	64.156	-0.159	0.000	0.19		7.6	OK
11.001	S18	63.940	-0.135	0.000	0.34		13.5	OK
11.002	S19	63.839	0.039	0.000	0.26		20.9	SURCHARGED
12.000	S20	63.986	-0.114	0.000	0.20		14.7	OK
12.001	S21	63.982	0.132	0.000	0.11		7.6	SURCHARGED
12.002	S22	64.076	0.476	0.000	0.09	0.0	5.0	SURCHARGED
9.003	S23	63.839	0.139	0.000	0.32		54.3	SURCHARGED
1.003	HW1-5	63.839	0.039	0.000	0.04		13.0	SURCHARGED
1.004	S24	64.119	0.369	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	240
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	4

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	120

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Summary of Results for 120 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.023	-0.192	0.000	0.28		42.2	OK
1.001	S2	64.007	0.162	0.000	0.09		13.2	SURCHARGED
1.002	S3	64.129	0.429	0.000	0.03	1.0	4.9	SURCHARGED
2.000	RE1	64.146	-0.129	0.000	0.38		13.2	OK
2.001	S4	63.936	-0.184	0.000	0.32		23.5	OK
3.000	RE2	64.133	-0.142	0.000	0.29		10.3	OK
3.001	S5	63.916	-0.184	0.000	0.32		23.5	OK
2.002	S6	63.795	-0.130	0.000	0.43		57.1	OK
2.003	S7	63.795	0.110	0.000	0.34		53.6	SURCHARGED
4.000	RE3	63.999	-0.136	0.000	0.33		13.3	OK
4.001	S8	63.795	-0.115	0.000	0.27		23.6	OK
5.000	RE4	63.923	-0.152	0.000	0.23		13.3	OK
4.002	S9	63.795	0.095	0.000	0.20		34.1	SURCHARGED
6.000	S10	63.918	-0.262	0.000	0.36		61.8	OK
7.000	S11	63.852	-0.328	0.000	0.10		17.4	OK
8.000	S12	63.881	-0.334	0.000	0.12		20.4	OK
6.001	S13	63.811	-0.319	0.000	0.44		154.0	OK
6.002	S14	63.795	-0.155	0.000	0.44		153.4	OK
6.003	PI Unit 15	63.795	-0.055	0.000	0.70		153.7	OK
9.000	RE5	64.082	-0.153	0.000	0.23		8.0	OK
9.001	S15	63.876	-0.109	0.000	0.53		18.3	OK
10.000	RE6	64.094	-0.141	0.000	0.30		10.3	OK
10.001	S16	63.945	-0.110	0.000	0.52		18.3	OK
9.002	S17	63.795	-0.140	0.000	0.34		44.3	OK
11.000	RE7	64.167	-0.148	0.000	0.26		10.3	OK
11.001	S18	63.957	-0.118	0.000	0.46		18.3	OK
11.002	S19	63.795	-0.005	0.000	0.35		28.6	OK
12.000	S20	63.996	-0.104	0.000	0.27		19.8	OK
12.001	S21	63.992	0.142	0.000	0.10		7.3	SURCHARGED
12.002	S22	64.113	0.513	0.000	0.09	0.1	5.0	SURCHARGED
9.003	S23	63.795	0.095	0.000	0.43		71.9	SURCHARGED
1.003	HW1-5	63.795	-0.005	0.000	0.03		10.5	OK
1.004	S24	64.153	0.403	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	120
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	2

Number of Input Hydrographs	0	Number of Storage Structures	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	60

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Summary of Results for 60 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.061	-0.154	0.000	0.47		70.7	OK
1.001	S2	63.988	0.143	0.000	0.15		22.1	SURCHARGED
1.002	S3	64.133	0.433	0.000	0.03	1.2	4.9	SURCHARGED
2.000	RE1	64.182	-0.093	0.000	0.64		22.2	OK
2.001	S4	63.976	-0.144	0.000	0.53		39.4	OK
3.000	RE2	64.162	-0.113	0.000	0.49		17.3	OK
3.001	S5	63.957	-0.143	0.000	0.53		39.5	OK
2.002	S6	63.787	-0.138	0.000	0.71		94.5	OK
2.003	S7	63.722	0.037	0.000	0.58		91.6	SURCHARGED
4.000	RE3	64.030	-0.105	0.000	0.55		22.2	OK
4.001	S8	63.754	-0.156	0.000	0.46		39.5	OK
5.000	RE4	63.947	-0.128	0.000	0.39		22.2	OK
4.002	S9	63.722	0.022	0.000	0.35		58.8	SURCHARGED
6.000	S10	64.019	-0.161	0.000	0.60		102.6	OK
7.000	S11	63.973	-0.207	0.000	0.17		28.4	OK
8.000	S12	63.977	-0.238	0.000	0.19		33.5	OK
6.001	S13	63.958	-0.172	0.000	0.69		238.1	OK
6.002	S14	63.872	-0.078	0.000	0.66		229.9	OK
6.003	PI Unit 15	63.850	0.000	0.000	1.05		230.8	OK
9.000	RE5	64.107	-0.128	0.000	0.38		13.4	OK
9.001	S15	63.926	-0.059	0.000	0.88		30.7	OK
10.000	RE6	64.123	-0.112	0.000	0.50		17.3	OK
10.001	S16	63.993	-0.062	0.000	0.86		30.6	OK
9.002	S17	63.761	-0.174	0.000	0.56		73.5	OK
11.000	RE7	64.194	-0.121	0.000	0.43		17.3	OK
11.001	S18	64.000	-0.075	0.000	0.76		30.7	OK
11.002	S19	63.723	-0.077	0.000	0.59		47.8	OK
12.000	S20	63.995	-0.105	0.000	0.46		33.2	OK
12.001	S21	63.989	0.139	0.000	0.16		11.6	SURCHARGED
12.002	S22	64.117	0.517	0.000	0.09	0.3	5.0	SURCHARGED
9.003	S23	63.723	0.023	0.000	0.74		125.1	SURCHARGED
1.003	HW1-5	63.722	-0.078	0.000	0.06		19.8	OK
1.004	S24	64.040	0.290	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	30

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Summary of Results for 30 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.115	-0.100	0.000	0.75		112.9	OK
1.001	S2	63.966	0.121	0.000	0.25		37.1	SURCHARGED
1.002	S3	64.136	0.436	0.000	0.03	1.1	5.0	SURCHARGED
2.000	RE1	64.299	0.024	0.000	0.99		34.3	SURCHARGED
2.001	S4	64.084	-0.036	0.000	0.78		58.1	OK
3.000	RE2	64.213	-0.062	0.000	0.78		27.5	OK
3.001	S5	64.075	-0.025	0.000	0.79		58.7	OK
2.002	S6	63.927	0.002	0.000	1.02		134.8	SURCHARGED
2.003	S7	63.656	-0.029	0.000	0.85		134.5	OK
4.000	RE3	64.077	-0.058	0.000	0.89		35.9	OK
4.001	S8	63.805	-0.105	0.000	0.74		63.3	OK
5.000	RE4	63.980	-0.095	0.000	0.63		36.3	OK
4.002	S9	63.656	-0.044	0.000	0.59		99.5	OK
6.000	S10	64.373	0.193	0.000	0.91		156.0	FLOOD RISK
7.000	S11	64.256	0.076	0.000	0.25		42.6	FLOOD RISK
8.000	S12	64.262	0.047	0.000	0.29		49.7	FLOOD RISK
6.001	S13	64.232	0.102	0.000	1.06		369.9	SURCHARGED
6.002	S14	64.041	0.091	0.000	1.04		360.6	SURCHARGED
6.003	PI Unit 15	63.909	0.059	0.000	1.65		362.3	SURCHARGED
9.000	RE5	64.237	0.002	0.000	0.57		20.1	SURCHARGED
9.001	S15	64.153	0.168	0.000	1.28		44.4	SURCHARGED
10.000	RE6	64.356	0.121	0.000	0.74		25.8	FLOOD RISK
10.001	S16	64.255	0.200	0.000	1.24		44.1	SURCHARGED
9.002	S17	63.821	-0.114	0.000	0.79		104.4	OK
11.000	RE7	64.314	-0.001	0.000	0.67		26.7	FLOOD RISK
11.001	S18	64.215	0.140	0.000	1.09		43.9	SURCHARGED
11.002	S19	63.791	-0.009	0.000	0.83		67.2	OK
12.000	S20	64.030	-0.070	0.000	0.73		52.9	OK
12.001	S21	63.974	0.124	0.000	0.27		19.1	SURCHARGED
12.002	S22	64.117	0.517	0.000	0.09	0.3	5.0	SURCHARGED
9.003	S23	63.657	-0.043	0.000	1.00		169.1	OK
1.003	HW1-5	63.657	-0.143	0.000	0.04		14.7	OK
1.004	S24	63.806	0.056	0.000	0.02		8.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	5.000
Hot Start (mins)	0	Inlet Coeffiecient	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	3
Number of Online Controls	3	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	15

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Summary of Results for 15 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	64.266	0.051	0.000	0.99		149.1	SURCHARGED
1.001	S2	63.941	0.096	0.000	0.40		59.3	SURCHARGED
1.002	S3	64.132	0.432	0.000	0.03	3.5	5.2	SURCHARGED
2.000	RE1	64.596	0.321	0.000	1.15		39.8	FLOOD RISK
2.001	S4	64.299	0.179	0.000	0.89		66.6	SURCHARGED
3.000	RE2	64.490	0.215	0.000	0.91		32.0	FLOOD RISK
3.001	S5	64.295	0.195	0.000	0.93		69.0	SURCHARGED
2.002	S6	64.075	0.150	0.000	1.20		159.3	SURCHARGED
2.003	S7	63.599	-0.086	0.000	1.00		157.9	OK
4.000	RE3	64.291	0.156	0.000	1.16		46.7	SURCHARGED
4.001	S8	63.877	-0.033	0.000	0.94		80.7	OK
5.000	RE4	64.029	-0.046	0.000	0.89		51.1	OK
4.002	S9	63.599	-0.101	0.000	0.77		130.9	OK
6.000	S10	64.652	0.472	1.757	1.10		187.7	FLOOD
7.000	S11	64.452	0.272	1.946	0.36		61.3	FLOOD
8.000	S12	64.449	0.234	0.196	0.38		66.9	FLOOD
6.001	S13	64.458	0.328	0.000	1.23		428.7	FLOOD RISK
6.002	S14	64.155	0.205	0.000	1.24		431.2	SURCHARGED
6.003	PI Unit 15	63.966	0.116	0.000	1.97		431.8	SURCHARGED
9.000	RE5	64.521	0.286	0.000	0.70		24.6	FLOOD RISK
9.001	S15	64.402	0.417	0.000	1.52		52.7	FLOOD RISK
10.000	RE6	64.600	0.365	0.439	0.89		30.9	FLOOD
10.001	S16	64.489	0.434	0.000	1.41		49.9	FLOOD RISK
9.002	S17	63.982	0.047	0.000	0.87		114.4	SURCHARGED
11.000	RE7	64.600	0.285	0.177	0.76		30.6	FLOOD
11.001	S18	64.474	0.399	0.000	1.25		50.0	FLOOD RISK
11.002	S19	63.938	0.138	0.000	0.96		77.8	SURCHARGED
12.000	S20	64.148	0.048	0.000	0.99		71.7	SURCHARGED
12.001	S21	63.949	0.099	0.000	0.46		33.1	SURCHARGED
12.002	S22	64.110	0.510	0.000	0.09	0.1	5.0	SURCHARGED
9.003	S23	63.741	0.041	0.000	1.12		189.0	SURCHARGED
1.003	HW1-5	63.599	-0.201	0.000	0.04		13.1	OK
1.004	S24	63.702	-0.048	0.000	0.02		8.0	OK

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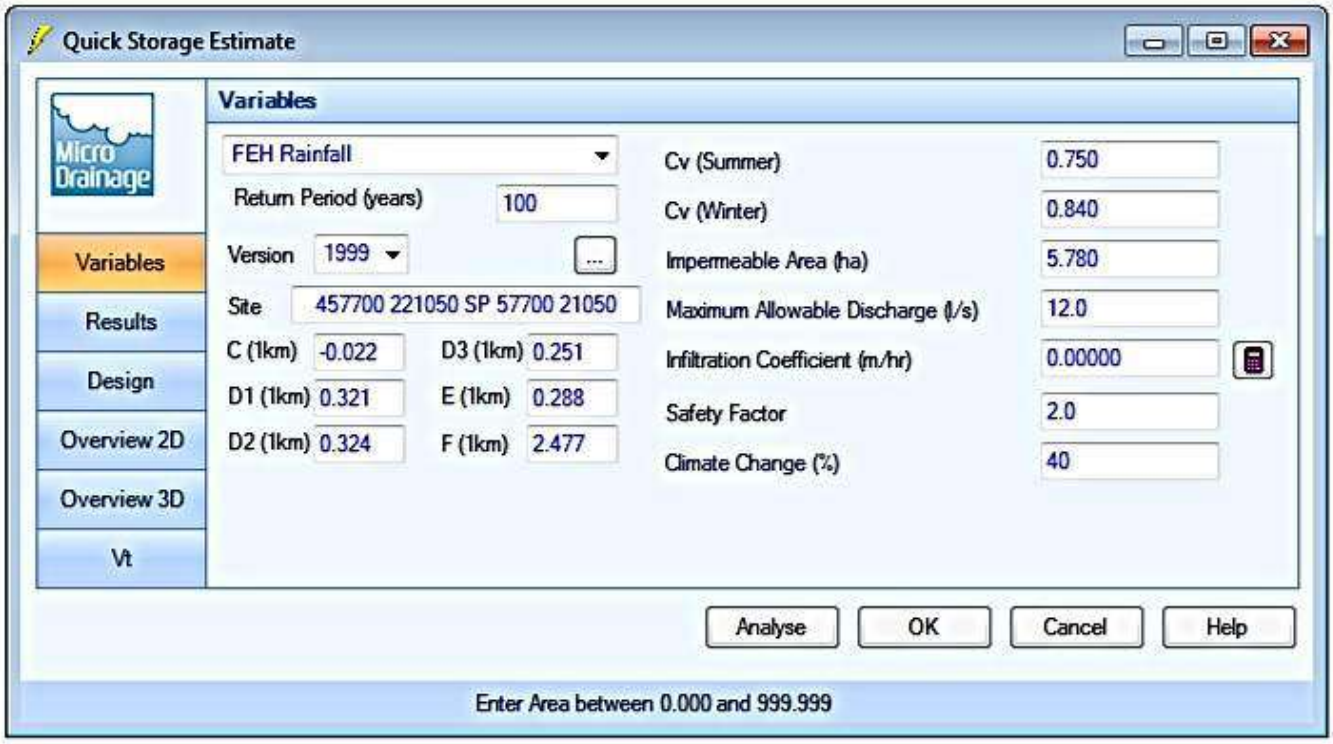
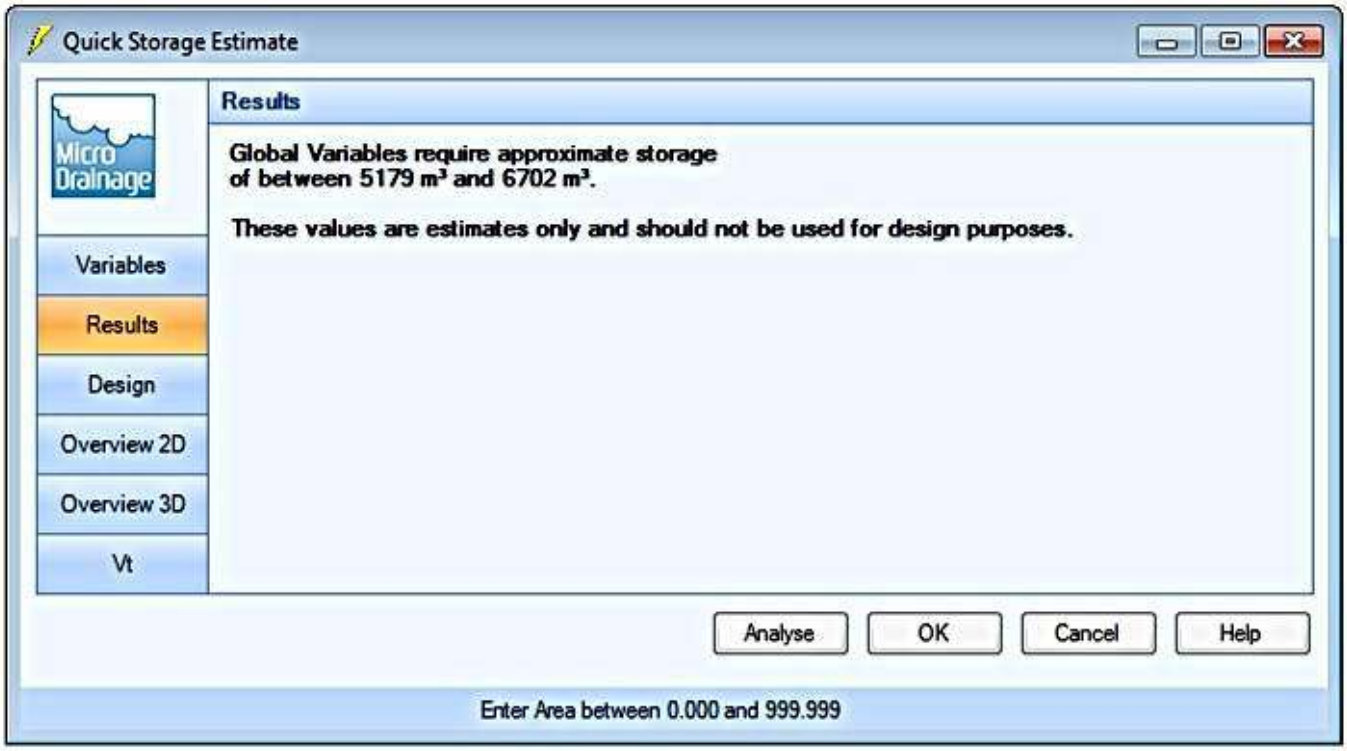

Quick Storage Estimate
Micro Drainage
Variables
Results
Design
Overview 2D
Overview 3D
Vt
Variables
FEH Rainfall
Return Period (years) 100
Version 1999
Site 457700 221050 SP 57700 21050
C (1km) -0.022
D3 (1km) 0.251
D1 (1km) 0.321
E (1km) 0.288
D2 (1km) 0.324
F (1km) 2.477
Cv (Summer) 0.750
Cv (Winter) 0.840
Impermeable Area (ha) 5.780
Maximum Allowable Discharge (l/s) 12.0
Infiltration Coefficient (m/hr) 0.00000
Safety Factor 2.0
Climate Change (%) 40
Analyse
OK
Cancel
Help
Enter Area between 0.000 and 999.999


Quick Storage Estimate
Micro Drainage
Results
Variables
Results
Design
Overview 2D
Overview 3D
Vt
Global Variables require approximate storage
of between 5179 m³ and 6702 m³.
These values are estimates only and should not be used for design purposes.
Analyse
OK
Cancel
Help
Enter Area between 0.000 and 999.999

Existing Network Details for Storm

* - Indicates pipe has been modified outside of System 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type
* 1.000	89.900	0.300	299.7	0.290	5.00	0.600	o	450	Pipe/Conduit
* 2.000	68.200	0.225	303.1	0.116	5.00	0.600	o	300	Pipe/Conduit
* 1.001	13.000	0.045	288.9	0.000	0.00	0.600	o	525	Pipe/Conduit
3.000	61.300	0.300	204.3	0.116	5.00	0.600	o	300	Pipe/Conduit
3.001	8.700	0.145	60.0	0.000	0.00	0.600	o	300	Pipe/Conduit
* 1.002	76.300	0.225	339.1	0.089	0.00	0.600	o	525	Pipe/Conduit
* 4.000	58.800	0.580	101.4	0.210	5.00	0.600	o	375	Pipe/Conduit
* 1.003	14.000	0.075	186.7	0.000	0.00	0.600	o	525	Pipe/Conduit
5.000	71.000	0.725	97.9	0.040	5.00	0.600	o	225	Pipe/Conduit
* 1.004	5.500	0.050	110.0	0.000	0.00	0.600	o	525	Pipe/Conduit
* 1.005	22.500	0.225	100.0	0.000	0.00	0.600	o	525	Pipe/Conduit

PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
* 1.000	S25	64.800	63.900	0.450	64.800	63.600	0.750		1200
* 2.000	S26	64.650	63.825	0.525	64.800	63.600	0.900		1200
* 1.001	S27	64.800	63.600	0.675	64.800	63.555	0.720		1350
3.000	S28	64.650	64.000	0.350	64.650	63.700	0.650		1200
3.001	S29	64.650	63.700	0.650	64.800	63.555	0.945	Hydro-Brake®	1200
* 1.002	S30	64.800	63.555	0.720	64.550	63.330	0.695		1350
* 4.000	S31	64.550	63.880	0.295	64.550	63.300	0.875		1200
* 1.003	S32	64.550	63.300	0.725	64.800	63.225	1.050		1350
5.000	S33	64.800	63.950	0.625	64.800	63.225	1.350		1200
* 1.004	S34	64.800	63.225	1.050	65.000	63.175	1.300		1350
* 1.005	PI Unit 4	65.000	63.125	1.375	65.000	62.900	1.600		3540 x 1875

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Existing Network Details for Storm

	PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type
	6.000	29.300	0.150	195.3	0.009	5.00	0.600	o	225	Pipe/Conduit
	6.001	47.400	0.250	189.6	0.058	0.00	0.600	o	225	Pipe/Conduit
	6.002	47.400	0.215	220.5	0.058	0.00	0.600	o	300	Pipe/Conduit
	7.000	46.400	0.225	206.2	0.058	5.00	0.600	o	225	Pipe/Conduit
*	7.001	46.400	0.225	206.2	0.058	0.00	0.600	o	300	Pipe/Conduit
*	7.002	35.600	0.165	215.8	0.009	0.00	0.600	o	300	Pipe/Conduit
	8.000	73.800	0.275	268.4	0.210	5.00	0.600	o	300	Pipe/Conduit
	8.001	6.000	0.040	150.0	0.000	0.00	0.600	o	300	Pipe/Conduit
	6.003	15.700	0.085	184.7	0.000	0.00	0.600	o	375	Pipe/Conduit
	6.004	81.500	0.225	362.2	0.078	0.00	0.600	o	450	Pipe/Conduit
	9.000	60.800	0.300	202.7	0.063	5.00	0.600	o	225	Pipe/Conduit
	9.001	51.000	0.250	204.0	0.078	0.00	0.600	o	300	Pipe/Conduit
*	9.002	64.900	0.225	288.4	0.063	0.00	0.600	o	375	Pipe/Conduit
	6.005	33.200	0.165	201.2	0.000	0.00	0.600	o	450	Pipe/Conduit
	6.006	26.000	0.260	100.0	0.000	0.00	0.600	o	450	Pipe/Conduit

	PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
	6.000	RE8	64.900	64.300	0.375	64.900	64.150	0.525		1200
	6.001	S35	64.900	64.150	0.525	64.850	63.900	0.725		1200
	6.002	S36	64.850	63.900	0.650	64.900	63.685	0.915		1200
	7.000	RE9	64.900	64.300	0.375	64.900	64.075	0.600		1200
*	7.001	S37	64.900	64.075	0.525	64.850	63.850	0.700		1200
*	7.002	S38	64.850	63.850	0.700	64.900	63.685	0.915		1200
	8.000	S39	64.750	64.000	0.450	64.750	63.725	0.725		1200
	8.001	S40	64.750	63.725	0.725	64.900	63.685	0.915	Hydro-Brake®	1200
	6.003	S41	64.900	63.685	0.840	64.900	63.600	0.925		1350
	6.004	S42	64.900	63.600	0.850	64.650	63.375	0.825		1350
	9.000	RE10	64.650	64.100	0.325	64.650	63.800	0.625		1200
	9.001	S43	64.650	63.800	0.550	64.650	63.550	0.800		1200
*	9.002	S44	64.650	63.550	0.725	64.650	63.325	0.950		1200
	6.005	S45	64.650	63.325	0.875	65.000	63.160	1.390		1350
	6.006	S46	65.000	63.160	1.390	65.000	62.900	1.650		1350

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Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type
10.000	46.900	0.250	187.6	0.036	5.00	0.600	o	225	Pipe/Conduit
10.001	37.900	0.200	189.5	0.047	0.00	0.600	o	225	Pipe/Conduit
11.000	34.600	0.200	173.0	0.047	5.00	0.600	o	225	Pipe/Conduit
11.001	50.000	0.250	200.0	0.036	0.00	0.600	o	225	Pipe/Conduit
10.002	32.500	0.175	185.7	0.000	0.00	0.600	o	300	Pipe/Conduit
12.000	52.600	0.260	202.3	0.073	5.00	0.600	o	225	Pipe/Conduit
13.000	62.500	0.250	250.0	0.126	5.00	0.600	o	300	Pipe/Conduit
13.001	24.400	0.100	244.0	0.000	0.00	0.600	o	300	Pipe/Conduit
10.003	59.100	0.200	295.5	0.063	0.00	0.600	o	450	Pipe/Conduit
14.000	49.300	0.250	197.2	0.050	5.00	0.600	o	225	Pipe/Conduit
* 14.001	48.000	0.250	192.0	0.063	0.00	0.600	o	300	Pipe/Conduit
* 14.002	53.000	0.275	192.7	0.050	0.00	0.600	o	375	Pipe/Conduit
10.004	28.300	0.100	283.0	0.000	0.00	0.600	o	450	Pipe/Conduit

PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
10.000	RE11	64.900	64.100	0.575	64.900	63.850	0.825		1200
10.001	S47	64.900	63.850	0.825	64.900	63.650	1.025		1200
11.000	RE12	64.900	64.100	0.575	64.900	63.900	0.775		1200
11.001	S48	64.900	63.900	0.775	64.900	63.650	1.025		1200
10.002	S49	64.900	63.650	0.950	64.650	63.475	0.875		1200
12.000	S50	64.650	63.735	0.690	64.650	63.475	0.950		1200
13.000	S51	64.850	63.825	0.725	64.550	63.575	0.675		1200
13.001	S52	64.550	63.575	0.675	64.650	63.475	0.875		1200
10.003	S53	64.650	63.475	0.725	64.650	63.275	0.925		1350
14.000	RE13	64.650	64.050	0.375	64.650	63.800	0.625		1200
* 14.001	S54	64.650	63.800	0.550	64.650	63.550	0.800		1200
* 14.002	S55	64.650	63.550	0.725	64.650	63.275	1.000		1200
10.004	S56	64.650	63.275	0.925	65.000	63.175	1.375		1350

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Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type
15.000	56.200	0.565	99.5	0.056	5.00	0.600	o	225	Pipe/Conduit
10.005	26.800	0.275	97.5	0.000	0.00	0.600	o	450	Pipe/Conduit
16.000	53.400	0.275	194.2	0.128	5.00	0.600	o	225	Pipe/Conduit
16.001	58.000	0.190	305.3	0.058	0.00	0.600	o	300	Pipe/Conduit
* 17.000	38.600	0.215	179.5	0.164	5.00	0.600	o	375	Pipe/Conduit
* 16.002	20.600	0.065	316.9	0.000	0.00	0.600	o	375	Pipe/Conduit
16.003	79.900	0.270	295.9	0.089	0.00	0.600	o	375	Pipe/Conduit
18.000	45.500	0.275	165.5	0.123	5.00	0.600	o	300	Pipe/Conduit
19.000	42.200	0.275	153.5	0.123	5.00	0.600	o	300	Pipe/Conduit
16.004	13.400	0.115	116.5	0.000	0.00	0.600	o	450	Pipe/Conduit
16.005	22.200	0.185	120.0	0.000	0.00	0.600	o	450	Pipe/Conduit
20.000	49.800	0.250	199.2	0.132	5.00	0.600	o	225	Pipe/Conduit

PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
15.000	S57	64.800	63.740	0.835	65.000	63.175	1.600		1200
10.005	S58	65.000	63.175	1.375	65.000	62.900	1.650		1350
16.000	S59	64.800	64.050	0.525	64.650	63.775	0.650		1200
16.001	S60	64.650	63.775	0.575	64.900	63.585	1.015		1200
* 17.000	S61	64.550	63.800	0.375	64.900	63.585	0.940		1200
* 16.002	S62	64.900	63.585	0.940	64.650	63.520	0.755		1350
16.003	S63	64.650	63.520	0.755	64.650	63.250	1.025		1350
18.000	S64	64.550	63.525	0.725	64.650	63.250	1.100		1200
19.000	S65	64.550	63.525	0.725	64.650	63.250	1.100		1200
16.004	S66	64.650	63.250	0.950	65.000	63.135	1.415		1350
16.005	PI Unit 9	65.000	63.085	1.415	65.000	62.900	1.600		3200 x 1875
20.000	S67	64.400	63.800	0.375	64.650	63.550	0.875		1200

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Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type
21.000	34.800	0.175	198.9	0.049	5.00	0.600	o	225	Pipe/Conduit
* 21.001	53.000	0.275	192.7	0.038	0.00	0.600	o	300	Pipe/Conduit
22.000	50.000	0.250	200.0	0.038	5.00	0.600	o	225	Pipe/Conduit
* 22.001	38.000	0.200	190.0	0.049	0.00	0.600	o	300	Pipe/Conduit
23.000	100.000	0.500	200.0	1.389	5.00	0.600	o	450	Pipe/Conduit
23.001	12.500	0.075	166.7	0.000	0.00	0.600	o	375	Pipe/Conduit
21.002	19.900	0.100	199.0	0.000	0.00	0.600	o	375	Pipe/Conduit
20.001	10.000	0.050	200.0	0.000	0.00	0.600	o	375	Pipe/Conduit
24.000	48.800	0.250	195.2	0.050	5.00	0.600	o	225	Pipe/Conduit
20.002	48.000	0.210	228.6	0.063	0.00	0.600	o	375	Pipe/Conduit
25.000	44.900	0.300	149.7	0.063	5.00	0.600	o	225	Pipe/Conduit
* 25.001	52.500	0.360	145.8	0.050	0.00	0.600	o	300	Pipe/Conduit
26.000	32.300	0.160	201.9	0.110	5.00	0.600	o	300	Pipe/Conduit

PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
21.000	RE14	64.900	64.100	0.575	64.900	63.925	0.750		1200
* 21.001	S68	64.900	63.925	0.675	64.900	63.650	0.950		1200
22.000	RE15	64.900	64.100	0.575	64.900	63.850	0.825		1200
* 22.001	S69	64.900	63.850	0.750	64.900	63.650	0.950		1200
23.000	David Lloyd	65.100	64.225	0.425	65.100	63.725	0.925		1350
23.001	S69	65.100	63.725	1.000	64.900	63.650	0.875	Hydro-Brake®	1350
21.002	S70	64.900	63.650	0.875	64.650	63.550	0.725		1350
20.001	S71	64.650	63.550	0.725	64.650	63.500	0.775		1350
24.000	RE16	64.650	63.750	0.675	64.650	63.500	0.925		1200
20.002	S72	64.650	63.500	0.775	64.650	63.290	0.985		1350
25.000	RE17	64.650	63.950	0.475	64.650	63.650	0.775		1200
* 25.001	S73	64.650	63.650	0.700	64.650	63.290	1.060		1200
26.000	S74	64.650	63.660	0.690	65.000	63.500	1.200		1200

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Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type
27.000	44.200	0.440	100.5	0.063	5.00	0.600	o	225	Pipe/Conduit
26.001	11.600	0.060	193.3	0.000	0.00	0.600	o	375	Pipe/Conduit
28.000	50.800	0.260	195.4	0.128	5.00	0.600	o	300	Pipe/Conduit
26.002	5.300	0.050	106.0	0.000	0.00	0.600	o	375	Pipe/Conduit
26.003	5.300	0.050	106.0	0.000	0.00	0.600	o	375	Pipe/Conduit
20.003	28.300	0.100	283.0	0.000	0.00	0.600	o	450	Pipe/Conduit
29.000	53.600	0.535	100.2	0.056	5.00	0.600	o	225	Pipe/Conduit
20.004	58.400	0.290	201.4	0.000	0.00	0.600	o	450	Pipe/Conduit
1.006	6.000	0.025	240.0	0.590	0.00	0.600	o	450	Pipe/Conduit
1.007	10.000	0.050	200.0	0.000	0.00	0.600	o	300	Pipe/Conduit

PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
27.000	S75	64.850	63.940	0.685	65.000	63.500	1.275		1200
26.001	S76	65.000	63.500	1.125	64.650	63.440	0.835		1350
28.000	S77	64.800	63.700	0.800	64.650	63.440	0.910		1200
26.002	S78	64.650	63.440	0.835	64.650	63.390	0.885		1350
26.003	PI Unit 7	64.650	63.340	0.885	64.650	63.290	0.935		2920 x 1220
20.003	S79	64.650	63.290	0.910	65.000	63.190	1.360		1350
29.000	S80	64.800	63.725	0.850	65.000	63.190	1.585		1200
20.004	S81	65.000	63.190	1.360	65.000	62.900	1.650		1350
1.006	HW 7-12	65.000	62.900	1.650	65.000	62.875	1.675		1350
1.007	S82	65.000	62.875	1.825	64.000	62.825	0.875	Hydro-Brake®	1350

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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)
1.007	Outfall ditch	64.000	62.825	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	8640
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	24

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	4320

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: S29, DS/PN: 3.001, Volume (m³): 5.3

Unit Reference	MD-SHE-0113-5000-0500-5000
Design Head (m)	0.500
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	113
Invert Level (m)	63.700
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.500	5.0
Flush-Flo™	0.179	5.0
Kick-Flo®	0.372	4.4
Mean Flow over Head Range	-	4.1

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	3.9	1.200	7.5	3.000	11.6	7.000	17.4
0.200	5.0	1.400	8.1	3.500	12.5	7.500	18.1
0.300	4.8	1.600	8.6	4.000	13.3	8.000	18.7
0.400	4.5	1.800	9.1	4.500	14.1	8.500	19.2
0.500	5.0	2.000	9.6	5.000	14.8	9.000	19.8
0.600	5.4	2.200	10.0	5.500	15.4	9.500	20.3
0.800	6.2	2.400	10.4	6.000	16.1		
1.000	6.9	2.600	10.8	6.500	16.8		

Hydro-Brake® Optimum Manhole: S40, DS/PN: 8.001, Volume (m³): 6.3

Unit Reference	MD-SHE-0109-5000-0775-5000
Design Head (m)	0.775
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	109
Invert Level (m)	63.725
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

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Hydro-Brake® Optimum Manhole: S40, DS/PN: 8.001, Volume (m³): 6.3

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.775	5.0
Flush-Flo™	0.235	5.0
Kick-Flo®	0.523	4.2
Mean Flow over Head Range	-	4.3

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)
0.100	3.7	1.200	6.1	3.000	9.4	7.000	14.1
0.200	5.0	1.400	6.6	3.500	10.1	7.500	14.6
0.300	4.9	1.600	7.0	4.000	10.8	8.000	15.0
0.400	4.8	1.800	7.4	4.500	11.4	8.500	15.5
0.500	4.4	2.000	7.8	5.000	12.0	9.000	15.9
0.600	4.4	2.200	8.1	5.500	12.6	9.500	16.3
0.800	5.1	2.400	8.5	6.000	13.1		
1.000	5.6	2.600	8.8	6.500	13.6		

Hydro-Brake® Optimum Manhole: S69, DS/PN: 23.001, Volume (m³): 17.7

Unit Reference	MD-SHE-0318-6000-1000-6000
Design Head (m)	1.000
Design Flow (l/s)	60.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	318
Invert Level (m)	63.725
Minimum Outlet Pipe Diameter (mm)	375
Suggested Manhole Diameter (mm)	1800

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	60.0
Flush-Flo™	0.472	60.0
Kick-Flo®	0.801	53.9
Mean Flow over Head Range	-	47.6

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)
0.100	9.5	0.300	57.0	0.500	59.9	0.800	54.0
0.200	32.6	0.400	59.6	0.600	59.1	1.000	60.0

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Hydro-Brake® Optimum Manhole: S69, DS/PN: 23.001, Volume (m³): 17.7

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
1.200	65.5	2.400	91.7	5.000	131.1	8.000	165.0
1.400	70.6	2.600	95.3	5.500	137.3	8.500	170.0
1.600	75.3	3.000	102.2	6.000	143.3	9.000	174.8
1.800	79.7	3.500	110.1	6.500	149.0	9.500	179.5
2.000	83.9	4.000	117.6	7.000	154.5		
2.200	87.9	4.500	124.5	7.500	159.9		

Hydro-Brake® Optimum Manhole: S82, DS/PN: 1.007, Volume (m³): 3.8

Unit Reference	MD-SHE-0158-1200-1025-1200
Design Head (m)	1.025
Design Flow (l/s)	12.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	158
Invert Level (m)	62.875
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.025	12.0
Flush-Flo™	0.317	12.0
Kick-Flo®	0.700	10.0
Mean Flow over Head Range	-	10.3

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)
0.100	5.7	1.200	12.9	3.000	20.0	7.000	30.0
0.200	11.6	1.400	13.9	3.500	21.5	7.500	31.0
0.300	12.0	1.600	14.8	4.000	22.9	8.000	32.0
0.400	11.9	1.800	15.7	4.500	24.3	8.500	33.0
0.500	11.6	2.000	16.5	5.000	25.5	9.000	33.9
0.600	11.2	2.200	17.2	5.500	26.7	9.500	34.8
0.800	10.7	2.400	18.0	6.000	27.9		
1.000	11.9	2.600	18.7	6.500	29.0		

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Offline Controls for Storm

Pipe Manhole: S29, DS/PN: 3.001, Loop to PN: 3.000

Diameter (m)	0.150	Roughness k (mm)	0.600
Section Type	Pipe/Conduit	Entry Loss Coefficient	0.500
Slope (1:X)	12.5	Coefficient of Contraction	0.600
Length (m)	5.000	Upstream Invert Level (m)	64.100

Pipe Manhole: S40, DS/PN: 8.001, Loop to PN: 8.000

Diameter (m)	0.150	Roughness k (mm)	0.600
Section Type	Pipe/Conduit	Entry Loss Coefficient	0.500
Slope (1:X)	6.5	Coefficient of Contraction	0.600
Length (m)	5.000	Upstream Invert Level (m)	64.500

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Storage Structures for Storm

Infiltration Blanket Manhole: S28, DS/PN: 3.000

Infiltration Coefficient Base (m/hr)	0.00000	Diameter/Width (m)	55.0
Safety Factor	2.0	Length (m)	13.0
Porosity	0.30	Cap Volume Depth (m)	0.400
Invert Level (m)	64.000		

Infiltration Blanket Manhole: S33, DS/PN: 5.000

Infiltration Coefficient Base (m/hr)	0.00000	Diameter/Width (m)	5.0
Safety Factor	2.0	Length (m)	65.0
Porosity	0.30	Cap Volume Depth (m)	0.400
Invert Level (m)	64.150		

Infiltration Blanket Manhole: S39, DS/PN: 8.000

Infiltration Coefficient Base (m/hr)	0.00000	Diameter/Width (m)	18.0
Safety Factor	2.0	Length (m)	75.0
Porosity	0.30	Cap Volume Depth (m)	0.400
Invert Level (m)	64.000		

Infiltration Blanket Manhole: S50, DS/PN: 12.000

Infiltration Coefficient Base (m/hr)	0.00000	Diameter/Width (m)	9.0
Safety Factor	2.0	Length (m)	50.0
Porosity	0.30	Cap Volume Depth (m)	0.400
Invert Level (m)	63.800		

Infiltration Blanket Manhole: S57, DS/PN: 15.000

Infiltration Coefficient Base (m/hr)	0.00000	Diameter/Width (m)	5.0
Safety Factor	2.0	Length (m)	50.0
Porosity	0.30	Cap Volume Depth (m)	0.400
Invert Level (m)	64.150		

Infiltration Blanket Manhole: S59, DS/PN: 16.000

Infiltration Coefficient Base (m/hr)	0.00000	Diameter/Width (m)	20.0
Safety Factor	2.0	Length (m)	55.4
Porosity	0.30	Cap Volume Depth (m)	0.400
Invert Level (m)	64.050		

Infiltration Blanket Manhole: S67, DS/PN: 20.000

Infiltration Coefficient Base (m/hr)	0.00000	Diameter/Width (m)	50.0
Safety Factor	2.0	Length (m)	9.0
Porosity	0.30	Cap Volume Depth (m)	0.400
Invert Level (m)	63.800		

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Cellular Storage Manhole: David Lloyd, DS/PN: 23.000

Invert Level (m) 64.225 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	1600.0	1600.0	0.401	0.0	1664.0
0.400	1600.0	1664.0			

Infiltration Blanket Manhole: S75, DS/PN: 27.000

Infiltration Coefficient Base (m/hr) 0.00000 Diameter/Width (m) 36.0
Safety Factor 2.0 Length (m) 13.0
Porosity 0.30 Cap Volume Depth (m) 0.400
Invert Level (m) 64.150

Infiltration Blanket Manhole: S80, DS/PN: 29.000

Infiltration Coefficient Base (m/hr) 0.00000 Diameter/Width (m) 5.0
Safety Factor 2.0 Length (m) 50.0
Porosity 0.30 Cap Volume Depth (m) 0.400
Invert Level (m) 64.150

Tank or Pond Manhole: HW 7-12, DS/PN: 1.006

Invert Level (m) 62.900

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	4578.0	0.400	5099.0	0.800	5630.0	1.200	6169.0
0.200	4837.0	0.600	5363.0	1.000	5898.0	1.400	6443.0

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Summary of Results for 4320 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	63.945	-0.405	0.000	0.02		3.7	OK
2.000	S26	63.864	-0.261	0.000	0.02		1.5	OK
1.001	S27	63.863	-0.262	0.000	0.03		5.2	OK
3.000	S28	64.028	-0.272	0.000	0.02		1.5	OK
3.001	S29	63.870	-0.130	0.000	0.02	0.0	1.5	OK
1.002	S30	63.863	-0.217	0.000	0.03		7.8	OK
4.000	S31	63.906	-0.349	0.000	0.01		2.7	OK
1.003	S32	63.863	0.038	0.000	0.04		10.3	SURCHARGED
5.000	S33	63.961	-0.214	0.000	0.01		0.5	OK
1.004	S34	63.863	0.113	0.000	0.04		10.7	SURCHARGED
1.005	PI Unit 4	63.863	0.213	0.000	0.04		10.6	SURCHARGED
6.000	RE8	64.304	-0.221	0.000	0.00		0.1	OK
6.001	S35	64.173	-0.202	0.000	0.02		0.9	OK
6.002	S36	63.931	-0.269	0.000	0.02		1.6	OK
7.000	RE9	64.323	-0.202	0.000	0.02		0.7	OK
7.001	S37	64.104	-0.271	0.000	0.02		1.5	OK
7.002	S38	63.881	-0.269	0.000	0.02		1.6	OK
8.000	S39	64.039	-0.261	0.000	0.04		2.7	OK
8.001	S40	63.877	-0.148	0.000	0.04	0.0	2.7	OK
6.003	S41	63.864	-0.196	0.000	0.05		5.9	OK
6.004	S42	63.863	-0.187	0.000	0.04		6.9	OK
9.000	RE10	64.123	-0.202	0.000	0.02		0.8	OK
9.001	S43	63.863	-0.237	0.000	0.02		1.8	OK
9.002	S44	63.863	-0.062	0.000	0.02		2.6	OK
6.005	S45	63.863	0.088	0.000	0.05		9.3	SURCHARGED
6.006	S46	63.863	0.253	0.000	0.03		9.2	SURCHARGED
10.000	RE11	64.114	-0.211	0.000	0.01		0.5	OK
10.001	S47	63.875	-0.200	0.000	0.03		1.1	OK
11.000	RE12	64.117	-0.208	0.000	0.02		0.6	OK
11.001	S48	63.926	-0.199	0.000	0.03		1.1	OK
10.002	S49	63.863	-0.087	0.000	0.03		2.1	OK
12.000	S50	63.863	-0.097	0.000	0.03		0.9	OK
13.000	S51	63.863	-0.262	0.000	0.02		1.6	OK
13.001	S52	63.863	-0.012	0.000	0.03		1.6	OK
10.003	S53	63.863	-0.062	0.000	0.03		5.5	OK
14.000	RE13	64.069	-0.206	0.000	0.02		0.6	OK
14.001	S54	63.863	-0.237	0.000	0.02		1.5	OK
14.002	S55	63.862	-0.063	0.000	0.02		2.1	OK
10.004	S56	63.863	0.138	0.000	0.04		7.3	SURCHARGED
15.000	S57	63.862	-0.103	0.000	0.01		0.7	OK
10.005	S58	63.862	0.237	0.000	0.03		7.9	SURCHARGED
16.000	S59	64.081	-0.194	0.000	0.05		1.6	OK
16.001	S60	63.864	-0.211	0.000	0.04		2.4	OK

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Summary of Results for 4320 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.864	-0.311	0.000	0.02		2.1	OK
16.002	S62	63.864	-0.096	0.000	0.05		4.5	OK
16.003	S63	63.863	-0.032	0.000	0.05		5.6	OK
18.000	S64	63.863	0.038	0.000	0.02		1.6	SURCHARGED
19.000	S65	63.863	0.038	0.000	0.02		1.6	SURCHARGED
16.004	S66	63.863	0.163	0.000	0.04		8.5	SURCHARGED
16.005	PI Unit 9	63.863	0.328	0.000	0.04		8.4	SURCHARGED
20.000	S67	63.877	-0.148	0.000	0.05		1.7	OK
21.000	RE14	64.119	-0.206	0.000	0.02		0.6	OK
21.001	S68	63.946	-0.279	0.000	0.01		1.1	OK
22.000	RE15	64.115	-0.210	0.000	0.01		0.5	OK
22.001	S69	63.881	-0.269	0.000	0.02		1.1	OK
23.000	David Lloyd	64.310	-0.365	0.000	0.08		17.6	OK
23.001	S69	63.940	-0.160	0.000	0.16		17.6	OK
21.002	S70	63.880	-0.145	0.000	0.17		19.8	OK
20.001	S71	63.877	-0.048	0.000	0.21		21.4	OK
24.000	RE16	63.875	-0.100	0.000	0.02		0.6	OK
20.002	S72	63.875	0.000	0.000	0.19		22.8	OK
25.000	RE17	63.971	-0.204	0.000	0.02		0.8	OK
25.001	S73	63.867	-0.083	0.000	0.02		1.5	OK
26.000	S74	63.867	-0.093	0.000	0.02		1.4	OK
27.000	S75	63.957	-0.208	0.000	0.02		0.8	OK
26.001	S76	63.867	-0.008	0.000	0.02		2.2	OK
28.000	S77	63.867	-0.133	0.000	0.02		1.6	OK
26.002	S78	63.867	0.052	0.000	0.04		3.8	SURCHARGED
26.003	PI Unit 7	63.867	0.152	0.000	0.05		3.8	SURCHARGED
20.003	S79	63.867	0.127	0.000	0.17		27.4	SURCHARGED
29.000	S80	63.865	-0.085	0.000	0.01		0.7	OK
20.004	S81	63.865	0.225	0.000	0.13		27.9	SURCHARGED
1.006	HW 7-12	63.862	0.512	0.000	0.10		12.0	SURCHARGED
1.007	S82	63.878	0.703	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	5760
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	24

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	2880

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Summary of Results for 2880 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	63.951	-0.399	0.000	0.03		5.3	OK
2.000	S26	63.906	-0.219	0.000	0.03		2.1	OK
1.001	S27	63.906	-0.219	0.000	0.04		7.4	OK
3.000	S28	64.033	-0.267	0.000	0.03		2.1	OK
3.001	S29	63.914	-0.086	0.000	0.02	0.0	2.1	OK
1.002	S30	63.906	-0.174	0.000	0.05		11.1	OK
4.000	S31	63.916	-0.339	0.000	0.02		3.8	OK
1.003	S32	63.905	0.080	0.000	0.06		14.6	SURCHARGED
5.000	S33	63.965	-0.210	0.000	0.01		0.7	OK
1.004	S34	63.905	0.155	0.000	0.06		15.1	SURCHARGED
1.005	PI Unit 4	63.905	0.255	0.000	0.05		14.9	SURCHARGED
6.000	RE8	64.305	-0.220	0.000	0.00		0.2	OK
6.001	S35	64.177	-0.198	0.000	0.03		1.2	OK
6.002	S36	63.935	-0.265	0.000	0.03		2.3	OK
7.000	RE9	64.326	-0.199	0.000	0.03		1.1	OK
7.001	S37	64.109	-0.266	0.000	0.03		2.1	OK
7.002	S38	63.907	-0.243	0.000	0.03		2.3	OK
8.000	S39	64.046	-0.254	0.000	0.06		3.8	OK
8.001	S40	63.925	-0.100	0.000	0.06	0.0	3.8	OK
6.003	S41	63.906	-0.154	0.000	0.07		8.2	OK
6.004	S42	63.906	-0.144	0.000	0.06		9.7	OK
9.000	RE10	64.126	-0.199	0.000	0.03		1.1	OK
9.001	S43	63.906	-0.194	0.000	0.03		2.6	OK
9.002	S44	63.906	-0.019	0.000	0.03		3.7	OK
6.005	S45	63.906	0.131	0.000	0.07		13.0	SURCHARGED
6.006	S46	63.905	0.295	0.000	0.05		12.8	SURCHARGED
10.000	RE11	64.119	-0.206	0.000	0.02		0.7	OK
10.001	S47	63.906	-0.169	0.000	0.04		1.5	OK
11.000	RE12	64.123	-0.202	0.000	0.02		0.9	OK
11.001	S48	63.930	-0.195	0.000	0.04		1.5	OK
10.002	S49	63.905	-0.045	0.000	0.04		3.0	OK
12.000	S50	63.905	-0.055	0.000	0.04		1.3	OK
13.000	S51	63.906	-0.219	0.000	0.03		2.3	OK
13.001	S52	63.906	0.031	0.000	0.04		2.3	SURCHARGED
10.003	S53	63.905	-0.020	0.000	0.04		7.7	OK
14.000	RE13	64.074	-0.201	0.000	0.03		0.9	OK
14.001	S54	63.905	-0.195	0.000	0.03		2.0	OK
14.002	S55	63.905	-0.020	0.000	0.02		3.0	OK
10.004	S56	63.905	0.180	0.000	0.06		10.3	SURCHARGED
15.000	S57	63.905	-0.060	0.000	0.02		1.0	OK
10.005	S58	63.905	0.280	0.000	0.04		11.0	SURCHARGED
16.000	S59	64.087	-0.188	0.000	0.06		2.3	OK
16.001	S60	63.906	-0.169	0.000	0.06		3.3	OK

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Summary of Results for 2880 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.906	-0.269	0.000	0.02		3.0	OK
16.002	S62	63.906	-0.054	0.000	0.07		6.3	OK
16.003	S63	63.905	0.010	0.000	0.07		7.9	SURCHARGED
18.000	S64	63.905	0.080	0.000	0.03		2.2	SURCHARGED
19.000	S65	63.905	0.080	0.000	0.03		2.2	SURCHARGED
16.004	S66	63.905	0.205	0.000	0.06		11.8	SURCHARGED
16.005	PI Unit 9	63.905	0.370	0.000	0.06		11.7	SURCHARGED
20.000	S67	64.032	0.007	0.000	0.11		3.8	SURCHARGED
21.000	RE14	64.124	-0.201	0.000	0.03		0.9	OK
21.001	S68	64.043	-0.182	0.000	0.02		1.6	OK
22.000	RE15	64.121	-0.204	0.000	0.02		0.7	OK
22.001	S69	64.042	-0.108	0.000	0.02		1.6	OK
23.000	David Lloyd	64.326	-0.349	0.000	0.11		24.8	OK
23.001	S69	64.191	0.091	0.000	0.23		24.8	SURCHARGED
21.002	S70	64.041	0.016	0.000	0.24		27.9	SURCHARGED
20.001	S71	64.028	0.103	0.000	0.29		30.2	SURCHARGED
24.000	RE16	64.000	0.025	0.000	0.03		0.9	SURCHARGED
20.002	S72	63.999	0.124	0.000	0.26		32.1	SURCHARGED
25.000	RE17	63.975	-0.200	0.000	0.03		1.1	OK
25.001	S73	63.937	-0.013	0.000	0.02		2.0	OK
26.000	S74	63.940	-0.020	0.000	0.03		2.0	OK
27.000	S75	63.963	-0.202	0.000	0.02		1.1	OK
26.001	S76	63.938	0.063	0.000	0.03		3.1	SURCHARGED
28.000	S77	63.939	-0.061	0.000	0.03		2.3	OK
26.002	S78	63.937	0.122	0.000	0.05		5.3	SURCHARGED
26.003	PI Unit 7	63.936	0.221	0.000	0.06		5.2	SURCHARGED
20.003	S79	63.935	0.195	0.000	0.23		38.3	SURCHARGED
29.000	S80	63.908	-0.042	0.000	0.02		1.0	OK
20.004	S81	63.908	0.268	0.000	0.19		38.9	SURCHARGED
1.006	HW 7-12	63.904	0.554	0.000	0.10		12.1	SURCHARGED
1.007	S82	63.919	0.744	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	4320
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	24

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	2160

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Summary of Results for 2160 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	63.956	-0.394	0.000	0.04		6.6	OK
2.000	S26	63.898	-0.227	0.000	0.04		2.6	OK
1.001	S27	63.898	-0.227	0.000	0.05		9.2	OK
3.000	S28	64.036	-0.264	0.000	0.04		2.6	OK
3.001	S29	63.908	-0.092	0.000	0.03	0.0	2.6	OK
1.002	S30	63.898	-0.182	0.000	0.06		13.8	OK
4.000	S31	63.920	-0.335	0.000	0.03		4.8	OK
1.003	S32	63.898	0.073	0.000	0.07		18.2	SURCHARGED
5.000	S33	63.969	-0.206	0.000	0.02		0.9	OK
1.004	S34	63.897	0.147	0.000	0.08		18.8	SURCHARGED
1.005	PI Unit 4	63.897	0.247	0.000	0.06		18.7	SURCHARGED
6.000	RE8	64.306	-0.219	0.000	0.01		0.2	OK
6.001	S35	64.180	-0.195	0.000	0.04		1.5	OK
6.002	S36	63.939	-0.261	0.000	0.04		2.8	OK
7.000	RE9	64.328	-0.197	0.000	0.04		1.3	OK
7.001	S37	64.112	-0.263	0.000	0.04		2.6	OK
7.002	S38	63.899	-0.251	0.000	0.04		2.8	OK
8.000	S39	64.053	-0.247	0.000	0.07		4.7	OK
8.001	S40	63.939	-0.086	0.000	0.08	0.0	4.6	OK
6.003	S41	63.899	-0.161	0.000	0.09		10.2	OK
6.004	S42	63.898	-0.152	0.000	0.08		12.0	OK
9.000	RE10	64.129	-0.196	0.000	0.04		1.4	OK
9.001	S43	63.898	-0.202	0.000	0.04		3.2	OK
9.002	S44	63.898	-0.027	0.000	0.04		4.6	OK
6.005	S45	63.898	0.123	0.000	0.08		16.2	SURCHARGED
6.006	S46	63.897	0.287	0.000	0.06		15.9	SURCHARGED
10.000	RE11	64.123	-0.202	0.000	0.02		0.8	OK
10.001	S47	63.898	-0.177	0.000	0.05		1.9	OK
11.000	RE12	64.125	-0.200	0.000	0.03		1.1	OK
11.001	S48	63.933	-0.192	0.000	0.05		1.9	OK
10.002	S49	63.897	-0.053	0.000	0.05		3.8	OK
12.000	S50	63.897	-0.063	0.000	0.05		1.7	OK
13.000	S51	63.898	-0.227	0.000	0.04		2.9	OK
13.001	S52	63.897	0.022	0.000	0.05		2.9	SURCHARGED
10.003	S53	63.897	-0.028	0.000	0.06		9.7	OK
14.000	RE13	64.076	-0.199	0.000	0.03		1.1	OK
14.001	S54	63.897	-0.203	0.000	0.03		2.6	OK
14.002	S55	63.897	-0.028	0.000	0.03		3.7	OK
10.004	S56	63.897	0.172	0.000	0.08		12.9	SURCHARGED
15.000	S57	63.897	-0.068	0.000	0.03		1.3	OK
10.005	S58	63.897	0.272	0.000	0.05		13.8	SURCHARGED
16.000	S59	64.092	-0.183	0.000	0.08		2.8	OK
16.001	S60	63.898	-0.177	0.000	0.07		4.1	OK

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Summary of Results for 2160 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.898	-0.277	0.000	0.03		3.7	OK
16.002	S62	63.898	-0.062	0.000	0.08		7.8	OK
16.003	S63	63.898	0.003	0.000	0.09		9.8	SURCHARGED
18.000	S64	63.898	0.073	0.000	0.03		2.8	SURCHARGED
19.000	S65	63.898	0.073	0.000	0.03		2.8	SURCHARGED
16.004	S66	63.898	0.198	0.000	0.08		14.7	SURCHARGED
16.005	PI Unit 9	63.897	0.362	0.000	0.08		14.4	SURCHARGED
20.000	S67	64.105	0.080	0.000	0.14		5.1	FLOOD RISK
21.000	RE14	64.141	-0.184	0.000	0.03		1.1	OK
21.001	S68	64.137	-0.088	0.000	0.03		2.0	OK
22.000	RE15	64.140	-0.185	0.000	0.02		0.9	OK
22.001	S69	64.136	-0.014	0.000	0.03		2.0	OK
23.000	David Lloyd	64.343	-0.332	0.000	0.14		30.7	OK
23.001	S69	64.287	0.187	0.000	0.29		30.7	SURCHARGED
21.002	S70	64.135	0.110	0.000	0.29		34.6	SURCHARGED
20.001	S71	64.100	0.175	0.000	0.36		37.5	SURCHARGED
24.000	RE16	64.031	0.056	0.000	0.03		1.1	SURCHARGED
20.002	S72	64.029	0.154	0.000	0.33		39.9	SURCHARGED
25.000	RE17	63.977	-0.198	0.000	0.04		1.4	OK
25.001	S73	63.955	0.005	0.000	0.03		2.6	SURCHARGED
26.000	S74	63.959	-0.001	0.000	0.03		2.5	OK
27.000	S75	63.966	-0.199	0.000	0.03		1.4	OK
26.001	S76	63.956	0.081	0.000	0.04		3.9	SURCHARGED
28.000	S77	63.957	-0.043	0.000	0.04		2.9	OK
26.002	S78	63.955	0.140	0.000	0.06		6.7	SURCHARGED
26.003	PI Unit 7	63.955	0.240	0.000	0.08		6.6	SURCHARGED
20.003	S79	63.953	0.213	0.000	0.29		47.7	SURCHARGED
29.000	S80	63.900	-0.050	0.000	0.03		1.3	OK
20.004	S81	63.900	0.260	0.000	0.23		48.5	SURCHARGED
1.006	HW 7-12	63.896	0.546	0.000	0.10		12.1	SURCHARGED
1.007	S82	63.909	0.734	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	2880
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	24

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	1440

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Summary of Results for 1440 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	63.965	-0.385	0.000	0.05		9.0	OK
2.000	S26	63.872	-0.253	0.000	0.06		3.6	OK
1.001	S27	63.869	-0.256	0.000	0.06		12.5	OK
3.000	S28	64.042	-0.258	0.000	0.05		3.5	OK
3.001	S29	63.883	-0.117	0.000	0.04	0.0	3.5	OK
1.002	S30	63.869	-0.211	0.000	0.08		18.8	OK
4.000	S31	63.925	-0.330	0.000	0.03		6.5	OK
1.003	S32	63.868	0.043	0.000	0.10		24.8	SURCHARGED
5.000	S33	63.974	-0.201	0.000	0.02		1.2	OK
1.004	S34	63.868	0.118	0.000	0.10		25.8	SURCHARGED
1.005	PI Unit 4	63.868	0.218	0.000	0.09		25.5	SURCHARGED
6.000	RE8	64.309	-0.216	0.000	0.01		0.3	OK
6.001	S35	64.185	-0.190	0.000	0.06		2.1	OK
6.002	S36	63.945	-0.255	0.000	0.06		3.9	OK
7.000	RE9	64.333	-0.192	0.000	0.05		1.8	OK
7.001	S37	64.118	-0.257	0.000	0.05		3.6	OK
7.002	S38	63.895	-0.255	0.000	0.06		3.9	OK
8.000	S39	64.083	-0.217	0.000	0.08		5.2	OK
8.001	S40	64.065	0.040	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.870	-0.190	0.000	0.11		12.7	OK
6.004	S42	63.869	-0.181	0.000	0.09		15.1	OK
9.000	RE10	64.134	-0.191	0.000	0.06		1.9	OK
9.001	S43	63.869	-0.231	0.000	0.06		4.4	OK
9.002	S44	63.869	-0.056	0.000	0.06		6.3	OK
6.005	S45	63.869	0.094	0.000	0.11		21.1	SURCHARGED
6.006	S46	63.868	0.258	0.000	0.08		20.6	SURCHARGED
10.000	RE11	64.126	-0.199	0.000	0.03		1.1	OK
10.001	S47	63.889	-0.186	0.000	0.07		2.6	OK
11.000	RE12	64.129	-0.196	0.000	0.04		1.5	OK
11.001	S48	63.940	-0.185	0.000	0.07		2.6	OK
10.002	S49	63.868	-0.082	0.000	0.07		5.1	OK
12.000	S50	63.868	-0.092	0.000	0.06		2.3	OK
13.000	S51	63.872	-0.253	0.000	0.06		3.9	OK
13.001	S52	63.868	-0.007	0.000	0.06		3.9	OK
10.003	S53	63.868	-0.057	0.000	0.08		13.2	OK
14.000	RE13	64.080	-0.195	0.000	0.04		1.5	OK
14.001	S54	63.868	-0.232	0.000	0.05		3.5	OK
14.002	S55	63.868	-0.057	0.000	0.04		5.0	OK
10.004	S56	63.868	0.143	0.000	0.11		17.8	SURCHARGED
15.000	S57	63.868	-0.097	0.000	0.03		1.7	OK
10.005	S58	63.868	0.243	0.000	0.07		19.0	SURCHARGED
16.000	S59	64.099	-0.176	0.000	0.11		3.9	OK
16.001	S60	63.872	-0.203	0.000	0.09		5.6	OK

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Summary of Results for 1440 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.870	-0.305	0.000	0.04		5.1	OK
16.002	S62	63.870	-0.090	0.000	0.11		10.7	OK
16.003	S63	63.870	-0.025	0.000	0.12		13.4	OK
18.000	S64	63.868	0.043	0.000	0.05		3.8	SURCHARGED
19.000	S65	63.869	0.044	0.000	0.05		3.8	SURCHARGED
16.004	S66	63.869	0.169	0.000	0.11		20.1	SURCHARGED
16.005	PI Unit 9	63.868	0.333	0.000	0.10		19.7	SURCHARGED
20.000	S67	64.124	0.099	0.000	0.16		5.6	FLOOD RISK
21.000	RE14	64.188	-0.137	0.000	0.04		1.5	OK
21.001	S68	64.186	-0.039	0.000	0.04		2.7	OK
22.000	RE15	64.188	-0.137	0.000	0.03		1.2	OK
22.001	S69	64.186	0.036	0.000	0.04		2.7	SURCHARGED
23.000	David Lloyd	64.370	-0.305	0.000	0.19		41.2	OK
23.001	S69	64.340	0.240	0.000	0.38		41.2	SURCHARGED
21.002	S70	64.184	0.159	0.000	0.39		46.4	SURCHARGED
20.001	S71	64.122	0.197	0.000	0.49		50.4	SURCHARGED
24.000	RE16	64.043	0.068	0.000	0.04		1.5	SURCHARGED
20.002	S72	64.041	0.166	0.000	0.44		53.7	SURCHARGED
25.000	RE17	63.982	-0.193	0.000	0.05		1.9	OK
25.001	S73	63.959	0.009	0.000	0.04		3.5	SURCHARGED
26.000	S74	63.961	0.001	0.000	0.05		3.4	SURCHARGED
27.000	S75	63.969	-0.196	0.000	0.04		1.9	OK
26.001	S76	63.960	0.085	0.000	0.05		5.3	SURCHARGED
28.000	S77	63.961	-0.039	0.000	0.05		4.0	OK
26.002	S78	63.959	0.144	0.000	0.09		9.2	SURCHARGED
26.003	PI Unit 7	63.959	0.244	0.000	0.11		9.2	SURCHARGED
20.003	S79	63.958	0.218	0.000	0.40		65.0	SURCHARGED
29.000	S80	63.872	-0.078	0.000	0.03		1.7	OK
20.004	S81	63.872	0.232	0.000	0.32		66.1	SURCHARGED
1.006	HW 7-12	63.867	0.517	0.000	0.10		12.8	SURCHARGED
1.007	S82	63.999	0.824	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	1920
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	16

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	960

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Summary of Results for 960 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	63.978	-0.372	0.000	0.07		12.3	OK
2.000	S26	63.882	-0.243	0.000	0.08		4.9	OK
1.001	S27	63.826	-0.299	0.000	0.09		17.2	OK
3.000	S28	64.050	-0.250	0.000	0.07		4.8	OK
3.001	S29	63.854	-0.146	0.000	0.05	0.0	4.8	OK
1.002	S30	63.825	-0.255	0.000	0.11		25.6	OK
4.000	S31	63.932	-0.323	0.000	0.05		8.9	OK
1.003	S32	63.825	0.000	0.000	0.14		34.1	OK
5.000	S33	63.977	-0.198	0.000	0.03		1.7	OK
1.004	S34	63.822	0.072	0.000	0.14		35.4	SURCHARGED
1.005	PI Unit 4	63.822	0.172	0.000	0.12		35.0	SURCHARGED
6.000	RE8	64.312	-0.213	0.000	0.01		0.4	OK
6.001	S35	64.192	-0.183	0.000	0.08		2.8	OK
6.002	S36	63.954	-0.246	0.000	0.08		5.3	OK
7.000	RE9	64.339	-0.186	0.000	0.07		2.5	OK
7.001	S37	64.126	-0.249	0.000	0.07		4.9	OK
7.002	S38	63.905	-0.245	0.000	0.08		5.3	OK
8.000	S39	64.135	-0.165	0.000	0.09		5.5	OK
8.001	S40	64.126	0.101	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.824	-0.236	0.000	0.14		15.5	OK
6.004	S42	63.823	-0.227	0.000	0.12		18.8	OK
9.000	RE10	64.141	-0.184	0.000	0.08		2.7	OK
9.001	S43	63.857	-0.243	0.000	0.08		6.0	OK
9.002	S44	63.823	-0.102	0.000	0.08		8.6	OK
6.005	S45	63.823	0.048	0.000	0.14		27.1	SURCHARGED
6.006	S46	63.823	0.213	0.000	0.10		26.6	SURCHARGED
10.000	RE11	64.130	-0.195	0.000	0.04		1.5	OK
10.001	S47	63.897	-0.178	0.000	0.10		3.5	OK
11.000	RE12	64.133	-0.192	0.000	0.05		2.0	OK
11.001	S48	63.947	-0.178	0.000	0.10		3.5	OK
10.002	S49	63.822	-0.128	0.000	0.09		7.0	OK
12.000	S50	63.822	-0.138	0.000	0.09		3.1	OK
13.000	S51	63.881	-0.244	0.000	0.08		5.3	OK
13.001	S52	63.822	-0.053	0.000	0.08		5.3	OK
10.003	S53	63.822	-0.103	0.000	0.11		18.1	OK
14.000	RE13	64.085	-0.190	0.000	0.06		2.1	OK
14.001	S54	63.849	-0.251	0.000	0.06		4.8	OK
14.002	S55	63.822	-0.103	0.000	0.05		6.9	OK
10.004	S56	63.822	0.097	0.000	0.15		24.5	SURCHARGED
15.000	S57	63.822	-0.143	0.000	0.05		2.4	OK
10.005	S58	63.822	0.197	0.000	0.09		26.2	SURCHARGED
16.000	S59	64.107	-0.168	0.000	0.15		5.2	OK
16.001	S60	63.846	-0.229	0.000	0.13		7.6	OK

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Summary of Results for 960 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.854	-0.321	0.000	0.05		6.9	OK
16.002	S62	63.822	-0.138	0.000	0.15		14.5	OK
16.003	S63	63.822	-0.073	0.000	0.17		18.2	OK
18.000	S64	63.822	-0.003	0.000	0.06		5.2	OK
19.000	S65	63.822	-0.003	0.000	0.06		5.2	OK
16.004	S66	63.822	0.122	0.000	0.14		27.6	SURCHARGED
16.005	PI Unit 9	63.822	0.287	0.000	0.14		27.0	SURCHARGED
20.000	S67	64.110	0.085	0.000	0.16		5.5	FLOOD RISK
21.000	RE14	64.195	-0.130	0.000	0.06		2.1	OK
21.001	S68	64.193	-0.032	0.000	0.05		3.7	OK
22.000	RE15	64.194	-0.131	0.000	0.05		1.6	OK
22.001	S69	64.193	0.043	0.000	0.05		3.7	SURCHARGED
23.000	David Lloyd	64.381	-0.294	0.000	0.26		55.6	OK
23.001	S69	64.354	0.254	0.000	0.52		55.6	SURCHARGED
21.002	S70	64.191	0.166	0.000	0.53		62.5	SURCHARGED
20.001	S71	64.106	0.181	0.000	0.65		67.9	SURCHARGED
24.000	RE16	64.024	0.049	0.000	0.06		2.1	SURCHARGED
20.002	S72	64.023	0.148	0.000	0.60		72.4	SURCHARGED
25.000	RE17	63.987	-0.188	0.000	0.07		2.7	OK
25.001	S73	63.941	-0.009	0.000	0.06		4.8	OK
26.000	S74	63.943	-0.017	0.000	0.07		4.7	OK
27.000	S75	63.973	-0.192	0.000	0.05		2.7	OK
26.001	S76	63.942	0.067	0.000	0.07		7.3	SURCHARGED
28.000	S77	63.943	-0.057	0.000	0.07		5.4	OK
26.002	S78	63.941	0.126	0.000	0.12		12.7	SURCHARGED
26.003	PI Unit 7	63.941	0.226	0.000	0.16		12.6	SURCHARGED
20.003	S79	63.940	0.200	0.000	0.54		88.3	SURCHARGED
29.000	S80	63.844	-0.106	0.000	0.05		2.4	OK
20.004	S81	63.843	0.203	0.000	0.43		89.7	SURCHARGED
1.006	HW 7-12	63.822	0.472	0.000	0.11		13.3	SURCHARGED
1.007	S82	63.966	0.791	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	1440
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	12

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	720

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Summary of Results for 720 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	63.989	-0.361	0.000	0.09		15.4	OK
2.000	S26	63.889	-0.236	0.000	0.10		6.1	OK
1.001	S27	63.783	-0.342	0.000	0.11		21.5	OK
3.000	S28	64.065	-0.235	0.000	0.08		5.8	OK
3.001	S29	64.038	0.038	0.000	0.05	0.0	5.0	SURCHARGED
1.002	S30	63.783	-0.297	0.000	0.13		31.1	OK
4.000	S31	63.939	-0.316	0.000	0.06		11.1	OK
1.003	S32	63.783	-0.042	0.000	0.17		42.2	OK
5.000	S33	63.979	-0.196	0.000	0.04		2.1	OK
1.004	S34	63.783	0.033	0.000	0.18		44.0	SURCHARGED
1.005	PI Unit 4	63.783	0.133	0.000	0.15		43.6	SURCHARGED
6.000	RE8	64.315	-0.210	0.000	0.01		0.5	OK
6.001	S35	64.197	-0.178	0.000	0.10		3.5	OK
6.002	S36	63.962	-0.238	0.000	0.09		6.6	OK
7.000	RE9	64.345	-0.180	0.000	0.09		3.1	OK
7.001	S37	64.133	-0.242	0.000	0.08		6.1	OK
7.002	S38	63.912	-0.238	0.000	0.10		6.6	OK
8.000	S39	64.168	-0.132	0.000	0.09		5.8	OK
8.001	S40	64.159	0.134	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.789	-0.271	0.000	0.16		18.2	OK
6.004	S42	63.787	-0.263	0.000	0.14		22.3	OK
9.000	RE10	64.146	-0.179	0.000	0.09		3.3	OK
9.001	S43	63.864	-0.236	0.000	0.10		7.5	OK
9.002	S44	63.785	-0.140	0.000	0.10		10.8	OK
6.005	S45	63.785	0.010	0.000	0.17		32.8	SURCHARGED
6.006	S46	63.784	0.174	0.000	0.12		32.2	SURCHARGED
10.000	RE11	64.133	-0.192	0.000	0.05		1.9	OK
10.001	S47	63.902	-0.173	0.000	0.12		4.4	OK
11.000	RE12	64.138	-0.187	0.000	0.07		2.5	OK
11.001	S48	63.953	-0.172	0.000	0.13		4.4	OK
10.002	S49	63.783	-0.167	0.000	0.12		8.8	OK
12.000	S50	63.785	-0.175	0.000	0.11		3.9	OK
13.000	S51	63.888	-0.237	0.000	0.10		6.7	OK
13.001	S52	63.783	-0.092	0.000	0.11		6.7	OK
10.003	S53	63.783	-0.142	0.000	0.13		22.7	OK
14.000	RE13	64.090	-0.185	0.000	0.07		2.6	OK
14.001	S54	63.856	-0.244	0.000	0.08		6.0	OK
14.002	S55	63.783	-0.142	0.000	0.06		8.6	OK
10.004	S56	63.783	0.058	0.000	0.19		30.8	SURCHARGED
15.000	S57	63.783	-0.182	0.000	0.06		3.0	OK
10.005	S58	63.783	0.158	0.000	0.12		33.0	SURCHARGED
16.000	S59	64.114	-0.161	0.000	0.18		6.4	OK
16.001	S60	63.854	-0.221	0.000	0.15		9.3	OK

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Summary of Results for 720 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.862	-0.313	0.000	0.06		8.7	OK
16.002	S62	63.783	-0.177	0.000	0.19		17.8	OK
16.003	S63	63.783	-0.112	0.000	0.20		22.5	OK
18.000	S64	63.783	-0.042	0.000	0.08		6.5	OK
19.000	S65	63.783	-0.042	0.000	0.08		6.5	OK
16.004	S66	63.783	0.083	0.000	0.18		34.6	SURCHARGED
16.005	PI Unit 9	63.783	0.248	0.000	0.18		33.9	SURCHARGED
20.000	S67	64.104	0.079	0.000	0.20		6.9	FLOOD RISK
21.000	RE14	64.193	-0.132	0.000	0.07		2.6	OK
21.001	S68	64.191	-0.034	0.000	0.06		4.6	OK
22.000	RE15	64.192	-0.133	0.000	0.06		2.0	OK
22.001	S69	64.190	0.040	0.000	0.06		4.6	SURCHARGED
23.000	David Lloyd	64.407	-0.268	0.000	0.28		61.2	OK
23.001	S69	64.359	0.259	0.000	0.56		59.7	SURCHARGED
21.002	S70	64.189	0.164	0.000	0.58		68.6	SURCHARGED
20.001	S71	64.100	0.175	0.000	0.73		75.5	SURCHARGED
24.000	RE16	64.022	0.047	0.000	0.07		2.6	SURCHARGED
20.002	S72	64.021	0.146	0.000	0.67		81.3	SURCHARGED
25.000	RE17	63.993	-0.182	0.000	0.08		3.3	OK
25.001	S73	63.940	-0.010	0.000	0.07		6.0	OK
26.000	S74	63.942	-0.018	0.000	0.08		5.8	OK
27.000	S75	63.978	-0.187	0.000	0.07		3.3	OK
26.001	S76	63.941	0.066	0.000	0.09		9.2	SURCHARGED
28.000	S77	63.942	-0.058	0.000	0.09		6.8	OK
26.002	S78	63.940	0.125	0.000	0.15		15.9	SURCHARGED
26.003	PI Unit 7	63.940	0.225	0.000	0.20		15.9	SURCHARGED
20.003	S79	63.939	0.199	0.000	0.63		102.9	SURCHARGED
29.000	S80	63.841	-0.109	0.000	0.06		3.0	OK
20.004	S81	63.840	0.200	0.000	0.50		105.3	SURCHARGED
1.006	HW 7-12	63.783	0.433	0.000	0.11		13.7	SURCHARGED
1.007	S82	63.904	0.729	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	1200
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	10

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	600

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Summary of Results for 600 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	63.995	-0.355	0.000	0.10		17.7	OK
2.000	S26	63.893	-0.232	0.000	0.12		7.1	OK
1.001	S27	63.756	-0.369	0.000	0.12		24.8	OK
3.000	S28	64.090	-0.210	0.000	0.08		6.0	OK
3.001	S29	64.082	0.082	0.000	0.05	0.0	5.0	SURCHARGED
1.002	S30	63.756	-0.324	0.000	0.14		34.9	OK
4.000	S31	63.944	-0.311	0.000	0.07		12.8	OK
1.003	S32	63.756	-0.069	0.000	0.19		47.7	OK
5.000	S33	63.981	-0.194	0.000	0.05		2.4	OK
1.004	S34	63.756	0.006	0.000	0.20		50.2	SURCHARGED
1.005	PI Unit 4	63.756	0.106	0.000	0.17		49.7	SURCHARGED
6.000	RE8	64.317	-0.208	0.000	0.02		0.5	OK
6.001	S35	64.200	-0.175	0.000	0.11		4.1	OK
6.002	S36	63.966	-0.234	0.000	0.11		7.6	OK
7.000	RE9	64.348	-0.177	0.000	0.10		3.5	OK
7.001	S37	64.138	-0.237	0.000	0.10		7.1	OK
7.002	S38	63.916	-0.234	0.000	0.11		7.6	OK
8.000	S39	64.185	-0.115	0.000	0.09		6.1	OK
8.001	S40	64.176	0.151	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.791	-0.269	0.000	0.18		20.2	OK
6.004	S42	63.773	-0.277	0.000	0.16		25.0	OK
9.000	RE10	64.149	-0.176	0.000	0.11		3.8	OK
9.001	S43	63.868	-0.232	0.000	0.12		8.6	OK
9.002	S44	63.770	-0.155	0.000	0.11		12.5	OK
6.005	S45	63.770	-0.005	0.000	0.19		37.4	OK
6.006	S46	63.758	0.148	0.000	0.13		36.7	SURCHARGED
10.000	RE11	64.136	-0.189	0.000	0.06		2.2	OK
10.001	S47	63.906	-0.169	0.000	0.14		5.1	OK
11.000	RE12	64.141	-0.184	0.000	0.08		2.9	OK
11.001	S48	63.957	-0.168	0.000	0.14		5.1	OK
10.002	S49	63.756	-0.194	0.000	0.14		10.1	OK
12.000	S50	63.788	-0.172	0.000	0.13		4.5	OK
13.000	S51	63.892	-0.233	0.000	0.12		7.7	OK
13.001	S52	63.756	-0.119	0.000	0.12		7.7	OK
10.003	S53	63.756	-0.169	0.000	0.15		26.1	OK
14.000	RE13	64.094	-0.181	0.000	0.09		3.1	OK
14.001	S54	63.861	-0.239	0.000	0.09		6.9	OK
14.002	S55	63.756	-0.169	0.000	0.07		9.9	OK
10.004	S56	63.756	0.031	0.000	0.22		35.6	SURCHARGED
15.000	S57	63.778	-0.187	0.000	0.07		3.4	OK
10.005	S58	63.756	0.131	0.000	0.14		38.5	SURCHARGED
16.000	S59	64.118	-0.157	0.000	0.20		7.2	OK
16.001	S60	63.859	-0.216	0.000	0.18		10.5	OK

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Summary of Results for 600 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.867	-0.308	0.000	0.07		10.0	OK
16.002	S62	63.756	-0.204	0.000	0.22		20.3	OK
16.003	S63	63.756	-0.139	0.000	0.23		25.7	OK
18.000	S64	63.756	-0.069	0.000	0.09		7.5	OK
19.000	S65	63.756	-0.069	0.000	0.09		7.5	OK
16.004	S66	63.756	0.056	0.000	0.21		40.1	SURCHARGED
16.005	PI Unit 9	63.756	0.221	0.000	0.21		39.4	SURCHARGED
20.000	S67	64.103	0.078	0.000	0.23		8.2	FLOOD RISK
21.000	RE14	64.192	-0.133	0.000	0.09		3.0	OK
21.001	S68	64.191	-0.034	0.000	0.07		5.3	OK
22.000	RE15	64.192	-0.133	0.000	0.07		2.3	OK
22.001	S69	64.190	0.040	0.000	0.07		5.3	SURCHARGED
23.000	David Lloyd	64.438	-0.237	0.000	0.29		62.2	OK
23.001	S69	64.382	0.282	0.000	0.56		59.9	SURCHARGED
21.002	S70	64.189	0.164	0.000	0.59		70.3	SURCHARGED
20.001	S71	64.099	0.174	0.000	0.75		78.2	SURCHARGED
24.000	RE16	64.014	0.039	0.000	0.09		3.1	SURCHARGED
20.002	S72	64.013	0.138	0.000	0.70		85.0	SURCHARGED
25.000	RE17	63.996	-0.179	0.000	0.10		3.8	OK
25.001	S73	63.921	-0.029	0.000	0.08		6.9	OK
26.000	S74	63.923	-0.037	0.000	0.09		6.7	OK
27.000	S75	63.981	-0.184	0.000	0.08		3.8	OK
26.001	S76	63.922	0.047	0.000	0.10		10.6	SURCHARGED
28.000	S77	63.923	-0.077	0.000	0.10		7.8	OK
26.002	S78	63.921	0.106	0.000	0.17		18.4	SURCHARGED
26.003	PI Unit 7	63.921	0.206	0.000	0.23		18.4	SURCHARGED
20.003	S79	63.920	0.180	0.000	0.68		110.2	SURCHARGED
29.000	S80	63.823	-0.127	0.000	0.07		3.4	OK
20.004	S81	63.821	0.181	0.000	0.54		113.5	SURCHARGED
1.006	HW 7-12	63.756	0.406	0.000	0.11		13.6	SURCHARGED
1.007	S82	63.805	0.630	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	960
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	8

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	480

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Summary of Results for 480 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	64.003	-0.347	0.000	0.12		21.1	OK
2.000	S26	63.899	-0.226	0.000	0.14		8.4	OK
1.001	S27	63.737	-0.388	0.000	0.15		29.5	OK
3.000	S28	64.115	-0.185	0.000	0.09		6.4	OK
3.001	S29	64.108	0.108	0.000	0.05	0.0	5.0	SURCHARGED
1.002	S30	63.723	-0.357	0.000	0.17		40.4	OK
4.000	S31	63.951	-0.304	0.000	0.08		15.3	OK
1.003	S32	63.723	-0.102	0.000	0.22		55.7	OK
5.000	S33	63.984	-0.191	0.000	0.06		2.9	OK
1.004	S34	63.723	-0.027	0.000	0.24		58.6	OK
1.005	PI Unit 4	63.723	0.073	0.000	0.20		58.3	SURCHARGED
6.000	RE8	64.320	-0.205	0.000	0.02		0.7	OK
6.001	S35	64.205	-0.170	0.000	0.14		4.9	OK
6.002	S36	63.971	-0.229	0.000	0.13		9.1	OK
7.000	RE9	64.352	-0.173	0.000	0.12		4.2	OK
7.001	S37	64.143	-0.232	0.000	0.12		8.4	OK
7.002	S38	63.922	-0.228	0.000	0.13		9.1	OK
8.000	S39	64.203	-0.097	0.000	0.10		6.3	OK
8.001	S40	64.194	0.169	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.799	-0.261	0.000	0.20		23.1	OK
6.004	S42	63.733	-0.317	0.000	0.18		28.8	OK
9.000	RE10	64.154	-0.171	0.000	0.13		4.6	OK
9.001	S43	63.874	-0.226	0.000	0.14		10.2	OK
9.002	S44	63.730	-0.195	0.000	0.13		14.8	OK
6.005	S45	63.730	-0.045	0.000	0.22		43.6	OK
6.006	S46	63.725	0.115	0.000	0.16		42.8	SURCHARGED
10.000	RE11	64.140	-0.185	0.000	0.07		2.6	OK
10.001	S47	63.912	-0.163	0.000	0.17		6.0	OK
11.000	RE12	64.146	-0.179	0.000	0.09		3.4	OK
11.001	S48	63.962	-0.163	0.000	0.17		6.0	OK
10.002	S49	63.730	-0.220	0.000	0.16		12.1	OK
12.000	S50	63.793	-0.167	0.000	0.15		5.3	OK
13.000	S51	63.898	-0.227	0.000	0.14		9.2	OK
13.001	S52	63.723	-0.152	0.000	0.15		9.2	OK
10.003	S53	63.723	-0.202	0.000	0.18		31.1	OK
14.000	RE13	64.098	-0.177	0.000	0.10		3.6	OK
14.001	S54	63.866	-0.234	0.000	0.11		8.2	OK
14.002	S55	63.723	-0.202	0.000	0.09		11.8	OK
10.004	S56	63.723	-0.002	0.000	0.26		42.9	OK
15.000	S57	63.783	-0.182	0.000	0.08		4.1	OK
10.005	S58	63.723	0.098	0.000	0.17		46.3	SURCHARGED
16.000	S59	64.124	-0.151	0.000	0.24		8.4	OK
16.001	S60	63.867	-0.208	0.000	0.21		12.4	OK

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Summary of Results for 480 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.875	-0.300	0.000	0.09		11.9	OK
16.002	S62	63.723	-0.237	0.000	0.25		24.0	OK
16.003	S63	63.723	-0.172	0.000	0.28		30.3	OK
18.000	S64	63.723	-0.102	0.000	0.11		8.9	OK
19.000	S65	63.723	-0.102	0.000	0.11		8.9	OK
16.004	S66	63.723	0.023	0.000	0.25		48.0	SURCHARGED
16.005	PI Unit 9	63.723	0.188	0.000	0.25		47.2	SURCHARGED
20.000	S67	64.097	0.072	0.000	0.27		9.4	SURCHARGED
21.000	RE14	64.197	-0.128	0.000	0.10		3.6	OK
21.001	S68	64.196	-0.029	0.000	0.08		6.3	OK
22.000	RE15	64.197	-0.128	0.000	0.08		2.8	OK
22.001	S69	64.196	0.046	0.000	0.08		6.3	SURCHARGED
23.000	David Lloyd	64.477	-0.198	0.000	0.30		64.2	OK
23.001	S69	64.421	0.321	0.000	0.56		59.9	SURCHARGED
21.002	S70	64.194	0.169	0.000	0.61		72.4	SURCHARGED
20.001	S71	64.094	0.169	0.000	0.79		81.7	SURCHARGED
24.000	RE16	64.005	0.030	0.000	0.10		3.6	SURCHARGED
20.002	S72	64.004	0.129	0.000	0.74		89.9	SURCHARGED
25.000	RE17	64.000	-0.175	0.000	0.11		4.6	OK
25.001	S73	63.899	-0.051	0.000	0.09		8.2	OK
26.000	S74	63.902	-0.058	0.000	0.11		8.0	OK
27.000	S75	63.986	-0.179	0.000	0.09		4.6	OK
26.001	S76	63.900	0.025	0.000	0.12		12.6	SURCHARGED
28.000	S77	63.902	-0.098	0.000	0.12		9.3	OK
26.002	S78	63.900	0.085	0.000	0.20		21.8	SURCHARGED
26.003	PI Unit 7	63.899	0.184	0.000	0.27		21.8	SURCHARGED
20.003	S79	63.898	0.158	0.000	0.73		119.9	SURCHARGED
29.000	S80	63.801	-0.149	0.000	0.08		4.1	OK
20.004	S81	63.799	0.159	0.000	0.59		123.8	SURCHARGED
1.006	HW 7-12	63.723	0.373	0.000	0.12		14.6	SURCHARGED
1.007	S82	63.910	0.735	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	720
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	6

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	360

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Summary of Results for 360 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	64.015	-0.335	0.000	0.15		26.4	OK
2.000	S26	63.909	-0.216	0.000	0.17		10.5	OK
1.001	S27	63.755	-0.370	0.000	0.18		36.9	OK
3.000	S28	64.139	-0.161	0.000	0.10		7.0	OK
3.001	S29	64.133	0.133	0.000	0.05	0.0	5.0	SURCHARGED
1.002	S30	63.716	-0.364	0.000	0.21		49.8	OK
4.000	S31	63.960	-0.295	0.000	0.10		19.1	OK
1.003	S32	63.681	-0.144	0.000	0.28		68.9	OK
5.000	S33	63.989	-0.186	0.000	0.07		3.6	OK
1.004	S34	63.681	-0.069	0.000	0.29		72.5	OK
1.005	PI Unit 4	63.681	0.031	0.000	0.25		72.2	SURCHARGED
6.000	RE8	64.323	-0.202	0.000	0.02		0.8	OK
6.001	S35	64.212	-0.163	0.000	0.17		6.1	OK
6.002	S36	63.980	-0.220	0.000	0.16		11.4	OK
7.000	RE9	64.358	-0.167	0.000	0.15		5.3	OK
7.001	S37	64.151	-0.224	0.000	0.15		10.5	OK
7.002	S38	63.931	-0.219	0.000	0.16		11.4	OK
8.000	S39	64.220	-0.080	0.000	0.10		6.8	OK
8.001	S40	64.211	0.186	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.810	-0.250	0.000	0.24		27.7	OK
6.004	S42	63.742	-0.308	0.000	0.22		34.8	OK
9.000	RE10	64.160	-0.165	0.000	0.16		5.7	OK
9.001	S43	63.884	-0.216	0.000	0.18		12.8	OK
9.002	S44	63.686	-0.239	0.000	0.17		18.5	OK
6.005	S45	63.686	-0.089	0.000	0.27		53.3	OK
6.006	S46	63.683	0.073	0.000	0.19		52.9	SURCHARGED
10.000	RE11	64.145	-0.180	0.000	0.09		3.3	OK
10.001	S47	63.920	-0.155	0.000	0.21		7.5	OK
11.000	RE12	64.151	-0.174	0.000	0.12		4.3	OK
11.001	S48	63.970	-0.155	0.000	0.21		7.5	OK
10.002	S49	63.741	-0.209	0.000	0.20		15.1	OK
12.000	S50	63.801	-0.159	0.000	0.19		6.6	OK
13.000	S51	63.908	-0.217	0.000	0.17		11.5	OK
13.001	S52	63.681	-0.194	0.000	0.18		11.5	OK
10.003	S53	63.681	-0.244	0.000	0.22		38.8	OK
14.000	RE13	64.103	-0.172	0.000	0.13		4.5	OK
14.001	S54	63.873	-0.227	0.000	0.14		10.3	OK
14.002	S55	63.681	-0.244	0.000	0.11		14.8	OK
10.004	S56	63.681	-0.044	0.000	0.33		53.6	OK
15.000	S57	63.788	-0.177	0.000	0.10		5.1	OK
10.005	S58	63.681	0.056	0.000	0.21		58.3	SURCHARGED
16.000	S59	64.131	-0.144	0.000	0.28		10.1	OK
16.001	S60	63.876	-0.199	0.000	0.25		14.9	OK

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Summary of Results for 360 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.883	-0.292	0.000	0.11		14.9	OK
16.002	S62	63.733	-0.227	0.000	0.31		29.3	OK
16.003	S63	63.681	-0.214	0.000	0.34		37.3	OK
18.000	S64	63.681	-0.144	0.000	0.14		11.2	OK
19.000	S65	63.681	-0.144	0.000	0.13		11.2	OK
16.004	S66	63.681	-0.019	0.000	0.31		59.3	OK
16.005	PI Unit 9	63.681	0.146	0.000	0.31		58.7	SURCHARGED
20.000	S67	64.052	0.027	0.000	0.33		11.6	SURCHARGED
21.000	RE14	64.158	-0.167	0.000	0.13		4.5	OK
21.001	S68	64.158	-0.067	0.000	0.10		7.9	OK
22.000	RE15	64.158	-0.167	0.000	0.10		3.5	OK
22.001	S69	64.158	0.008	0.000	0.11		7.9	SURCHARGED
23.000	David Lloyd	64.521	-0.154	0.000	0.31		67.5	OK
23.001	S69	64.462	0.362	0.000	0.56		59.9	SURCHARGED
21.002	S70	64.158	0.133	0.000	0.64		75.7	SURCHARGED
20.001	S71	64.055	0.130	0.000	0.84		87.1	SURCHARGED
24.000	RE16	63.965	-0.010	0.000	0.13		4.5	OK
20.002	S72	63.965	0.090	0.000	0.80		97.2	SURCHARGED
25.000	RE17	64.006	-0.169	0.000	0.14		5.7	OK
25.001	S73	63.859	-0.091	0.000	0.12		10.3	OK
26.000	S74	63.860	-0.100	0.000	0.14		10.0	OK
27.000	S75	63.991	-0.174	0.000	0.12		5.7	OK
26.001	S76	63.860	-0.015	0.000	0.15		15.7	OK
28.000	S77	63.860	-0.140	0.000	0.16		11.6	OK
26.002	S78	63.860	0.045	0.000	0.25		27.3	SURCHARGED
26.003	PI Unit 7	63.860	0.145	0.000	0.34		27.2	SURCHARGED
20.003	S79	63.859	0.119	0.000	0.82		134.6	SURCHARGED
29.000	S80	63.773	-0.177	0.000	0.10		5.1	OK
20.004	S81	63.761	0.121	0.000	0.67		139.6	SURCHARGED
1.006	HW 7-12	63.681	0.331	0.000	0.11		14.1	SURCHARGED
1.007	S82	63.852	0.677	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	480
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	4

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	240

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Summary of Results for 240 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	64.038	-0.312	0.000	0.21		36.1	OK
2.000	S26	63.924	-0.201	0.000	0.24		14.4	OK
1.001	S27	63.781	-0.344	0.000	0.25		50.4	OK
3.000	S28	64.169	-0.131	0.000	0.11		8.4	OK
3.001	S29	64.163	0.163	0.000	0.05	0.0	5.0	SURCHARGED
1.002	S30	63.741	-0.339	0.000	0.27		66.1	OK
4.000	S31	63.973	-0.282	0.000	0.14		26.2	OK
1.003	S32	63.623	-0.202	0.000	0.37		92.1	OK
5.000	S33	63.997	-0.178	0.000	0.10		5.0	OK
1.004	S34	63.623	-0.127	0.000	0.39		97.1	OK
1.005	PI Unit 4	63.623	-0.027	0.000	0.33		97.2	OK
6.000	RE8	64.326	-0.199	0.000	0.03		1.1	OK
6.001	S35	64.223	-0.152	0.000	0.23		8.4	OK
6.002	S36	63.995	-0.205	0.000	0.22		15.6	OK
7.000	RE9	64.370	-0.155	0.000	0.21		7.2	OK
7.001	S37	64.166	-0.209	0.000	0.20		14.4	OK
7.002	S38	63.946	-0.204	0.000	0.22		15.6	OK
8.000	S39	64.233	-0.067	0.000	0.12		7.9	OK
8.001	S40	64.225	0.200	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.829	-0.231	0.000	0.32		36.1	OK
6.004	S42	63.764	-0.286	0.000	0.29		45.6	OK
9.000	RE10	64.172	-0.153	0.000	0.22		7.8	OK
9.001	S43	63.899	-0.201	0.000	0.24		17.6	OK
9.002	S44	63.671	-0.254	0.000	0.23		25.4	OK
6.005	S45	63.628	-0.147	0.000	0.36		70.9	OK
6.006	S46	63.625	0.015	0.000	0.26		70.8	SURCHARGED
10.000	RE11	64.152	-0.173	0.000	0.12		4.5	OK
10.001	S47	63.932	-0.143	0.000	0.29		10.3	OK
11.000	RE12	64.159	-0.166	0.000	0.16		5.9	OK
11.001	S48	63.983	-0.142	0.000	0.29		10.3	OK
10.002	S49	63.757	-0.193	0.000	0.28		20.7	OK
12.000	S50	63.811	-0.149	0.000	0.25		8.6	OK
13.000	S51	63.923	-0.202	0.000	0.24		15.7	OK
13.001	S52	63.687	-0.188	0.000	0.25		15.6	OK
10.003	S53	63.645	-0.280	0.000	0.30		52.5	OK
14.000	RE13	64.113	-0.162	0.000	0.18		6.2	OK
14.001	S54	63.887	-0.213	0.000	0.19		14.1	OK
14.002	S55	63.647	-0.278	0.000	0.15		20.3	OK
10.004	S56	63.623	-0.102	0.000	0.44		72.6	OK
15.000	S57	63.796	-0.169	0.000	0.14		7.0	OK
10.005	S58	63.623	-0.002	0.000	0.29		79.5	OK
16.000	S59	64.143	-0.132	0.000	0.36		12.8	OK
16.001	S60	63.890	-0.185	0.000	0.31		18.8	OK

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Summary of Results for 240 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.897	-0.278	0.000	0.15		20.4	OK
16.002	S62	63.756	-0.204	0.000	0.41		38.3	OK
16.003	S63	63.695	-0.200	0.000	0.44		49.0	OK
18.000	S64	63.623	-0.202	0.000	0.19		15.3	OK
19.000	S65	63.623	-0.202	0.000	0.18		15.3	OK
16.004	S66	63.623	-0.077	0.000	0.41		79.2	OK
16.005	PI Unit 9	63.623	0.088	0.000	0.42		78.8	SURCHARGED
20.000	S67	64.003	-0.022	0.000	0.44		15.6	OK
21.000	RE14	64.163	-0.162	0.000	0.18		6.1	OK
21.001	S68	64.112	-0.113	0.000	0.14		10.8	OK
22.000	RE15	64.155	-0.170	0.000	0.13		4.7	OK
22.001	S69	64.112	-0.038	0.000	0.15		10.8	OK
23.000	David Lloyd	64.566	-0.109	0.000	0.33		71.1	OK
23.001	S69	64.506	0.406	0.000	0.56		59.9	SURCHARGED
21.002	S70	64.112	0.087	0.000	0.68		81.0	SURCHARGED
20.001	S71	64.009	0.084	0.000	0.93		96.2	SURCHARGED
24.000	RE16	63.919	-0.056	0.000	0.17		6.2	OK
20.002	S72	63.919	0.044	0.000	0.90		109.5	SURCHARGED
25.000	RE17	64.017	-0.158	0.000	0.19		7.8	OK
25.001	S73	63.813	-0.137	0.000	0.16		14.1	OK
26.000	S74	63.812	-0.148	0.000	0.19		13.7	OK
27.000	S75	64.000	-0.165	0.000	0.16		7.9	OK
26.001	S76	63.812	-0.063	0.000	0.20		21.3	OK
28.000	S77	63.812	-0.188	0.000	0.21		15.9	OK
26.002	S78	63.812	-0.003	0.000	0.34		36.8	OK
26.003	PI Unit 7	63.812	0.097	0.000	0.45		36.8	SURCHARGED
20.003	S79	63.813	0.073	0.000	0.98		159.8	SURCHARGED
29.000	S80	63.781	-0.169	0.000	0.14		7.0	OK
20.004	S81	63.737	0.097	0.000	0.80		166.5	SURCHARGED
1.006	HW 7-12	63.623	0.273	0.000	0.12		15.2	SURCHARGED
1.007	S82	63.805	0.630	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	360
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	3

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	180

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Summary of Results for 180 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	64.054	-0.296	0.000	0.26		44.9	OK
2.000	S26	63.937	-0.188	0.000	0.30		18.0	OK
1.001	S27	63.805	-0.320	0.000	0.31		63.0	OK
3.000	S28	64.184	-0.116	0.000	0.13		9.3	OK
3.001	S29	64.177	0.177	0.000	0.05	0.0	5.0	SURCHARGED
1.002	S30	63.765	-0.315	0.000	0.34		81.5	OK
4.000	S31	63.985	-0.270	0.000	0.18		32.7	OK
1.003	S32	63.576	-0.249	0.000	0.46		113.9	OK
5.000	S33	64.002	-0.173	0.000	0.12		6.2	OK
1.004	S34	63.576	-0.174	0.000	0.48		120.0	OK
1.005	PI Unit 4	63.576	-0.074	0.000	0.41		120.0	OK
6.000	RE8	64.329	-0.196	0.000	0.04		1.4	OK
6.001	S35	64.232	-0.143	0.000	0.29		10.4	OK
6.002	S36	64.007	-0.193	0.000	0.28		19.4	OK
7.000	RE9	64.378	-0.147	0.000	0.26		9.0	OK
7.001	S37	64.176	-0.199	0.000	0.25		18.0	OK
7.002	S38	63.958	-0.192	0.000	0.28		19.4	OK
8.000	S39	64.240	-0.060	0.000	0.13		8.7	OK
8.001	S40	64.232	0.207	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.846	-0.214	0.000	0.38		43.8	OK
6.004	S42	63.784	-0.266	0.000	0.35		55.7	OK
9.000	RE10	64.181	-0.144	0.000	0.28		9.8	OK
9.001	S43	63.912	-0.188	0.000	0.30		21.9	OK
9.002	S44	63.687	-0.238	0.000	0.29		31.6	OK
6.005	S45	63.583	-0.192	0.000	0.44		87.2	OK
6.006	S46	63.581	-0.029	0.000	0.32		87.1	OK
10.000	RE11	64.159	-0.166	0.000	0.15		5.6	OK
10.001	S47	63.944	-0.131	0.000	0.36		12.9	OK
11.000	RE12	64.168	-0.157	0.000	0.20		7.3	OK
11.001	S48	63.994	-0.131	0.000	0.37		12.9	OK
10.002	S49	63.772	-0.178	0.000	0.35		25.8	OK
12.000	S50	63.819	-0.141	0.000	0.30		10.5	OK
13.000	S51	63.936	-0.189	0.000	0.29		19.6	OK
13.001	S52	63.705	-0.170	0.000	0.31		19.5	OK
10.003	S53	63.666	-0.259	0.000	0.38		65.0	OK
14.000	RE13	64.121	-0.154	0.000	0.22		7.8	OK
14.001	S54	63.898	-0.202	0.000	0.23		17.6	OK
14.002	S55	63.660	-0.265	0.000	0.19		25.3	OK
10.004	S56	63.576	-0.149	0.000	0.55		89.9	OK
15.000	S57	63.803	-0.162	0.000	0.17		8.7	OK
10.005	S58	63.576	-0.049	0.000	0.35		98.4	OK
16.000	S59	64.150	-0.125	0.000	0.41		14.7	OK
16.001	S60	63.901	-0.174	0.000	0.36		21.9	OK

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Summary of Results for 180 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.910	-0.265	0.000	0.19		25.5	OK
16.002	S62	63.777	-0.183	0.000	0.49		46.0	OK
16.003	S63	63.716	-0.179	0.000	0.54		59.2	OK
18.000	S64	63.624	-0.201	0.000	0.24		19.1	OK
19.000	S65	63.622	-0.203	0.000	0.23		19.2	OK
16.004	S66	63.576	-0.124	0.000	0.50		96.5	OK
16.005	PI Unit 9	63.576	0.041	0.000	0.51		96.5	SURCHARGED
20.000	S67	64.001	-0.024	0.000	0.46		16.0	OK
21.000	RE14	64.171	-0.154	0.000	0.22		7.6	OK
21.001	S68	64.080	-0.145	0.000	0.18		13.3	OK
22.000	RE15	64.162	-0.163	0.000	0.17		5.9	OK
22.001	S69	64.078	-0.072	0.000	0.18		13.1	OK
23.000	David Lloyd	64.586	-0.089	0.000	0.36		77.2	OK
23.001	S69	64.527	0.427	0.000	0.56		59.8	SURCHARGED
21.002	S70	64.076	0.051	0.000	0.71		84.5	SURCHARGED
20.001	S71	63.973	0.048	0.000	0.93		96.5	SURCHARGED
24.000	RE16	63.882	-0.093	0.000	0.23		8.1	OK
20.002	S72	63.882	0.007	0.000	0.92		111.7	SURCHARGED
25.000	RE17	64.025	-0.150	0.000	0.24		9.8	OK
25.001	S73	63.777	-0.173	0.000	0.20		17.6	OK
26.000	S74	63.791	-0.169	0.000	0.24		17.0	OK
27.000	S75	64.008	-0.157	0.000	0.20		9.8	OK
26.001	S76	63.776	-0.099	0.000	0.25		27.3	OK
28.000	S77	63.808	-0.192	0.000	0.27		19.9	OK
26.002	S78	63.776	-0.039	0.000	0.45		48.0	OK
26.003	PI Unit 7	63.776	0.061	0.000	0.59		48.0	SURCHARGED
20.003	S79	63.777	0.037	0.000	1.00		163.3	SURCHARGED
29.000	S80	63.788	-0.162	0.000	0.17		8.7	OK
20.004	S81	63.680	0.040	0.000	0.82		172.0	SURCHARGED
1.006	HW 7-12	63.576	0.226	0.000	0.15		19.3	SURCHARGED
1.007	S82	63.776	0.601	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	240
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	4

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	120

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Summary of Results for 120 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	64.083	-0.267	0.000	0.35		60.8	OK
2.000	S26	63.957	-0.168	0.000	0.40		24.3	OK
1.001	S27	63.842	-0.283	0.000	0.42		84.2	OK
3.000	S28	64.196	-0.104	0.000	0.14		10.6	OK
3.001	S29	64.189	0.189	0.000	0.05	0.0	5.0	SURCHARGED
1.002	S30	63.801	-0.279	0.000	0.44		107.2	OK
4.000	S31	64.004	-0.251	0.000	0.24		44.2	OK
1.003	S32	63.597	-0.228	0.000	0.60		150.3	OK
5.000	S33	64.011	-0.164	0.000	0.17		8.4	OK
1.004	S34	63.532	-0.218	0.000	0.64		158.8	OK
1.005	PI Unit 4	63.504	-0.146	0.000	0.54		159.1	OK
6.000	RE8	64.334	-0.191	0.000	0.05		1.9	OK
6.001	S35	64.248	-0.127	0.000	0.39		14.1	OK
6.002	S36	64.027	-0.173	0.000	0.38		26.4	OK
7.000	RE9	64.392	-0.133	0.000	0.35		12.2	OK
7.001	S37	64.195	-0.180	0.000	0.34		24.4	OK
7.002	S38	63.978	-0.172	0.000	0.38		26.2	OK
8.000	S39	64.241	-0.059	0.000	0.15		9.8	OK
8.001	S40	64.233	0.208	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.874	-0.186	0.000	0.50		57.3	OK
6.004	S42	63.816	-0.234	0.000	0.46		72.9	OK
9.000	RE10	64.196	-0.129	0.000	0.38		13.2	OK
9.001	S43	63.933	-0.167	0.000	0.40		29.6	OK
9.002	S44	63.712	-0.213	0.000	0.39		42.7	OK
6.005	S45	63.573	-0.202	0.000	0.58		115.5	OK
6.006	S46	63.504	-0.106	0.000	0.42		115.7	OK
10.000	RE11	64.170	-0.155	0.000	0.21		7.6	OK
10.001	S47	63.961	-0.114	0.000	0.49		17.5	OK
11.000	RE12	64.179	-0.146	0.000	0.27		9.9	OK
11.001	S48	64.012	-0.113	0.000	0.50		17.4	OK
10.002	S49	63.795	-0.155	0.000	0.47		34.8	OK
12.000	S50	63.832	-0.128	0.000	0.39		13.5	OK
13.000	S51	63.956	-0.169	0.000	0.40		26.5	OK
13.001	S52	63.737	-0.138	0.000	0.42		26.2	OK
10.003	S53	63.702	-0.223	0.000	0.50		86.5	OK
14.000	RE13	64.134	-0.141	0.000	0.30		10.5	OK
14.001	S54	63.916	-0.184	0.000	0.32		23.8	OK
14.002	S55	63.679	-0.246	0.000	0.26		34.2	OK
10.004	S56	63.563	-0.162	0.000	0.74		120.3	OK
15.000	S57	63.814	-0.151	0.000	0.23		11.8	OK
10.005	S58	63.502	-0.123	0.000	0.47		131.6	OK
16.000	S59	64.160	-0.115	0.000	0.48		17.2	OK
16.001	S60	63.914	-0.161	0.000	0.43		26.0	OK

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Summary of Results for 120 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.928	-0.247	0.000	0.26		34.5	OK
16.002	S62	63.810	-0.150	0.000	0.62		58.3	OK
16.003	S63	63.751	-0.144	0.000	0.69		75.8	OK
18.000	S64	63.642	-0.183	0.000	0.32		25.9	OK
19.000	S65	63.639	-0.186	0.000	0.31		25.9	OK
16.004	S66	63.518	-0.182	0.000	0.66		125.7	OK
16.005	PI Unit 9	63.502	-0.033	0.000	0.67		125.9	OK
20.000	S67	64.078	0.053	0.000	0.63		22.2	SURCHARGED
21.000	RE14	64.192	-0.133	0.000	0.30		10.3	OK
21.001	S68	64.161	-0.064	0.000	0.22		16.7	OK
22.000	RE15	64.184	-0.141	0.000	0.23		7.9	OK
22.001	S69	64.157	0.007	0.000	0.23		17.0	SURCHARGED
23.000	David Lloyd	64.601	-0.074	0.000	0.37		79.8	OK
23.001	S69	64.545	0.445	0.000	0.56		59.8	SURCHARGED
21.002	S70	64.137	0.112	0.000	0.75		89.5	SURCHARGED
20.001	S71	64.034	0.109	0.000	0.97		100.9	SURCHARGED
24.000	RE16	63.971	-0.004	0.000	0.28		9.9	OK
20.002	S72	63.943	0.068	0.000	0.96		116.2	SURCHARGED
25.000	RE17	64.039	-0.136	0.000	0.33		13.3	OK
25.001	S73	63.792	-0.158	0.000	0.27		23.4	OK
26.000	S74	64.042	0.082	0.000	0.31		22.0	SURCHARGED
27.000	S75	64.020	-0.145	0.000	0.27		13.3	OK
26.001	S76	63.971	0.096	0.000	0.32		34.6	SURCHARGED
28.000	S77	63.931	-0.069	0.000	0.35		25.9	OK
26.002	S78	63.878	0.063	0.000	0.56		60.3	SURCHARGED
26.003	PI Unit 7	63.784	0.069	0.000	0.74		60.3	SURCHARGED
20.003	S79	63.758	0.018	0.000	1.18		192.1	SURCHARGED
29.000	S80	63.799	-0.151	0.000	0.24		11.8	OK
20.004	S81	63.600	-0.040	0.000	0.97		202.7	OK
1.006	HW 7-12	63.502	0.152	0.000	0.11		13.6	SURCHARGED
1.007	S82	63.586	0.411	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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)	120
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	2

Number of Input Hydrographs	0	Number of Storage Structures	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	60

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Summary of Results for 60 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	64.148	-0.202	0.000	0.58		101.6	OK
2.000	S26	64.029	-0.096	0.000	0.66		40.2	OK
1.001	S27	63.929	-0.196	0.000	0.70		140.6	OK
3.000	S28	64.204	-0.096	0.000	0.19		14.1	OK
3.001	S29	64.197	0.197	0.000	0.05	0.0	5.0	SURCHARGED
1.002	S30	63.888	-0.192	0.000	0.72		173.4	OK
4.000	S31	64.045	-0.210	0.000	0.40		74.1	OK
1.003	S32	63.731	-0.094	0.000	0.95		236.7	OK
5.000	S33	64.031	-0.144	0.000	0.28		14.1	OK
1.004	S34	63.667	-0.083	0.000	1.00		248.6	OK
1.005	PI Unit 4	63.496	-0.154	0.000	0.84		248.6	OK
6.000	RE8	64.346	-0.179	0.000	0.09		3.2	OK
6.001	S35	64.285	-0.090	0.000	0.66		23.8	OK
6.002	S36	64.075	-0.125	0.000	0.63		44.2	OK
7.000	RE9	64.426	-0.099	0.000	0.59		20.5	OK
7.001	S37	64.238	-0.137	0.000	0.56		40.9	OK
7.002	S38	64.023	-0.127	0.000	0.63		43.7	OK
8.000	S39	64.228	-0.072	0.000	0.21		13.8	OK
8.001	S40	64.219	0.194	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	63.944	-0.116	0.000	0.81		92.1	OK
6.004	S42	63.892	-0.158	0.000	0.73		116.8	OK
9.000	RE10	64.231	-0.094	0.000	0.63		22.1	OK
9.001	S43	63.983	-0.117	0.000	0.68		49.5	OK
9.002	S44	63.770	-0.155	0.000	0.64		70.6	OK
6.005	S45	63.668	-0.107	0.000	0.93		183.9	OK
6.006	S46	63.432	-0.178	0.000	0.68		184.5	OK
10.000	RE11	64.192	-0.133	0.000	0.35		12.7	OK
10.001	S47	64.025	-0.050	0.000	0.81		28.9	OK
11.000	RE12	64.206	-0.119	0.000	0.45		16.6	OK
11.001	S48	64.061	-0.064	0.000	0.83		29.2	OK
10.002	S49	63.917	-0.033	0.000	0.73		54.3	OK
12.000	S50	63.872	-0.088	0.000	0.60		21.0	OK
13.000	S51	64.006	-0.119	0.000	0.66		44.3	OK
13.001	S52	63.912	0.037	0.000	0.62		39.3	SURCHARGED
10.003	S53	63.828	-0.097	0.000	0.73		126.1	OK
14.000	RE13	64.163	-0.112	0.000	0.50		17.6	OK
14.001	S54	63.957	-0.143	0.000	0.53		39.8	OK
14.002	S55	63.777	-0.148	0.000	0.41		55.3	OK
10.004	S56	63.725	0.000	0.000	1.06		173.3	OK
15.000	S57	63.838	-0.127	0.000	0.39		19.8	OK
10.005	S58	63.452	-0.173	0.000	0.69		191.1	OK
16.000	S59	64.172	-0.103	0.000	0.57		20.2	OK
16.001	S60	64.002	-0.073	0.000	0.57		34.3	OK

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Summary of Results for 60 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	63.992	-0.183	0.000	0.42		57.3	OK
16.002	S62	63.945	-0.015	0.000	0.90		85.1	OK
16.003	S63	63.878	-0.017	0.000	0.99		109.2	OK
18.000	S64	63.687	-0.138	0.000	0.54		43.3	OK
19.000	S65	63.682	-0.143	0.000	0.52		43.3	OK
16.004	S66	63.609	-0.091	0.000	1.00		190.7	OK
16.005	PI Unit 9	63.461	-0.074	0.000	1.00		189.2	OK
20.000	S67	64.179	0.154	0.000	0.82		28.8	FLOOD RISK
21.000	RE14	64.400	0.075	0.000	0.49		17.0	SURCHARGED
21.001	S68	64.360	0.135	0.000	0.36		26.9	SURCHARGED
22.000	RE15	64.396	0.071	0.000	0.37		12.9	SURCHARGED
22.001	S69	64.360	0.210	0.000	0.35		26.0	SURCHARGED
23.000	David Lloyd	64.611	-0.064	0.000	0.35		76.7	OK
23.001	S69	64.555	0.455	0.000	0.56		59.8	SURCHARGED
21.002	S70	64.268	0.243	0.000	0.76		90.3	SURCHARGED
20.001	S71	64.164	0.239	0.000	1.05		109.0	SURCHARGED
24.000	RE16	64.119	0.144	0.000	0.45		16.1	SURCHARGED
20.002	S72	64.070	0.195	0.000	0.99		120.6	SURCHARGED
25.000	RE17	64.099	-0.076	0.000	0.55		22.2	OK
25.001	S73	64.022	0.072	0.000	0.42		36.8	SURCHARGED
26.000	S74	64.241	0.281	0.000	0.51		36.3	SURCHARGED
27.000	S75	64.174	0.009	0.000	0.46		22.6	SURCHARGED
26.001	S76	64.144	0.269	0.000	0.49		52.6	SURCHARGED
28.000	S77	64.151	0.151	0.000	0.57		42.3	SURCHARGED
26.002	S78	64.054	0.239	0.000	0.88		94.3	SURCHARGED
26.003	PI Unit 7	63.963	0.248	0.000	1.14		92.3	SURCHARGED
20.003	S79	63.905	0.165	0.000	1.37		224.0	SURCHARGED
29.000	S80	63.824	-0.126	0.000	0.40		19.8	OK
20.004	S81	63.714	0.074	0.000	1.15		241.3	SURCHARGED
1.006	HW 7-12	63.380	0.030	0.000	0.15		18.4	SURCHARGED
1.007	S82	63.488	0.313	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	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	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	30

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Summary of Results for 30 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	64.453	0.103	0.000	0.88		154.5	SURCHARGED
2.000	S26	64.448	0.323	0.000	0.98		59.5	FLOOD RISK
1.001	S27	64.276	0.151	0.000	0.95		192.0	SURCHARGED
3.000	S28	64.204	-0.096	0.000	0.23		17.1	OK
3.001	S29	64.198	0.198	0.000	0.05	5.3	5.0	SURCHARGED
1.002	S30	64.235	0.155	0.000	0.90		219.0	SURCHARGED
4.000	S31	64.189	-0.066	0.000	0.65		120.2	OK
1.003	S32	64.047	0.222	0.000	1.25		311.1	SURCHARGED
5.000	S33	64.056	-0.119	0.000	0.44		22.6	OK
1.004	S34	63.882	0.132	0.000	1.33		329.8	SURCHARGED
1.005	PI Unit 4	63.688	0.038	0.000	1.13		331.8	SURCHARGED
6.000	RE8	64.461	-0.064	0.000	0.14		4.7	OK
6.001	S35	64.450	0.075	0.000	0.93		33.6	SURCHARGED
6.002	S36	64.242	0.042	0.000	0.88		62.0	SURCHARGED
7.000	RE9	64.524	-0.001	0.000	0.92		31.8	OK
7.001	S37	64.346	-0.029	0.000	0.85		61.8	OK
7.002	S38	64.223	0.073	0.000	0.87		60.2	SURCHARGED
8.000	S39	64.209	-0.091	0.000	0.27		17.6	OK
8.001	S40	64.201	0.176	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	64.109	0.049	0.000	1.04		118.6	SURCHARGED
6.004	S42	64.011	-0.039	0.000	0.94		148.7	OK
9.000	RE10	64.419	0.094	0.000	0.94		32.9	FLOOD RISK
9.001	S43	64.163	0.063	0.000	0.96		70.2	SURCHARGED
9.002	S44	63.965	0.040	0.000	0.88		96.6	SURCHARGED
6.005	S45	63.821	0.046	0.000	1.19		234.7	SURCHARGED
6.006	S46	63.483	-0.127	0.000	0.86		235.0	OK
10.000	RE11	64.458	0.133	0.000	0.53		19.0	SURCHARGED
10.001	S47	64.403	0.328	0.000	1.08		38.3	SURCHARGED
11.000	RE12	64.551	0.226	0.000	0.63		23.4	SURCHARGED
11.001	S48	64.478	0.353	0.000	1.11		38.9	SURCHARGED
10.002	S49	64.173	0.223	0.000	1.03		76.8	SURCHARGED
12.000	S50	63.957	-0.003	0.000	0.87		30.5	OK
13.000	S51	64.310	0.185	0.000	0.99		66.3	SURCHARGED
13.001	S52	64.088	0.213	0.000	1.01		63.8	SURCHARGED
10.003	S53	63.985	0.060	0.000	0.91		157.6	SURCHARGED
14.000	RE13	64.205	-0.070	0.000	0.80		28.3	OK
14.001	S54	64.050	-0.050	0.000	0.82		61.8	OK
14.002	S55	63.913	-0.012	0.000	0.61		81.1	OK
10.004	S56	63.812	0.087	0.000	1.44		235.3	SURCHARGED
15.000	S57	63.872	-0.093	0.000	0.64		32.0	OK
10.005	S58	63.519	-0.106	0.000	0.94		261.5	OK
16.000	S59	64.207	-0.068	0.000	0.78		27.7	OK
16.001	S60	64.403	0.328	0.000	0.66		39.7	FLOOD RISK

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Summary of Results for 30 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	64.495	0.320	0.000	0.60		80.5	FLOOD RISK
16.002	S62	64.389	0.429	0.000	1.03		97.5	SURCHARGED
16.003	S63	64.309	0.414	0.000	1.23		135.1	SURCHARGED
18.000	S64	64.034	0.209	0.000	0.80		65.0	SURCHARGED
19.000	S65	64.024	0.199	0.000	0.78		65.2	SURCHARGED
16.004	S66	63.880	0.180	0.000	1.35		258.6	SURCHARGED
16.005	PI Unit 9	63.672	0.137	0.000	1.36		257.4	SURCHARGED
20.000	S67	64.366	0.341	0.000	0.85		29.9	FLOOD RISK
21.000	RE14	64.660	0.335	0.000	0.76		26.4	FLOOD RISK
21.001	S68	64.585	0.360	0.000	0.53		40.2	SURCHARGED
22.000	RE15	64.646	0.321	0.000	0.57		20.0	FLOOD RISK
22.001	S69	64.584	0.434	0.000	0.54		40.1	SURCHARGED
23.000	David Lloyd	64.593	-0.082	0.000	0.36		77.9	OK
23.001	S69	64.593	0.493	0.000	0.54		58.2	SURCHARGED
21.002	S70	64.483	0.458	0.000	0.76		90.0	SURCHARGED
20.001	S71	64.385	0.460	0.000	1.03		107.0	FLOOD RISK
24.000	RE16	64.383	0.408	0.000	0.69		24.7	FLOOD RISK
20.002	S72	64.293	0.418	0.000	0.98		119.8	SURCHARGED
25.000	RE17	64.430	0.255	0.000	0.79		31.8	FLOOD RISK
25.001	S73	64.244	0.294	0.000	0.62		54.2	SURCHARGED
26.000	S74	64.450	0.490	0.000	0.81		57.5	FLOOD RISK
27.000	S75	64.271	0.106	0.000	0.71		35.3	SURCHARGED
26.001	S76	64.355	0.480	0.000	0.60		63.9	SURCHARGED
28.000	S77	64.489	0.489	0.000	0.90		67.2	SURCHARGED
26.002	S78	64.267	0.452	0.000	1.11		119.3	SURCHARGED
26.003	PI Unit 7	64.177	0.462	0.000	1.36		109.9	SURCHARGED
20.003	S79	64.102	0.362	0.000	1.56		255.4	SURCHARGED
29.000	S80	64.043	0.093	0.000	0.60		30.1	SURCHARGED
20.004	S81	63.856	0.216	0.000	1.35		281.4	SURCHARGED
1.006	HW 7-12	63.286	-0.064	0.000	0.11		14.1	OK
1.007	S82	63.320	0.145	0.000	0.20		12.0	SURCHARGED

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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	40.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	5.000
Hot Start (mins)	0	Inlet Coeffiecient	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	11
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	2	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	1999
Site Location	457700 221050 SP 57700 21050
C (1km)	-0.022
D1 (1km)	0.321
D2 (1km)	0.324
D3 (1km)	0.251
E (1km)	0.288
F (1km)	2.477
Summer Storms	No
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Storm Duration (mins)	15

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Summary of Results for 15 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	S25	64.786	0.436	0.000	1.09		191.2	FLOOD RISK
2.000	S26	64.650	0.525	0.000	1.16		70.5	FLOOD RISK
1.001	S27	64.549	0.424	0.000	1.18		238.1	FLOOD RISK
3.000	S28	64.185	-0.115	0.000	0.26		19.0	OK
3.001	S29	64.180	0.180	0.000	0.05	9.6	5.0	SURCHARGED
1.002	S30	64.501	0.421	0.000	1.03		249.3	FLOOD RISK
4.000	S31	64.419	0.164	0.000	0.83		154.0	FLOOD RISK
1.003	S32	64.253	0.428	0.000	1.43		356.4	FLOOD RISK
5.000	S33	64.135	-0.040	0.000	0.62		31.6	OK
1.004	S34	64.022	0.272	0.000	1.52		378.5	SURCHARGED
1.005	PI Unit 4	63.779	0.129	0.000	1.29		379.0	SURCHARGED
6.000	RE8	64.796	0.271	0.000	0.21		7.4	FLOOD RISK
6.001	S35	64.786	0.411	0.000	1.09		39.3	FLOOD RISK
6.002	S36	64.489	0.289	0.000	1.07		74.6	SURCHARGED
7.000	RE9	64.849	0.324	0.000	1.05		36.2	FLOOD RISK
7.001	S37	64.608	0.233	0.000	0.96		69.5	FLOOD RISK
7.002	S38	64.423	0.273	0.000	1.01		70.3	SURCHARGED
8.000	S39	64.182	-0.118	0.000	0.29		18.6	OK
8.001	S40	64.255	0.230	0.000	0.08	0.0	5.0	SURCHARGED
6.003	S41	64.252	0.192	0.000	1.21		138.0	SURCHARGED
6.004	S42	64.135	0.085	0.000	1.07		169.4	SURCHARGED
9.000	RE10	64.651	0.326	1.008	1.07		37.7	FLOOD
9.001	S43	64.381	0.281	0.000	1.15		83.8	FLOOD RISK
9.002	S44	64.079	0.154	0.000	1.05		116.4	SURCHARGED
6.005	S45	63.897	0.122	0.000	1.35		268.1	SURCHARGED
6.006	S46	63.518	-0.092	0.000	0.98		268.3	OK
10.000	RE11	64.766	0.441	0.000	0.59		21.5	FLOOD RISK
10.001	S47	64.670	0.595	0.000	1.27		45.4	FLOOD RISK
11.000	RE12	64.878	0.553	0.000	0.74		27.6	FLOOD RISK
11.001	S48	64.762	0.637	0.000	1.26		44.2	FLOOD RISK
10.002	S49	64.353	0.403	0.000	1.19		88.7	SURCHARGED
12.000	S50	63.997	0.037	0.000	0.97		33.8	SURCHARGED
13.000	S51	64.625	0.500	0.000	1.21		80.9	FLOOD RISK
13.001	S52	64.263	0.388	0.000	1.26		79.5	FLOOD RISK
10.003	S53	64.108	0.183	0.000	1.02		176.5	SURCHARGED
14.000	RE13	64.438	0.163	0.000	0.95		33.5	FLOOD RISK
14.001	S54	64.219	0.119	0.000	0.97		72.9	SURCHARGED
14.002	S55	64.034	0.109	0.000	0.72		96.1	SURCHARGED
10.004	S56	63.912	0.187	0.000	1.63		265.9	SURCHARGED
15.000	S57	63.939	-0.026	0.000	0.88		44.2	OK
10.005	S58	63.661	0.036	0.000	1.07		296.6	SURCHARGED
16.000	S59	64.211	-0.064	0.000	0.75		26.8	OK
16.001	S60	64.570	0.495	0.000	0.58		34.8	FLOOD RISK

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Summary of Results for 15 minute 100 year Winter (Storm)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
17.000	S61	64.558	0.383	7.729	0.69		93.1	FLOOD
16.002	S62	64.549	0.589	0.000	1.00		93.8	SURCHARGED
16.003	S63	64.515	0.620	0.000	1.26		138.9	FLOOD RISK
18.000	S64	64.310	0.485	0.000	0.98		79.2	FLOOD RISK
19.000	S65	64.293	0.468	0.000	0.96		80.3	FLOOD RISK
16.004	S66	64.039	0.339	0.000	1.54		293.4	SURCHARGED
16.005	PI Unit 9	63.774	0.239	0.000	1.54		291.9	SURCHARGED
20.000	S67	64.269	0.244	0.000	0.85		30.0	FLOOD RISK
21.000	RE14	64.759	0.434	0.000	0.93		32.1	FLOOD RISK
21.001	S68	64.675	0.450	0.000	0.67		50.3	FLOOD RISK
22.000	RE15	64.743	0.418	0.000	0.71		24.9	FLOOD RISK
22.001	S69	64.676	0.526	0.000	0.72		53.4	FLOOD RISK
23.000	David Lloyd	64.546	-0.129	0.000	0.35		76.1	OK
23.001	S69	64.603	0.503	0.000	0.52		56.1	SURCHARGED
21.002	S70	64.560	0.535	0.000	0.76		90.6	SURCHARGED
20.001	S71	64.459	0.534	0.000	0.98		101.8	FLOOD RISK
24.000	RE16	64.538	0.563	0.000	0.85		30.1	FLOOD RISK
20.002	S72	64.384	0.509	0.000	0.90		110.0	FLOOD RISK
25.000	RE17	64.650	0.475	0.155	0.91		36.8	FLOOD
25.001	S73	64.409	0.459	0.000	0.72		62.5	FLOOD RISK
26.000	S74	64.638	0.678	0.000	0.99		70.5	FLOOD RISK
27.000	S75	64.303	0.138	0.000	0.79		38.9	SURCHARGED
26.001	S76	64.496	0.621	0.000	0.62		65.9	SURCHARGED
28.000	S77	64.743	0.743	0.000	1.09		81.2	FLOOD RISK
26.002	S78	64.413	0.598	0.000	1.20		128.2	FLOOD RISK
26.003	PI Unit 7	64.322	0.607	0.000	1.46		118.1	SURCHARGED
20.003	S79	64.217	0.477	0.000	1.66		270.9	SURCHARGED
29.000	S80	64.159	0.209	0.000	0.76		38.0	SURCHARGED
20.004	S81	63.940	0.300	0.000	1.44		301.6	SURCHARGED
1.006	HW 7-12	63.238	-0.112	0.000	0.11		14.0	OK
1.007	S82	63.258	0.083	0.000	0.20		12.0	SURCHARGED

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