Appendix 4H

Info Drainage Model and Simulation Results

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: MWP		

SS Tank

Type : Tank

Dimensions

Exceedance Elevation (m)	55.000
Depth (m)	1.351
Base Elevation (m)	53.649
Freeboard (mm)	450
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:x)	4.693
Total Volume (m³)	54.790

Depth (m)	Area (m²)	Volume (m³)
0.000	13.652	0.000
0.900	126.931	54.663
1.351	222.961	132.554

Outlets

Outlet

Outgoing Connection	S1.004
Outlet Type	Orifice

Diameter (m)	0.031
Coefficient of Discharge	0.600
Invert Elevation (m)	53.649

Advanced

Perimeter	Circular
Length (m)	9.310

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: MWP		

IPP Tank

Type : Tank

Dimensions

Exceedance Elevation (m)	55.000
Depth (m)	1.074
Base Elevation (m)	53.926
Freeboard (mm)	400
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:x)	4.943
Total Volume (m³)	39.124

Depth (m)	Area (m²)	Volume (m³)
0.000	19.174	0.000
0.674	109.209	39.124
1.074	190.137	98.250

Outlets

Outlet

Outgoing Connection	S5.005
Outlet Type	Orifice

Diameter (m)	0.035
Coefficient of Discharge	0.600
Invert Elevation (m)	53.926

Advanced

Perimeter	Circular
Length (m)	5.641

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address: MWP		

Name	Cover Elevation (m) Invert Elevation (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SS-IC1	55.000 54.400	Diameter / Length: 0.800					Manhole
E:559916.004 N:634746.023	0.600	Width: 0.800	{a} S1.000	Pipe	54.400	Diam/Width:300	Not Applicable
SS-IC2	55.000 54.170	Diameter / Length: 0.800	{1} S1.000	Pipe	54.170	Diam/Width:300	Manhole
E:559924.849 N:634703.090	0.830	Width: 0.800	{a} S1.001	Pipe	54.170	Diam/Width:300	Not Applicable
SS-IC3	55.000 54.075	Diameter / Length: 0.800	{1} S1.001 {2} S2.002 {3} S4.000	Pipe Pipe Pipe	54.075 54.075 54.150	Diam/Width:300 Diam/Width:300 Diam/Width:225	Manhole
E:559928.280 N:634686.394	0.925	Width: 0.800	{a} S1.002	Pipe	54.075	Diam/Width:300	Not Applicable
SS-Bypass Separator-IC4	55.000 53.945	Diameter / Length: 0.800	{1} S1.002	Pipe	54.045	Diam/Width:300	Manhole
E:559922.259 N:634685.167	1.055	Width: 0.800	{a} S1.003	Pipe	53.945	Diam/Width:300	Not Applicable

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address: MWP		

Name	Cover Elevation (m) Invert Elevation (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SS-Flow Control Device	55.000 53.601	Diameter / Length: 1.200	{1} S1.004	Pipe	53.601	Diam/Width:225	Manhole
E:559859.373 N:634672.308	1.399		{a} S1.005	Pipe	53.601	Diam/Width:225	Not Applicable
IPP-Flow Control Device	55.000 53.401	Diameter / Length: 1.200	{1} S1.005	Pipe	53.401	Diam/Width:225	Manhole
E:559863.517 N:634651.920	1.599		{2} S5.005	Pipe	53.870	Diam/Width:225	
			{a} S1.006	Pipe	53.401	Diam/Width:225	Not Applicable
SS/IPP-Outfall MH	55.000 53.281	Diameter / Length: 1.200	{1} S1.006	Pipe	53.281	Diam/Width:225	Manhole
E:559866.211 N:634638.693	1.719						Not Applicable
SS-AJ1	55.150 54.550	Diameter / Length: 0.300					Manhole
E:559950.194 N:634698.995	0.600	Width: 0.300	{a} S2.000	Pipe	54.550	Diam/Width:150	Not Applicable
SS-AJ2	55.150 54.235	Diameter / Length: 0.300	{1} S2.000	Pipe	54.310	Diam/Width:150	Manhole
E:559931.091 N:634695.079	0.915	Width: 0.300	{a} S2.001	Pipe	54.235	Diam/Width:225	Not Applicable

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address: MWP		

Name	Cover Elevation (m) Invert Elevation (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SS-IC5	55.150 54.100	Diameter / Length: 0.450	{1} S2.001	Pipe	54.175	Diam/Width:225	Manhole
E:559932.684 N:634687.303	1.050		{2} S3.001	Pipe	54.175	Diam/Width:225	
		Width: 0.450	{a} S2.002	Pipe	54.100	Diam/Width:300	Not Applicable
SS-AJ3	55.150 54.550	Diameter / Length: 0.300					Manhole
E:559955.501 N:634673.088	0.600						
		Width: 0.300	{a} S3.000	Pipe	54.550	Diam/Width:225	Not Applicable
SS-AJ4	55.150 54.350	Diameter / Length: 0.300	{1} S3.000	Pipe	54.350	Diam/Width:225	Manhole
E:559936.418 N:634669.146	0.800						
		Width: 0.300	{a} S3.001	Pipe	54.350	Diam/Width:225	Not Applicable
SS-IC6	55.000 54.350	Diameter / Length: 0.800					Manhole
E:559932.408 N:634666.404	0.650						
		Width: 0.800	{a} S4.000	Pipe	54.350	Diam/Width:225	Not Applicable

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address: MWP		

Name	Cover Elevation (m) Invert Elevation (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
IPP-IC1	55.000 54.400	Diameter / Length: 0.800					Manhole
E:559881.549 N:634712.492	0.600	Width: 0.800	{a} S5.000	Pipe	54.400	Diam/Width:300	Not Applicable
IPP-IC3	55.000 54.165	Diameter / Length: 0.800	{1} S8.000 {2} S5.001	Pipe Pipe	54.165 54.165	Diam/Width:300 Diam/Width:300	Manhole
E:559890.691 N:634668.256	0.835	Width: 0.800	{a} S5.002	Pipe	54.165	Diam/Width:300	Not Applicable
IPP-MH1	55.000 54.110	Diameter / Length: 1.200	{1} S5.002 {2} S6.002	Pipe Pipe	54.110 54.185	Diam/Width:300 Diam/Width:225	Manhole
E:559892.894 N:634657.981	0.890		{a} S5.003	Pipe	54.110	Diam/Width:300	Not Applicable
IPP-Bypass Separator-IC4	55.000 53.958	Diameter / Length: 0.800	{1} S5.003	Pipe	54.058	Diam/Width:300	Manhole
E:559883.624 N:634656.075	1.042	Width: 0.800	{a} S5.004	Pipe	53.958	Diam/Width:300	Not Applicable

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address: MWP		

Name	Cover Elevation (m) Invert Elevation (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
IPP-AJ1	55.150 54.550	Diameter / Length: 0.300					Manhole
E:559918.903 N:634672.521	0.600	Width: 0.300	{a} S6.000	Pipe	54.550	Diam/Width:225	Not Applicable
IPP-AJ2	55.150 54.385	Diameter / Length: 0.300	{1} S6.000	Pipe	54.385	Diam/Width:225	Manhole
E:559904.076 N:634669.482	0.765	Width: 0.300	{a} S6.001	Pipe	54.385	Diam/Width:225	Not Applicable
IPP-IC5	55.150 54.295	Diameter / Length: 0.450	{1} S6.001 {2} S7.001	Pipe Pipe	54.295 54.295	Diam/Width:225 Diam/Width:225	Manhole
E:559905.893 N:634660.654	0.855	Width: 0.450	{a} S6.002	Pipe	54.295	Diam/Width:225	Not Applicable
IPP-AJ3	55.150 54.550	Diameter / Length: 0.300					Manhole
E:559921.483 N:634660.134	0.600	Width: 0.300	{a} S7.000	Pipe	54.550	Diam/Width:225	Not Applicable

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address: MWP		

Name	Cover Elevation (m) Invert Elevation (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
IPP-AJ4	55.150 54.335	Diameter / Length: 0.300	{1} S7.000	Pipe	54.335	Diam/Width:225	Manhole
E:559906.629 N:634657.077	0.815						
		Width: 0.300	{a} S7.001	Pipe	54.335	Diam/Width:225	Not Applicable
IPP-IC6	55.000 54.400	Diameter / Length: 0.800					Manhole
E:559918.614 N:634674.053	0.600						
		Width: 0.800	{a} S8.000	Pipe	54.400	Diam/Width:300	Not Applicable
IPP-IC2	55.000 54.262	Diameter / Length: 0.800	{1} S5.000	Pipe	54.262	Diam/Width:300	Manhole
E:559886.937 N:634686.326	0.738						
		Width: 0.800	{a} S5.001	Pipe	54.262	Diam/Width:300	Not Applicable

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Inflow Summary Storm Phase: Phase	Company Address: MWP		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (km²)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analyzed (km²)
IPP Catchment 1	IPP-IC1		Time of Concentration	0.00034	100.0	0	100.0	0.00034
IPP Catchment 2	IPP-MH1		Time of Concentration	0.00059	100.0	0	100.0	0.00059
SS Catchment 1	SS-IC1		Time of Concentration	0.00221	12.5	0	12.5	0.00028
SS Catchment 2	SS-AJ1		Time of Concentration	0.00236	12.5	0	12.5	0.00030
SS Catchment 3	SS-IC3		Time of Concentration	0.00099	12.5	0	12.5	0.00012
SS Catchment 4	SS-Bypass Separator-IC4		Time of Concentration	0.00385	12.5	0	12.5	0.00048
TOTAL		**0.0**		**0.01034**				**0.00211**

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address: MWP		

Flow Options

Peak Flow Calculation	Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimize Excavation
Design Level	Level Crowns
Min. Cover Depth (m)	1.200
Min. Slope (1:x)	1000.00
Max. Slope (1:x)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☑
Reduce Channel Depths	☑

Manhole Options

Apply Offset	☐

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Title: Rainfall Analysis Criteria	Company Address: MWP		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform First Flush Analysis	☐

Rainfall

FSR

Type: FSR

Region	Scotland and Ireland
M5-60 (mm)	16.4
Ratio R	0.311
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	20.000
30.0	20.000
100.0	20.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640
5760	11520
7200	14400
8640	17280
10080	20160

ICP SUDS / IH 124

Details

Method	ICP SUDS
Area (km²)	0.00941
SAAR (mm)	1008.0
Soil	0.3
Region	Ireland South
Urban	0
Return Period (years)	0

Results

Region	QBAR Rural (L/s)	QBAR Urban (L/s)	Q 1 (years) (L/s)	Q 30 (years) (L/s)	Q 100 (years) (L/s)
Ireland South	2.6	2.6	2.2	4.2	4.8

FSR: 2 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: MWP		

Junction	Storm Event	Cover Elevation (m)	Invert Elevation (m)	Max. Elevation (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SS-IC1	FSR: 2 years: +20 %: 15 mins: Winter	55.000	54.400	54.452	0.052	4.7	0.033	0.000	4.3	2.179	OK
SS-IC2	FSR: 2 years: +20 %: 15 mins: Winter	55.000	54.170	54.216	0.046	4.3	0.030	0.000	3.8	2.155	OK
SS-IC3	FSR: 2 years: +20 %: 15 mins: Winter	55.000	54.075	54.156	0.081	10.4	0.052	0.000	9.6	5.430	OK
SS-Bypass Separator-IC4	FSR: 2 years: +20 %: 15 mins: Winter	55.000	53.945	54.041	0.096	17.8	0.062	0.000	16.6	9.269	OK
SS-Flow Control Device	FSR: 2 years: +20 %: 180 mins: Winter	55.000	53.601	53.627	0.026	1.3	0.030	0.000	1.3	20.561	OK
IPP-Flow Control Device	FSR: 2 years: +20 %: 180 mins: Winter	55.000	53.401	53.440	0.039	2.6	0.044	0.000	2.6	38.636	OK
SS/IPP-Outfall MH	FSR: 2 years: +20 %: 180 mins: Winter	55.000	53.281	53.319	0.038	2.6	0.000	0.000	2.6	38.636	OK
SS-AJ1	FSR: 2 years: +20 %: 15 mins: Winter	55.150	54.550	54.606	0.056	5.0	0.005	0.000	4.8	2.323	OK
SS-AJ2	FSR: 2 years: +20 %: 15 mins: Winter	55.150	54.235	54.290	0.055	4.8	0.005	0.000	4.7	2.318	OK
SS-IC5	FSR: 2 years: +20 %: 15 mins: Winter	55.150	54.100	54.161	0.061	4.7	0.012	0.000	4.5	2.313	OK
SS-AJ3	FSR: 2 years: +20 %: 15 mins: Summer	55.150	54.550	54.550	0.000	0.0	0.000	0.000	0.0	0.000	OK
SS-AJ4	FSR: 2 years: +20 %: 15 mins: Summer	55.150	54.350	54.350	0.000	0.0	0.000	0.000	0.0	0.000	OK
SS-IC6	FSR: 2 years: +20 %: 15 mins: Summer	55.000	54.350	54.350	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-IC1	FSR: 2 years: +20 %: 15 mins: Winter	55.000	54.400	54.458	0.058	5.7	0.037	0.000	5.5	2.669	OK
IPP-IC3	FSR: 2 years: +20 %: 15 mins: Winter	55.000	54.165	54.216	0.051	5.0	0.033	0.000	4.4	2.640	OK
IPP-MH1	FSR: 2 years: +20 %: 15 mins: Winter	55.000	54.110	54.204	0.094	14.5	0.107	0.000	13.6	7.236	OK
IPP-Bypass Separator-IC4	FSR: 2 years: +20 %: 15 mins: Winter	55.000	53.958	54.138	0.180	13.6	0.115	0.000	13.2	7.016	OK
IPP-AJ1	FSR: 2 years: +20 %: 15 mins: Summer	55.150	54.550	54.550	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-AJ2	FSR: 2 years: +20 %: 15 mins: Summer	55.150	54.385	54.385	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-IC5	FSR: 2 years: +20 %: 15 mins: Summer	55.150	54.295	54.295	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-AJ3	FSR: 2 years: +20 %: 15 mins: Summer	55.150	54.550	54.550	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-AJ4	FSR: 2 years: +20 %: 15 mins: Summer	55.150	54.335	54.335	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-IC6	FSR: 2 years: +20 %: 15 mins: Summer	55.000	54.400	54.400	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-IC2	FSR: 2 years: +20 %: 15 mins: Winter	55.000	54.262	54.318	0.056	5.5	0.036	0.000	5.0	2.660	OK

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by:	Checked by:	Approved By:
	CK/MS	CMcL	CMcL
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: MWP		

FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Elevation (m)	Invert Elevation (m)	Max. Elevation (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SS-IC1	FSR: 30 years: +20 %: 15 mins: Winter	55.000	54.400	54.471	0.071	8.6	0.045	0.000	8.0	4.003	OK
SS-IC2	FSR: 30 years: +20 %: 15 mins: Winter	55.000	54.170	54.234	0.064	8.0	0.041	0.000	7.2	3.974	OK
SS-IC3	FSR: 30 years: +20 %: 15 mins: Winter	55.000	54.075	54.189	0.114	19.4	0.073	0.000	18.1	9.965	OK
SS-Bypass Separator-IC4	FSR: 30 years: +20 %: 15 mins: Winter	55.000	53.945	54.101	0.156	33.1	0.100	0.000	31.3	16.028	OK
SS-Flow Control Device	FSR: 30 years: +20 %: 240 mins: Winter	55.000	53.601	53.630	0.029	1.5	0.033	0.000	1.5	35.297	OK
IPP-Flow Control Device	FSR: 30 years: +20 %: 240 mins: Winter	55.000	53.401	53.444	0.043	3.2	0.048	0.000	3.2	68.896	OK
SS/IPP-Outfall MH	FSR: 30 years: +20 %: 240 mins: Winter	55.000	53.281	53.323	0.042	3.2	0.000	0.000	3.2	68.896	OK
SS-AJ1	FSR: 30 years: +20 %: 15 mins: Winter	55.150	54.550	54.630	0.080	9.2	0.007	0.000	8.8	4.272	OK
SS-AJ2	FSR: 30 years: +20 %: 15 mins: Winter	55.150	54.235	54.311	0.076	8.8	0.007	0.000	8.6	4.267	OK
SS-IC5	FSR: 30 years: +20 %: 15 mins: Winter	55.150	54.100	54.194	0.094	8.6	0.019	0.000	8.3	4.263	OK
SS-AJ3	FSR: 30 years: +20 %: 15 mins: Summer	55.150	54.550	54.550	0.000	0.0	0.000	0.000	0.0	0.000	OK
SS-AJ4	FSR: 30 years: +20 %: 15 mins: Summer	55.150	54.350	54.350	0.000	0.0	0.000	0.000	0.0	0.000	OK
SS-IC6	FSR: 30 years: +20 %: 15 mins: Summer	55.000	54.350	54.350	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-IC1	FSR: 30 years: +20 %: 15 mins: Winter	55.000	54.400	54.480	0.080	10.6	0.051	0.000	10.1	4.902	OK
IPP-IC3	FSR: 30 years: +20 %: 15 mins: Winter	55.000	54.165	54.252	0.087	9.5	0.056	0.000	7.7	4.530	OK
IPP-MH1	FSR: 30 years: +20 %: 15 mins: Winter	55.000	54.110	54.243	0.133	26.3	0.150	0.000	24.8	12.569	OK
IPP-Bypass Separator-IC4	FSR: 30 years: +20 %: 15 mins: Winter	55.000	53.958	54.243	0.285	24.8	0.182	0.000	24.1	12.145	OK
IPP-AJ1	FSR: 30 years: +20 %: 15 mins: Summer	55.150	54.550	54.550	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-AJ2	FSR: 30 years: +20 %: 15 mins: Summer	55.150	54.385	54.385	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-IC5	FSR: 30 years: +20 %: 120 mins: Winter	55.150	54.295	54.353	0.058	0.1	0.012	0.000	0.1	0.166	OK
IPP-AJ3	FSR: 30 years: +20 %: 15 mins: Summer	55.150	54.550	54.550	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-AJ4	FSR: 30 years: +20 %: 120 mins: Winter	55.150	54.335	54.353	0.018	0.0	0.002	0.000	0.0	0.021	OK
IPP-IC6	FSR: 30 years: +20 %: 15 mins: Summer	55.000	54.400	54.400	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-IC2	FSR: 30 years: +20 %: 15 mins: Winter	55.000	54.262	54.338	0.076	10.1	0.049	0.000	9.5	4.901	OK

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: MWP		

FSR: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Elevation (m)	Invert Elevation (m)	Max. Elevation (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SS-IC1	FSR: 100 years: +20 %: 15 mins: Winter	55.000	54.400	54.481	0.081	11.2	0.052	0.000	10.5	5.198	OK
SS-IC2	FSR: 100 years: +20 %: 15 mins: Winter	55.000	54.170	54.244	0.074	10.5	0.047	0.000	9.5	5.174	OK
SS-IC3	FSR: 100 years: +20 %: 15 mins: Winter	55.000	54.075	54.207	0.132	25.3	0.085	0.000	23.7	12.592	OK
SS-Bypass Separator-IC4	FSR: 100 years: +20 %: 15 mins: Winter	55.000	53.945	54.169	0.224	43.2	0.144	0.000	41.0	20.306	OK
SS-Flow Control Device	FSR: 100 years: +20 %: 240 mins: Winter	55.000	53.601	53.631	0.030	1.7	0.034	0.000	1.7	39.093	OK
IPP-Flow Control Device	FSR: 100 years: +20 %: 240 mins: Winter	55.000	53.401	53.445	0.044	3.4	0.050	0.000	3.4	78.033	OK
SS/IPP-Outfall MH	FSR: 100 years: +20 %: 240 mins: Winter	55.000	53.281	53.324	0.043	3.4	0.000	0.000	3.4	78.033	OK
SS-AJ1	FSR: 100 years: +20 %: 15 mins: Winter	55.150	54.550	54.645	0.095	12.0	0.009	0.000	11.5	5.545	OK
SS-AJ2	FSR: 100 years: +20 %: 15 mins: Winter	55.150	54.235	54.323	0.088	11.5	0.008	0.000	11.2	5.540	OK
SS-IC5	FSR: 100 years: +20 %: 15 mins: Winter	55.150	54.100	54.213	0.113	11.2	0.023	0.000	10.8	5.468	OK
SS-AJ3	FSR: 100 years: +20 %: 15 mins: Summer	55.150	54.550	54.550	0.000	0.0	0.000	0.000	0.0	0.000	OK
SS-AJ4	FSR: 100 years: +20 %: 240 mins: Winter	55.150	54.350	54.371	0.021	0.0	0.002	0.000	0.0	0.046	OK
SS-IC6	FSR: 100 years: +20 %: 180 mins: Winter	55.000	54.350	54.367	0.017	0.0	0.011	0.000	0.0	0.038	OK
IPP-IC1	FSR: 100 years: +20 %: 15 mins: Winter	55.000	54.400	54.492	0.092	13.7	0.059	0.000	13.2	6.375	OK
IPP-IC3	FSR: 100 years: +20 %: 15 mins: Winter	55.000	54.165	54.296	0.131	12.5	0.084	0.000	10.2	5.492	OK
IPP-MH1	FSR: 100 years: +20 %: 15 mins: Winter	55.000	54.110	54.296	0.186	34.3	0.211	0.000	32.5	15.771	OK
IPP-Bypass Separator-IC4	FSR: 100 years: +20 %: 15 mins: Winter	55.000	53.958	54.297	0.339	32.5	0.217	0.000	31.6	15.262	Surcharged
IPP-AJ1	FSR: 100 years: +20 %: 15 mins: Summer	55.150	54.550	54.550	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-AJ2	FSR: 100 years: +20 %: 120 mins: Winter	55.150	54.385	54.428	0.043	0.1	0.004	0.000	0.0	0.072	OK
IPP-IC5	FSR: 100 years: +20 %: 120 mins: Winter	55.150	54.295	54.428	0.133	0.5	0.027	0.000	0.1	0.769	OK

IPP-AJ3	FSR: 100 years: +20 %: 15 mins: Summer	55.150	54.550	54.550	0.000	0.0	0.000	0.000	0.0	0.000	OK
IPP-AJ4	FSR: 100 years: +20 %: 120 mins: Winter	55.150	54.335	54.428	0.093	0.2	0.008	0.000	0.0	0.149	OK
IPP-IC6	FSR: 100 years: +20 %: 120 mins: Winter	55.000	54.400	54.428	0.028	0.1	0.018	0.000	0.1	0.100	OK
IPP-IC2	FSR: 100 years: +20 %: 15 mins: Winter	55.000	54.262	54.348	0.086	13.2	0.055	0.000	12.5	6.303	OK

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: MWP		

FSR: 2 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Stormwater Control	Storm Event	Max. US Elevation (m)	Max. DS Elevation (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
SS Tank	FSR: 2 years: +20 %: 180 mins: Winter	54.086	54.086	0.437	0.437	5.4	13.891	0.000	0.000	1.3	20.632	74.646	OK
IPP Tank	FSR: 2 years: +20 %: 120 mins: Winter	54.216	54.216	0.290	0.290	5.3	9.531	0.000	0.000	1.3	13.730	75.639	OK

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: MWP		

FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Stormwater Control	Storm Event	Max. US Elevation (m)	Max. DS Elevation (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
SS Tank	FSR: 30 years: +20 %: 240 mins: Winter	54.273	54.273	0.624	0.624	7.2	26.330	0.000	0.000	1.5	35.388	51.945	OK
IPP Tank	FSR: 30 years: +20 %: 180 mins: Winter	54.356	54.356	0.430	0.430	6.2	17.707	0.000	0.000	1.6	26.891	54.742	OK

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: MWP		

FSR: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Stormwater Control	Storm Event	Max. US Elevation (m)	Max. DS Elevation (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
SS Tank	FSR: 100 years: +20 %: 240 mins: Winter	54.370	54.370	0.721	0.721	8.7	34.877	0.000	0.000	1.7	39.193	36.344	OK
IPP Tank	FSR: 100 years: +20 %: 240 mins: Winter	54.432	54.432	0.506	0.506	6.6	23.305	0.000	0.000	1.8	39.086	40.432	OK

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: MWP		

FSR: 2 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Elevation (m)	Max. US Water Elevation (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S1.000	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	SS-IC1	SS-IC2	55.000	54.452	0.049	2.179	0.6	0.06	4.3	OK
S1.001	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	SS-IC2	SS-IC3	55.000	54.216	0.064	2.155	0.3	0.05	3.8	OK
S1.002	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	SS-IC3	SS-Bypass Separator-IC4	55.000	54.156	0.077	5.430	0.7	0.14	9.6	OK
S1.004	FSR: 2 years: +20 %: 180 mins: Winter	Pipe	SS Tank	SS-Flow Control Device	55.000	54.086	0.027	20.607	0.5	0.03	1.3	Surcharged
S1.005	FSR: 2 years: +20 %: 180 mins: Winter	Pipe	SS-Flow Control Device	IPP-Flow Control Device	55.000	53.627	0.032	20.561	0.4	0.03	1.3	OK
S1.006	FSR: 2 years: +20 %: 180 mins: Winter	Pipe	IPP-Flow Control Device	SS/IPP-Outfall MH	55.000	53.440	0.038	38.636	0.6	0.06	2.6	OK
S2.000	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	SS-AJ1	SS-AJ2	55.150	54.606	0.055	2.323	0.8	0.28	4.8	OK
S2.001	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	SS-AJ2	SS-IC5	55.150	54.290	0.054	2.318	0.6	0.12	4.7	OK
S2.002	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	SS-IC5	SS-IC3	55.150	54.161	0.071	2.313	0.3	0.06	4.5	OK
S3.000	FSR: 2 years: +20 %: 15 mins: Summer	Pipe	SS-AJ3	SS-AJ4	55.150	54.550	0.000	0.000	0.0	0	0.0	OK
S3.001	FSR: 2 years: +20 %: 15 mins: Summer	Pipe	SS-AJ4	SS-IC5	55.150	54.350	0.000	0.000	0.0	0	0.0	OK
S4.000	FSR: 2 years: +20 %: 15 mins: Summer	Pipe	SS-IC6	SS-IC3	55.000	54.350	0.000	0.000	0.0	0	0.0	OK
S5.002	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	IPP-IC3	IPP-MH1	55.000	54.216	0.073	2.640	0.4	0.06	4.4	OK
S5.003	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	IPP-MH1	IPP-Bypass Separator-IC4	55.000	54.204	0.091	7.236	0.7	0.19	13.6	OK
S5.005	FSR: 2 years: +20 %: 120 mins: Winter	Pipe	IPP Tank	IPP-Flow Control Device	55.000	54.216	0.025	13.707	0.5	0.02	1.3	Surcharged
S6.000	FSR: 2 years: +20 %: 15 mins: Summer	Pipe	IPP-AJ1	IPP-AJ2	55.150	54.550	0.000	0.000	0.0	0	0.0	OK
S6.001	FSR: 2 years: +20 %: 15 mins: Summer	Pipe	IPP-AJ2	IPP-IC5	55.150	54.385	0.000	0.000	0.0	0	0.0	OK
S6.002	FSR: 2 years: +20 %: 15 mins: Summer	Pipe	IPP-IC5	IPP-MH1	55.150	54.295	0.000	0.000	0.0	0	0.0	OK

S7.000	FSR: 2 years: +20 %: 15 mins: Summer	Pipe	IPP-AJ3	IPP-AJ4	55.150	54.550	0.000	0.000	0.0	0	0.0	OK
S7.001	FSR: 2 years: +20 %: 15 mins: Summer	Pipe	IPP-AJ4	IPP-IC5	55.150	54.335	0.000	0.000	0.0	0	0.0	OK
S8.000	FSR: 2 years: +20 %: 15 mins: Summer	Pipe	IPP-IC6	IPP-IC3	55.000	54.400	0.020	0.000	0.0	0	0.0	OK
S5.004	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	IPP-Bypass Separator-IC4	IPP Tank	55.000	54.138	0.196	7.016	0.9	0.17	13.2	OK
S1.003	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	SS-Bypass Separator-IC4	SS Tank	55.000	54.041	0.179	9.269	0.7	0.22	16.6	OK
S5.000	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	IPP-IC1	IPP-IC2	55.000	54.458	0.057	2.669	0.6	0.08	5.5	OK
S5.001	FSR: 2 years: +20 %: 15 mins: Winter	Pipe	IPP-IC2	IPP-IC3	55.000	54.318	0.053	2.660	0.6	0.07	5.0	OK

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: MWP		

FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Elevation (m)	Max. US Water Elevation (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S1.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	SS-IC1	SS-IC2	55.000	54.471	0.067	4.003	0.7	0.11	8.0	OK
S1.001	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	SS-IC2	SS-IC3	55.000	54.234	0.089	3.974	0.4	0.1	7.2	OK
S1.002	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	SS-IC3	SS-Bypass Separator-IC4	55.000	54.189	0.108	9.965	0.8	0.27	18.1	OK
S1.004	FSR: 30 years: +20 %: 240 mins: Winter	Pipe	SS Tank	SS-Flow Control Device	55.000	54.273	0.030	35.357	0.5	0.04	1.5	Surcharged
S1.005	FSR: 30 years: +20 %: 240 mins: Winter	Pipe	SS-Flow Control Device	IPP-Flow Control Device	55.000	53.630	0.036	35.297	0.4	0.04	1.5	OK
S1.006	FSR: 30 years: +20 %: 240 mins: Winter	Pipe	IPP-Flow Control Device	SS/IPP-Outfall MH	55.000	53.444	0.042	68.896	0.6	0.07	3.2	OK
S2.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	SS-AJ1	SS-AJ2	55.150	54.630	0.079	4.272	0.9	0.52	8.8	OK
S2.001	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	SS-AJ2	SS-IC5	55.150	54.311	0.074	4.267	0.8	0.22	8.6	OK
S2.002	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	SS-IC5	SS-IC3	55.150	54.194	0.104	4.263	0.4	0.12	8.3	OK
S3.000	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	SS-AJ3	SS-AJ4	55.150	54.550	0.000	0.000	0.0	0	0.0	OK
S3.001	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	SS-AJ4	SS-IC5	55.150	54.350	0.000	0.000	0.0	0	0.0	OK
S4.000	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	SS-IC6	SS-IC3	55.000	54.350	0.006	0.000	0.0	0	0.0	OK
S5.002	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	IPP-IC3	IPP-MH1	55.000	54.252	0.109	4.530	0.3	0.11	7.7	OK
S5.003	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	IPP-MH1	IPP-Bypass Separator-IC4	55.000	54.243	0.159	12.569	0.9	0.35	24.8	OK

S5.005	FSR: 30 years: +20 %: 180 mins: Winter	Pipe	IPP Tank	IPP-Flow Control Device	55.000	54.356	0.028	26.863	0.6	0.03	1.6	Surcharged
S6.000	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	IPP-AJ1	IPP-AJ2	55.150	54.550	0.000	0.000	0.0	0	0.0	OK
S6.001	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	IPP-AJ2	IPP-IC5	55.150	54.385	0.000	0.000	0.0	0	0.0	OK
S6.002	FSR: 30 years: +20 %: 120 mins: Winter	Pipe	IPP-IC5	IPP-MH1	55.150	54.353	0.113	0.000	0.0	0	0.1	OK
S7.000	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	IPP-AJ3	IPP-AJ4	55.150	54.550	0.000	0.000	0.0	0	0.0	OK
S7.001	FSR: 30 years: +20 %: 120 mins: Winter	Pipe	IPP-AJ4	IPP-IC5	55.150	54.353	0.038	0.000	0.0	0	0.0	OK
S8.000	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	IPP-IC6	IPP-IC3	55.000	54.400	0.028	0.000	0.0	0	0.0	OK
S5.004	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	IPP-Bypass Separator-IC4	IPP Tank	55.000	54.243	0.300	12.145	1.0	0.32	24.1	OK
S1.003	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	SS-Bypass Separator-IC4	SS Tank	55.000	54.101	0.300	16.028	0.8	0.42	31.3	OK
S5.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	IPP-IC1	IPP-IC2	55.000	54.480	0.078	4.902	0.7	0.15	10.1	OK
S5.001	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	IPP-IC2	IPP-IC3	55.000	54.338	0.082	4.901	0.6	0.14	9.5	OK

Project:	Date:		
22635 Greensource-Ballinlee WF-Surface Water Design	05/06/2025		
	Designed by: CK/MS	Checked by: CMcL	Approved By: CMcL
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: MWP		

FSR: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Elevation (m)	Max. US Water Elevation (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S1.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	SS-IC1	SS-IC2	55.000	54.481	0.077	5.198	0.7	0.15	10.5	OK
S1.001	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	SS-IC2	SS-IC3	55.000	54.244	0.103	5.174	0.4	0.13	9.5	OK
S1.002	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	SS-IC3	SS-Bypass Separator-IC4	55.000	54.207	0.125	12.592	0.9	0.35	23.7	OK
S1.004	FSR: 100 years: +20 %: 240 mins: Winter	Pipe	SS Tank	SS-Flow Control Device	55.000	54.370	0.031	39.160	0.5	0.04	1.7	Surcharged
S1.005	FSR: 100 years: +20 %: 240 mins: Winter	Pipe	SS-Flow Control Device	IPP-Flow Control Device	55.000	53.631	0.037	39.093	0.4	0.04	1.7	OK
S1.006	FSR: 100 years: +20 %: 240 mins: Winter	Pipe	IPP-Flow Control Device	SS/IPP-Outfall MH	55.000	53.445	0.044	78.033	0.6	0.08	3.4	OK
S2.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	SS-AJ1	SS-AJ2	55.150	54.645	0.093	5.545	1.0	0.68	11.5	OK
S2.001	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	SS-AJ2	SS-IC5	55.150	54.323	0.086	5.540	0.8	0.29	11.2	OK
S2.002	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	SS-IC5	SS-IC3	55.150	54.213	0.122	5.468	0.4	0.15	10.8	OK
S3.000	FSR: 100 years: +20 %: 15 mins: Summer	Pipe	SS-AJ3	SS-AJ4	55.150	54.550	0.000	0.000	0.0	0	0.0	OK
S3.001	FSR: 100 years: +20 %: 240 mins: Winter	Pipe	SS-AJ4	SS-IC5	55.150	54.371	0.108	0.000	0.0	0	0.0	OK
S4.000	FSR: 100 years: +20 %: 180 mins: Winter	Pipe	SS-IC6	SS-IC3	55.000	54.367	0.117	0.000	0.0	0	0.0	OK
S5.002	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	IPP-IC3	IPP-MH1	55.000	54.296	0.159	5.492	0.3	0.15	10.2	OK
S5.003	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	IPP-MH1	IPP-Bypass Separator-IC4	55.000	54.296	0.213	15.769	1.0	0.45	32.5	OK

S5.005	FSR: 100 years: +20 %: 240 mins: Winter	Pipe	IPP Tank	IPP-Flow Control Device	55.000	54.432	0.029	39.058	0.6	0.03	1.8	Surcharged
S6.000	FSR: 100 years: +20 %: 15 mins: Summer	Pipe	IPP-AJ1	IPP-AJ2	55.150	54.550	0.000	0.000	0.0	0	0.0	OK
S6.001	FSR: 100 years: +20 %: 120 mins: Winter	Pipe	IPP-AJ2	IPP-IC5	55.150	54.428	0.088	0.000	0.0	0	0.0	OK
S6.002	FSR: 100 years: +20 %: 120 mins: Winter	Pipe	IPP-IC5	IPP-MH1	55.150	54.428	0.188	0.000	0.0	0	0.1	OK
S7.000	FSR: 100 years: +20 %: 15 mins: Summer	Pipe	IPP-AJ3	IPP-AJ4	55.150	54.550	0.000	0.000	0.0	0	0.0	OK
S7.001	FSR: 100 years: +20 %: 120 mins: Winter	Pipe	IPP-AJ4	IPP-IC5	55.150	54.428	0.113	0.000	0.0	0	0.0	OK
S8.000	FSR: 100 years: +20 %: 120 mins: Winter	Pipe	IPP-IC6	IPP-IC3	55.000	54.428	0.145	0.000	0.0	0	0.1	OK
S5.004	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	IPP-Bypass Separator-IC4	IPP Tank	55.000	54.297	0.300	15.262	1.0	0.41	31.6	Surcharged
S1.003	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	SS-Bypass Separator-IC4	SS Tank	55.000	54.169	0.300	20.304	0.8	0.55	41.0	OK
S5.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	IPP-IC1	IPP-IC2	55.000	54.492	0.089	6.375	0.8	0.19	13.2	OK
S5.001	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	IPP-IC2	IPP-IC3	55.000	54.348	0.098	6.303	0.6	0.18	12.5	OK