Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company Address:		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SWMH04	Manhole	384237.183	397476.996	31.900	1.208	30.692	Circular	0.450
SWMH02	Manhole	384235.304	397480.720	31.900	1.250	30.650	Circular	0.450
SWMH01	Manhole	384231.810	397487.186	31.900	1.195	30.705	Circular	0.450
SWIC05 CONTROL	Manhole	384232.629	397477.240	31.450	0.844	30.606	Circular	0.600
SWMH03	Manhole	384242.487	397480.483	31.900	1.188	30.712	Circular	0.450
OUTFALL	Manhole	384231.078	397475.079	31.490	0.911	30.579	Circular	1.050

Name	Lock
SWMH04	None
SWMH02	None
SWMH01	None
SWIC05 CONTROL	None
SWMH03	None
OUTFALL	None

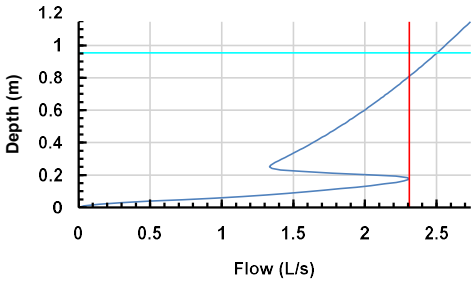
Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
SWMH04	Inlet (1)	1st Floor Flat Roof	(None)	No Restriction
SWMH02	Inlet	SW1.003	(None)	No Restriction
	Inlet (1)	SW1.002	(None)	No Restriction
	Inlet (2)	SW1.000	(None)	No Restriction
SWMH01	Inlet (1)	Blue Roof Outlet	(None)	No Restriction
SWIC05 CONTROL	Inlet	SW1.001	(None)	No Restriction
SWMH03	Inlet	9th Floor Flat Roof	(None)	No Restriction
OUTFALL	Inlet	SW1.004	(None)	No Restriction

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SWMH04	Outlet	SW1.003	Free Discharge
SWMH02	Outlet	SW1.001	Free Discharge
SWMH01	Outlet	SW1.000	Free Discharge
SWIC05 CONTROL	Outlet	SW1.004	Hydro-Brake®

Invert Level (m)	30.606
Design Depth (m)	0.954
Design Flow (L/s)	2.5
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☐
Unit Reference	CHE-0073-2500-0954-2500



SWMH03	Outlet	SW1.002	Free Discharge

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	76.500
Depth (m)	0.085
Base Level (m)	76.380
Number of Crates Long	12
Number of Crates Wide	12
Number of Crates High	1
Porosity (%)	100
Crate Length (m)	1
Crate Width (m)	1
Crate Height (m)	0.085
Total Volume (m^3)	12.275

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	15th Floor Blue Roof
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Blue Roof Outlet
Outlet Type	Orifice
Diameter (m)	0.052
Coefficient of Discharge	0.600
Invert Level (m)	76.380

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	Company Address:		

Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
SW1.003	4.171	Pipe	99.302		0.6	150	31.900	30.692
SW1.002	7.186	Pipe	115.911		0.6	150	31.900	30.712
SW1.001	4.389	Pipe	99.751		0.6	150	31.900	30.650
SW1.000	7.350	Pipe	133.638		0.6	150	31.900	30.705
SW1.004	2.660	Pipe	98.529		0.6	150	31.450	30.606
Blue Roof Outlet	1.035	Pipe	0.023		0.6	150	76.500	76.380

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Part Family	Lock	Flow Restriction (L/s)	Culvert Type	Culvert Entrance
SW1.003	31.900	30.650		All		(None)	(None)
SW1.002	31.900	30.650		All		(None)	(None)
SW1.001	31.450	30.606		All		(None)	(None)
SW1.000	31.900	30.650		All		(None)	(None)
SW1.004	31.490	30.579		All	2.4	(None)	(None)
Blue Roof Outlet	31.900	30.705		None	1.7	(None)	(None)

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Phase	Company Address:		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
1st Floor Flat Roof	SWMH04		Time of Concentration	0.004	100	0	100	0.004
9th Floor Flat Roof	SWMH03		Time of Concentration	0.006	100	0	100	0.006
15th Floor Blue Roof	Cellular Storage		Time of Concentration	0.025	100	0	100	0.025
TOTAL		**0.0**		**0.035**				**0.035**

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address:		

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
OUTFALL	Free Discharge			

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Title: Rainfall Analysis Criteria	Company Address:		

Runoff Type	Dynamic
Output Interval (mins)	1
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		

FSR 1: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (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
SWMH04	FSR 1: 2 years: +0 %: 15 mins: Summer	31.900	30.692	30.717	0.025	0.7	0.004	0.000	0.7	0.306	OK
SWMH02	FSR 1: 2 years: +0 %: 15 mins: Summer	31.900	30.650	30.715	0.065	1.8	0.010	0.000	1.4	0.878	OK
SWMH01	FSR 1: 2 years: +0 %: 240 mins: Summer	31.900	30.705	30.719	0.014	0.3	0.002	0.000	0.3	3.478	OK
SWIC05 CONTROL	FSR 1: 2 years: +0 %: 15 mins: Summer	31.450	30.606	30.714	0.108	1.4	0.031	0.000	1.3	0.843	OK
SWMH03	FSR 1: 2 years: +0 %: 15 mins: Summer	31.900	30.712	30.737	0.025	1.1	0.004	0.000	1.1	0.461	OK
OUTFALL	FSR 1: 2 years: +0 %: 15 mins: Summer	31.490	30.579	30.607	0.028	1.3	0.000	0.000	1.3	0.833	OK

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		

FSR 1: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (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
SWMH04	FSR 1: 30 years: +20 %: 15 mins: Summer	31.900	30.692	30.803	0.111	1.6	0.018	0.000	1.2	0.696	OK
SWMH02	FSR 1: 30 years: +20 %: 15 mins: Summer	31.900	30.650	30.803	0.153	3.4	0.024	0.000	2.4	2.202	Surcharged
SWMH01	FSR 1: 30 years: +20 %: 240 mins: Summer	31.900	30.705	30.735	0.030	0.8	0.005	0.000	0.8	9.321	OK
SWIC05 CONTROL	FSR 1: 30 years: +20 %: 30 mins: Summer	31.450	30.606	30.806	0.200	2.4	0.057	0.000	2.3	3.476	Surcharged
SWMH03	FSR 1: 30 years: +20 %: 15 mins: Summer	31.900	30.712	30.803	0.091	2.4	0.014	0.000	2.2	1.045	OK
OUTFALL	FSR 1: 30 years: +20 %: 30 mins: Summer	31.490	30.579	30.615	0.036	2.3	0.000	0.000	2.3	3.456	OK

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		

FSR 1: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (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
SWMH04	FSR 1: 100 years: +45 %: 15 mins: Summer	31.900	30.692	30.974	0.282	2.5	0.045	0.000	1.6	0.860	Surcharged
SWMH02	FSR 1: 100 years: +45 %: 15 mins: Summer	31.900	30.650	30.974	0.324	4.6	0.052	0.000	3.2	2.725	Surcharged
SWMH01	FSR 1: 100 years: +45 %: 240 mins: Summer	31.900	30.705	30.837	0.132	1.3	0.021	0.000	1.3	15.371	OK
SWIC05 CONTROL	FSR 1: 100 years: +45 %: 240 mins: Summer	31.450	30.606	30.835	0.229	2.4	0.065	0.000	2.3	22.276	Surcharged
SWMH03	FSR 1: 100 years: +45 %: 15 mins: Summer	31.900	30.712	30.974	0.262	3.8	0.042	0.000	3.0	1.425	Surcharged
OUTFALL	FSR 1: 100 years: +45 %: 240 mins: Summer	31.490	30.579	30.615	0.036	2.3	0.000	0.000	2.3	22.264	OK

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

FSR 1: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Total Lost Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Percentage Available (%)	Status
Cellular Storage	FSR 1: 2 years: +0 %: 240 mins: Summer	76.403	76.403	0.023	0.023	1.4	3.277	0.000	0.000	0.3	3.487	73.305	OK

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

FSR 1: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (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
Cellular Storage	FSR 1: 30 years: +20 %: 240 mins: Summer	76.429	76.429	0.049	0.049	3.0	7.038	0.000	0.000	0.8	9.333	42.660	OK

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

FSR 1: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (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
Cellular Storage	FSR 1: 100 years: +45 %: 240 mins: Summer	76.456	76.456	0.076	0.076	4.8	10.879	0.000	0.000	1.3	15.385	11.372	OK

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		

FSR 1: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m^3)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
SW1.003	FSR 1: 2 years: +0 %: 15 mins: Summer	Pipe	SWMH04	SWMH02	31.900	30.717	0.045	0.306	0.3	0.04	0.7	OK
SW1.002	FSR 1: 2 years: +0 %: 15 mins: Summer	Pipe	SWMH03	SWMH02	31.900	30.737	0.044	0.461	0.4	0.06	1.1	OK
SW1.001	FSR 1: 2 years: +0 %: 15 mins: Summer	Pipe	SWMH02	SWIC05 CONTROL	31.900	30.715	0.087	0.874	0.4	0.08	1.4	OK
SW1.000	FSR 1: 2 years: +0 %: 240 mins: Summer	Pipe	SWMH01	SWMH02	31.900	30.719	0.018	3.478	0.3	0.02	0.3	OK
SW1.004	FSR 1: 2 years: +0 %: 15 mins: Summer	Pipe	SWIC05 CONTROL	OUTFALL	31.450	30.714	0.029	0.833	0.6	0.07	1.3	OK
Blue Roof Outlet	FSR 1: 2 years: +0 %: 240 mins: Summer	Pipe	Cellular Storage	SWMH01	76.500	76.403	0.008	3.486	0.7	0	0.3	OK

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		

FSR 1: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m^3)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
SW1.003	FSR 1: 30 years: +20 %: 15 mins: Summer	Pipe	SWMH04	SWMH02	31.900	30.803	0.132	0.696	0.3	0.07	1.2	OK
SW1.002	FSR 1: 30 years: +20 %: 15 mins: Summer	Pipe	SWMH03	SWMH02	31.900	30.803	0.122	1.045	0.4	0.14	2.2	OK
SW1.001	FSR 1: 30 years: +20 %: 15 mins: Summer	Pipe	SWMH02	SWIC05 CONTROL	31.900	30.803	0.150	2.133	0.5	0.14	2.4	Surcharged
SW1.000	FSR 1: 30 years: +20 %: 240 mins: Summer	Pipe	SWMH01	SWMH02	31.900	30.735	0.057	9.321	0.4	0.05	0.8	OK
SW1.004	FSR 1: 30 years: +20 %: 30 mins: Summer	Pipe	SWIC05 CONTROL	OUTFALL	31.450	30.806	0.037	3.456	0.7	0.13	2.3	Surcharged
Blue Roof Outlet	FSR 1: 30 years: +20 %: 240 mins: Summer	Pipe	Cellular Storage	SWMH01	76.500	76.429	0.017	9.331	1.1	0	0.8	OK

Project:	Date: 17/06/2025		
	Designed by: Ethan.Worrall	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		

FSR 1: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m^3)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
SW1.003	FSR 1: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH04	SWMH02	31.900	30.974	0.150	0.860	0.3	0.09	1.6	Surcharged
SW1.002	FSR 1: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH03	SWMH02	31.900	30.974	0.150	1.425	0.4	0.18	3.0	Surcharged
SW1.001	FSR 1: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH02	SWIC05 CONTROL	31.900	30.974	0.150	2.552	0.6	0.18	3.2	Surcharged
SW1.000	FSR 1: 100 years: +45 %: 240 mins: Summer	Pipe	SWMH01	SWMH02	31.900	30.837	0.150	15.371	0.4	0.09	1.3	OK
SW1.004	FSR 1: 100 years: +45 %: 240 mins: Summer	Pipe	SWIC05 CONTROL	OUTFALL	31.450	30.835	0.038	22.264	0.7	0.13	2.3	Surcharged
Blue Roof Outlet	FSR 1: 100 years: +45 %: 240 mins: Summer	Pipe	Cellular Storage	SWMH01	76.500	76.456	0.067	15.384	1.2	0	1.3	OK