

Project: Hanson Springs Gorrels Way Rochdale	Date: 11/02/2025		
	Designed by: PSS	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Proposed Site	Company Address: 1st Floor, Unit 1 Millbank House, Riverside Business Park Wilmslow. Cheshire. SK9 1BJ		


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Extension Roof

Type : Catchment Area

Area (ha)	0.018
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.750
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Existing Building & Extension

Type : Catchment Area

Area (ha)	0.078
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.750
Time of Concentration (mins)	5
Percentage Impervious (%)	100



New Building front

Type : Catchment Area

Area (ha)	0.202
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.750
Time of Concentration (mins)	5
Percentage Impervious (%)	100



New Building rear

Type : Catchment Area

Area (ha)	0.08
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.750
Time of Concentration (mins)	5
Percentage Impervious (%)	100

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Extension Roof 1

Type : Catchment Area

Area (ha)	0.016
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.750
Time of Concentration (mins)	5
Percentage Impervious (%)	100

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Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SWMH J	Manhole	388964.010	411554.295	135.940	1.500	134.440	Circular	1.200
SWMH G	Manhole	388950.747	411532.007	135.900	1.500	134.400	Circular	1.200
SWMH H	Manhole	388959.878	411532.239	135.900	1.500	134.400	Circular	1.200
SWMH D	Manhole	388911.313	411529.727	136.350	1.225	135.125	Circular	1.200
SWMH E	Manhole	388943.403	411501.070	135.900	1.225	134.675	Circular	1.200
SWMH F	Manhole	388938.698	411493.725	135.900	1.280	134.620	Circular	1.200
SWMH A	Manhole	388889.075	411504.701	136.000	1.225	134.775	Circular	1.200
SWMH B	Manhole	388927.125	411478.267	136.000	1.493	134.507	Circular	1.200
SWMH C	Manhole	388930.817	411483.273	135.800	1.319	134.481	Circular	1.200

Name	Access Required	Intersection Easting (m)	Intersection Northing (m)	Lock
SWMH J	☒	388964.010	411554.295	None
SWMH G	☒	388950.747	411532.007	None
SWMH H	☒	388959.878	411532.239	None
SWMH D	☒	388911.313	411529.727	None
SWMH E	☒	388943.403	411501.070	None
SWMH F	☒	388938.698	411493.725	None
SWMH A	☒	388889.075	411504.701	None
SWMH B	☒	388927.125	411478.267	None
SWMH C	☐			None

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
SWMH J	Inlet	Existing Building & Extension	(None)	No Restriction
SWMH G	Inlet	Extension Roof	(None)	No Restriction
SWMH H	Inlet	Extension Roof 1	(None)	No Restriction
SWMH D	Inlet	New Building front	(None)	No Restriction
SWMH E	Inlet	Pipe (3)	(None)	No Restriction
SWMH F	Inlet	Pipe (4)	(None)	No Restriction
SWMH A	Inlet	New Building rear	(None)	No Restriction
SWMH B	Inlet	Pipe (6)	(None)	No Restriction
SWMH C	Inlet	Pipe (7)	(None)	No Restriction

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SWMH J	Outlet	Pipe	Free Discharge
SWMH G	Outlet	Pipe (1)	Free Discharge
SWMH H	Outlet	Pipe (2)	Free Discharge
SWMH D	Outlet	Pipe (3)	Free Discharge
SWMH E	Outlet	Pipe (4)	Free Discharge
SWMH F	Outlet	Pipe (5)	Free Discharge
SWMH A	Outlet	Pipe (6)	Free Discharge
SWMH B	Outlet	Pipe (7)	Free Discharge
SWMH C	Outlet	Pipe (8)	Free Discharge

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Soakaway C

Type : Soakaway

Dimensions

Exceedance Level (m)	135.750
Depth (m)	2.000
Base Level (m)	133.750
Freeboard (mm)	250
Soakaway Shape	Rectangular
Diameter / Width (m)	9.000
Length (m)	9.000
Porosity (%)	95
Ineffective Storage Depth (m)	1.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.018
Side Infiltration Rate (m/hr)	0.018
Safety Factor	2.0
Total Volume (m³)	76.950

Inlets

Inlet

Incoming Item(s)	Pipe
Bypass Destination	(None)
Capacity Type	No Restriction



Soakaway B

Type : Soakaway

Dimensions

Exceedance Level (m)	135.900
Depth (m)	2.000
Base Level (m)	133.900
Freeboard (mm)	250
Soakaway Shape	Rectangular
Diameter / Width (m)	5.500
Length (m)	8.000
Porosity (%)	95
Ineffective Storage Depth (m)	1.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.0018
Side Infiltration Rate (m/hr)	0.0018
Safety Factor	2.0
Total Volume (m³)	41.800

Inlets

Inlet

Incoming Item(s)	Pipe (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Incoming Item(s)	Pipe (2)
Bypass Destination	(None)
Capacity Type	No Restriction

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Soakaway A

Type : Soakaway

Dimensions

Exceedance Level (m)	135.850
Depth (m)	2.850
Base Level (m)	133.000
Freeboard (mm)	0
Soakaway Shape	Rectangular
Diameter / Width (m)	17.000
Length (m)	16.000
Porosity (%)	95
Ineffective Storage Depth (m)	1.850
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.018
Side Infiltration Rate (m/hr)	0.018
Safety Factor	2.0
Total Volume (m³)	258.400

Inlets

Inlet

Incoming Item(s)	Pipe (5)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Incoming Item(s)	Pipe (8)
Bypass Destination	(None)
Capacity Type	No Restriction

Project: Hanson Springs Gorrels Way Rochdale		Date: 11/02/2025		 SWF CONSULTING	
Report Details: Type: Connections Storm Phase: Proposed Site		Designed by: PSS	Checked by:		Approved By:
		Company Address: 1st Floor, Unit 1 Millbank House, Riverside Business Park Wilmslow. Cheshire. SK9 1BJ			

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)
Pipe	10.302	Pipe	14.930		0.6	225	135.940	134.440
Pipe (1)	2.422	Pipe	4.844		0.6	150	135.900	134.400
Pipe (2)	6.621	Pipe	13.243		0.6	150	135.900	134.400
Pipe (3)	43.024	Pipe	95.609		0.6	300	136.350	135.125
Pipe (4)	8.722	Pipe	160.000		0.6	300	135.900	134.675
Pipe (5)	14.141	Pipe	8.727		0.6	300	135.900	134.620
Pipe (6)	46.331	Pipe	172.847		0.6	225	136.000	134.775
Pipe (7)	6.221	Pipe	240.000		0.6	225	136.000	134.507
Pipe (8)	14.385	Pipe	9.713		0.6	225	135.800	134.481

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Part Family	Lock	Min. Downstream Invert Level (m)	Culvert Type	Culvert Entrance
Pipe	135.750	133.750		None	0.000	(None)	(None)
Pipe (1)	135.900	133.900		None	0.000	(None)	(None)
Pipe (2)	135.900	133.900		None	0.000	(None)	(None)
Pipe (3)	135.900	134.675		None	0.000	(None)	(None)
Pipe (4)	135.900	134.620		None	0.000	(None)	(None)
Pipe (5)	135.850	133.000		None	0.000	(None)	(None)
Pipe (6)	136.000	134.507		None	0.000	(None)	(None)
Pipe (7)	135.800	134.481		None	0.000	(None)	(None)
Pipe (8)	135.850	133.000		None	0.000	(None)	(None)

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Report Details: Type: Inflow Summary Storm Phase: Proposed Site		Designed by: PSS	Checked by:		Approved By:
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Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Existing Building & Extension	SWMH J		Time of Concentration	0.078	100	0	100	0.078
Extension Roof	SWMH G		Time of Concentration	0.018	100	0	100	0.018
Extension Roof 1	SWMH H		Time of Concentration	0.016	100	0	100	0.016
New Building front	SWMH D		Time of Concentration	0.202	100	0	100	0.202
New Building rear	SWMH A		Time of Concentration	0.080	100	0	100	0.080
TOTAL		0.0		0.394				0.394

Project: Hanson Springs Gorrels Way Rochdale	Date: 11/02/2025		
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Report Title: Rainfall Analysis Criteria	Company Address: 1st Floor, Unit 1 Millbank House, Riverside Business Park Wilmslow. Cheshire. SK9 1BJ		


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Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Reduced
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FSR

Type: FSR

Region	England And Wales
M5-60 (mm)	19.0
Ratio R	0.269
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
30.0	40.000
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

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Critical Storm Per Item: Rank By: Max. Depth

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
SWMH J	FSR: 100 years: +45 %: 1440 mins: Winter	135.94 0	134.44 0	134.622	0.182	2.6	0.205	0.000	2.6	87.708	OK
SWMH G	FSR: 100 years: +45 %: 1440 mins: Winter	135.90 0	134.40 0	134.788	0.388	0.6	0.439	0.000	0.6	20.512	Surcharged
SWMH H	FSR: 100 years: +45 %: 1440 mins: Winter	135.90 0	134.40 0	134.788	0.388	0.5	0.439	0.000	0.5	18.112	Surcharged
SWMH D	FSR: 100 years: +45 %: 15 mins: Summer	136.35 0	135.12 5	135.365	0.240	102.5	0.271	0.000	98.7	44.517	OK
SWMH E	FSR: 100 years: +45 %: 15 mins: Summer	135.90 0	134.67 5	134.922	0.247	98.7	0.280	0.000	94.1	44.465	OK
SWMH F	FSR: 100 years: +45 %: 15 mins: Summer	135.90 0	134.62 0	134.735	0.115	94.1	0.130	0.000	95.8	44.508	OK
SWMH A	FSR: 100 years: +45 %: 15 mins: Summer	136.00 0	134.77 5	134.967	0.192	40.5	0.217	0.000	37.7	17.584	OK
SWMH B	FSR: 100 years: +45 %: 15 mins: Summer	136.00 0	134.50 7	134.676	0.169	37.7	0.191	0.000	38.4	17.531	OK
SWMH C	FSR: 100 years: +45 %: 15 mins: Summer	135.80 0	134.48 1	134.552	0.071	38.4	0.080	0.000	35.4	17.559	OK

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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)	Half Drain Down Time (mins)	Percentage Available (%)
Soakaway C	FSR: 100 years: +45 %: 1440 mins: Winter	134.622	134.622	0.872	0.872	2.6	67.082	0.000	43.774	0.0	0.000	2170	12.824
Soakaway B	FSR: 100 years: +45 %: 1440 mins: Winter	134.788	134.788	0.888	0.888	1.1	37.115	0.000	1.896	0.0	0.495	28225	11.208
Soakaway A	FSR: 100 years: +45 %: 1440 mins: Winter	133.971	133.971	0.971	0.971	9.2	250.839	0.000	135.363	0.0	0.000	2660	2.926

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Status
OK
OK
OK

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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 (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH J	Soakaway C	135.940	134.529	0.121	17.293	2.7	0.29	39.5	OK
Pipe (1)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH G	Soakaway B	135.900	134.435	0.093	4.063	2.2	0.11	9.3	OK
Pipe (2)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH H	Soakaway B	135.900	134.442	0.094	3.618	1.6	0.17	8.2	OK
Pipe (3)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH D	SWMH E	136.350	135.365	0.244	44.517	1.6	0.87	98.7	OK
Pipe (4)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH E	SWMH F	135.900	134.922	0.181	44.465	2.1	1.07	94.1	OK
Pipe (5)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH F	Soakaway A	135.900	134.735	0.134	44.508	4.6	0.25	95.8	OK
Pipe (6)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH A	SWMH B	136.000	134.967	0.181	17.584	1.1	0.96	37.7	OK
Pipe (7)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH B	SWMH C	136.000	134.676	0.120	17.531	1.8	1.15	38.4	OK
Pipe (8)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH C	Soakaway A	135.800	134.552	0.126	17.559	3.2	0.21	35.4	OK