



Title: Drainage Strategy - Hullavington Primary School

Date: 27th April 2026

Authored: K. Gyba

Revision: P01

1.0 Introduction

- 1.1.1 SWJ Consulting Engineers have been appointed to produce a drainage strategy for the works at Hullavington Primary School.
- 1.1.2 This technical note has been prepared in support of the planning. This technical note is prepared in accordance with the requirements of the National Planning Policy Framework (NPPF) published by the Department of Communities and Local Government. Section 14 of the NPPF and the associated Planning Practice Guidance sets out the framework for planning decisions made by the local, regional, and national government and the Environment Agency (EA).

2.0 Site Surveys and Investigations

- 2.1.1 A Site Investigation was carried out on 7-9th April 2026. The works were carried out included infiltration testing (to BRE365) and ground investigation. The investigation revealed that the site is underlain by Kellaways Clay (tested up to depth of 6m below ground). This is confirmed by BGS maps, screenshot below. Infiltration was not possible.

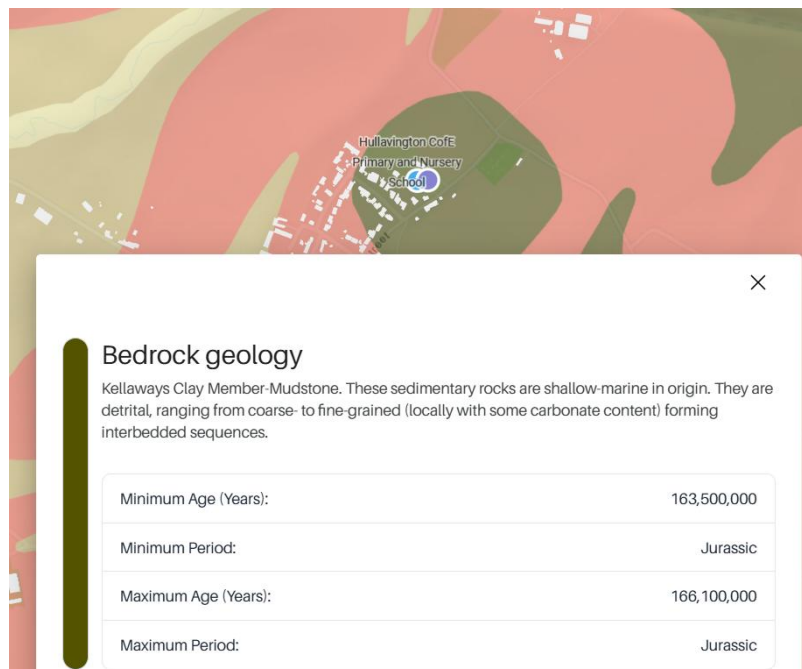


Figure 1 – Screenshot from BGS, confirms Kellaways Clay Formation onsite

- 2.1.2 A review of the CCTV drainage onsite revealed that the site utilises a combined (surface and foul water) private drainage system. The surface and foul water drains combine throughout the site and drain towards the Wessex Water sewer in the main road to the south.

3.0 Discharge Method

3.1 Surface Water Drainage

3.1.1 New surface water drainage will be required to drain surface water runoff from the proposed extension.

3.1.2 The aim of the drainage strategy is to discharge surface water run-off in accordance with the following hierarchy of surface water disposal options wherever reasonably practicable, (in order of preference):

- To the ground (infiltration);
- To a surface water body;
- To a surface water sewer, highway drain, or another drainage system; or
- To a combined sewer.

3.1.3 As noted during the site investigation, the site is underlain by Oxford Clay. Infiltration is not possible at this site.

3.1.4 There is an existing watercourse along the northern edge of the school site. The proposed drainage strategy will discharge surface water flows towards this watercourse. A review of the Topographical survey shows that the site levels fall in the northern direction, which makes this a viable method of discharge for surface water.

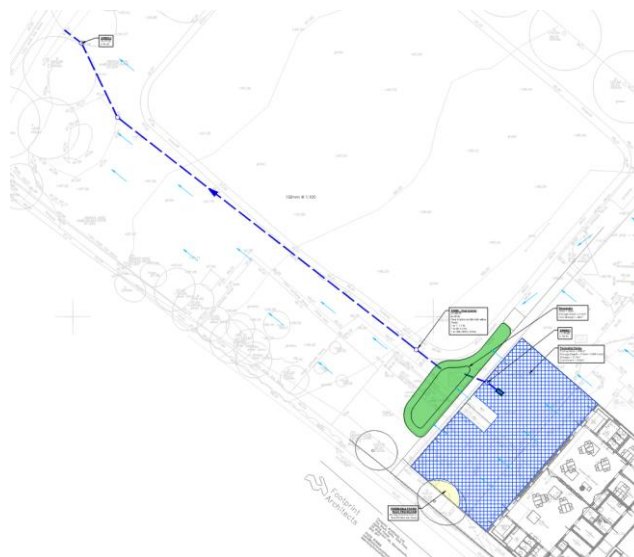
3.1.5 The CCTV confirms that the existing school drains surface water via a combined water network. This approach is not proposed for the new drainage systems onsite, as a more sustainable method of discharge is available.

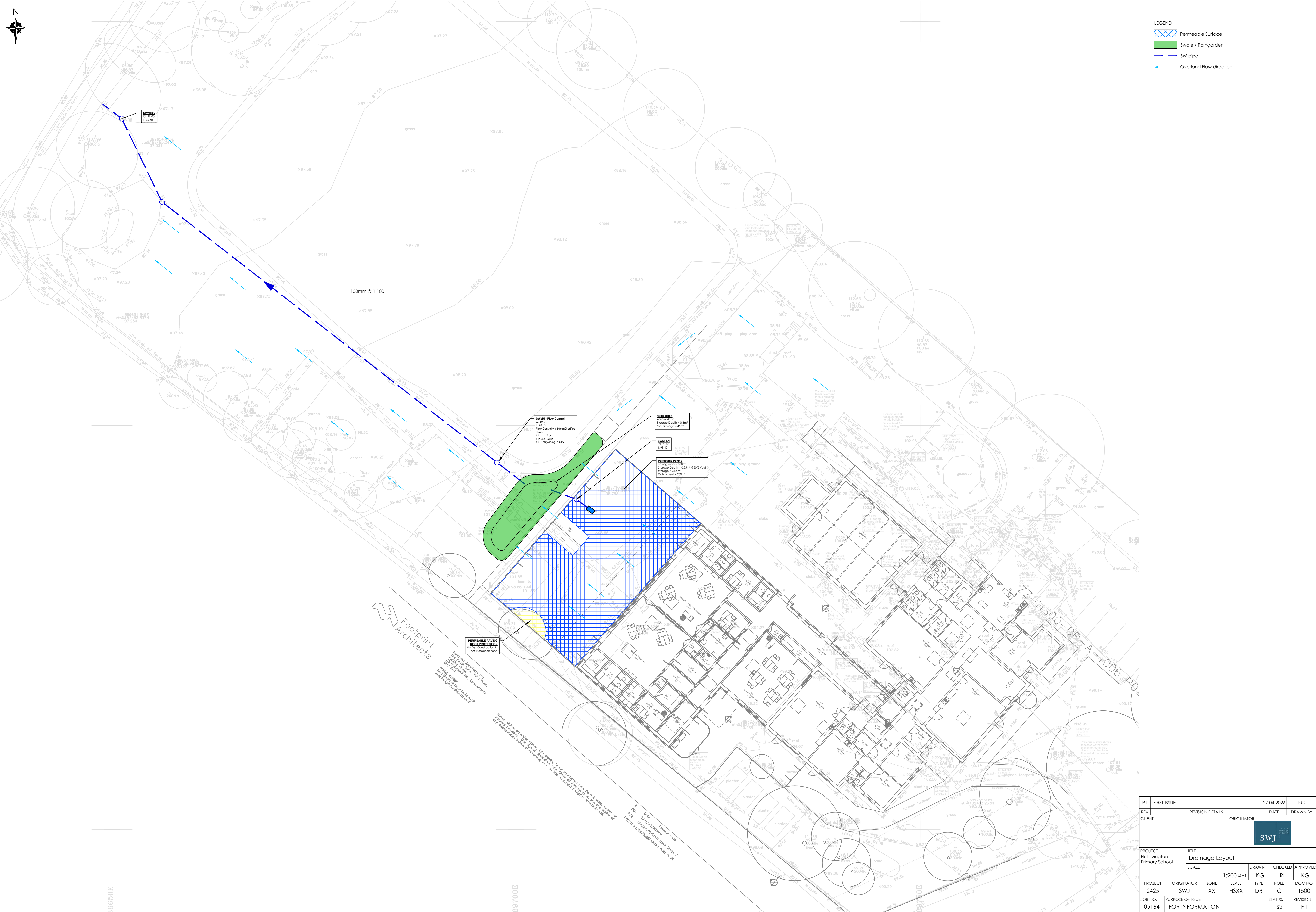
4.0 Drainage Design

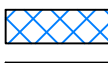
4.1.1 In order to minimise the impact of this development, it is proposed to utilise Sustainable Drainage Features (SuDS) such as permeable paving and raingardens.

4.1.2 To minimize a risk of blockage, it is proposed to utilise permeable surfacing for storage, treatment and conveyance of surface water, as well as swales / raingardens to provide further attenuation and treatment prior to a controlled discharge towards the watercourse. The final outfall will be restricted via a 60mmØ orifice, which provides a runoff restriction of up to 3.9 l/s or less for all storms up to and including 1 in 100 + 40% climate change.

4.1.3 A copy of the drainage calculations and proposed drainage strategy are included within the appendices of this technical note. The plan also includes the exceedance flow routing for the site. This shows how exceedance flows will not put any properties at risk of flooding from surface water.





LEGEND			
	Permeable Surface		
	Swale / Raingarden		
	SW pipe		
	Overland Flow direction		

P1	FIRST ISSUE	27.04.2026	KG			
REV	REVISION DETAILS		DATE	DRAWN BY		
CLIENT	ORIGINATOR					
PROJECT		TITLE				
Hullavington Primary School		Drainage Layout				
SCALE		DRAWN		CHECKED	APPROVED	
1:200 @A1		KG		RL	KG	
PROJECT	ORIGINATOR	ZONE	LEVEL	TYPE	ROLE	DOC NO
2425	SWJ	XX	HSXX	DR	C	1500
JOB NO.	PURPOSE OF ISSUE				STATUS:	REVISION:
05164	FOR INFORMATION				S2	P1

Project:	Date: 22/04/2026			
	Designed by:	Checked by:	Approved By:	
Report Details:	Karol.Gyba			
	Company Address:			
Type: Inflows				
Storm Phase: Phase				



Catchment Area

Type : Catchment Area

Area (ha)	0.09
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Dynamic Sizing	
Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project:	Date: 22/04/2026			
	Designed by:	Checked by:	Approved By:	
Report Details:	Karol.Gyba			
	Company Address:			
Type: Stormwater Controls				
Storm Phase: Phase				

 Pond

Type : Pond

Dimensions		
Exceedance Level (m)	98.750	
Depth (m)	0.350	
Base Level (m)	98.400	
Freeboard (mm)	0	
Initial Depth (m)	0.000	
Porosity (%)	100	
Average Slope (1:X)	4.957	
Total Volume (m³)	16.598	
Depth (m)	Area (m²)	Volume (m³)
0.000	28.00	0.000
0.350	70.00	16.598

Inlets	
Inlet	
Inlet Type	Point Inflow
Incoming Item(s)	Pipe
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets	
Outlet	
Outgoing Connection	(None)
Outlet Type	Orifice
Diameter (m)	0.060
Coefficient of Discharge	0.600
Invert Level (m)	98.400

Advanced	
Perimeter	Circular
Length (m)	12.657
Friction Scheme	Manning's n
n	0.05

Project:

Report Details:
Type: Stormwater Controls
Storm Phase: Phase

Date:
22/04/2026

Designed by:
Karol.Gyba

Checked by:

Approved By:

Company Address:

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DRN



Porous Surfacing

Type : Porous Paving

Dimensions

Exceedance Level (m)	98.800
Depth (m)	0.350
Base Level (m)	98.450
Paving Layer Depth (mm)	50
Membrane Percolation (m/hr)	5000.0
Porosity (%)	30
Length (m)	20.000
Long. Slope (1:X)	1000.00
Width (m)	15.000
Total Volume (m³)	27.000

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	5000.0
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Project:	Date: 22/04/2026			
	Designed by: Karol.Gyba	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)
Catchment Area	Porous Surfacing		Time of Concentration	0.09	100	0	100	0.09
TOTAL		0.0		0.09				0.09

Project:	Date: 22/04/2026			
	Designed by: Karol.Gyba	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Outfall Details Storm Phase: Phase				

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
Pond	Free Discharge		

Project:	Date: 22/04/2026			
	Designed by:	Checked by:	Approved By:	
	Karol.Gyba			
Report Title:	Company Address:			
Rainfall Analysis Criteria				

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 No Discharge Analysis	☐

Project:	Date: 22/04/2026			
	Designed by: Karol.Gyba	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Inflows Summary Storm Phase: Phase				



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

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 1 years: +0 %: 15 mins: Winter	0.09	12.5	5.783

Project:	Date: 22/04/2026			
	Designed by:	Checked by:	Approved By:	
Report Details:	Karol.Gyba			
	Company Address:			
Type: Inflows Summary				
Storm Phase: Phase				



FSR: 30 years: Increase Rainfall (%): +35: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 30 years: +35 %: 15 mins: Winter	0.09	41.5	19.179

Project:	Date: 22/04/2026			
	Designed by:	Checked by:	Approved By:	
Report Details:	Karol.Gyba			
	Company Address:			
Type: Inflows Summary				
Storm Phase: Phase				



FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 100 years: +40 %: 15 mins: Winter	0.09	55.8	25.798

Project:

Report Details:

Date:
22/04/2026

Designed by:
Karol.Gyba

Checked by:

Approved By:

Company Address:

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DRN



FSR: 1 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. Residual 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 (%)
Porous Surfacing	FSR: 1 years: +0 %: 60 mins: Winter	98.544	98.483	0.074	0.033	6.2	5.173	0.000	0.000	2.9	7.618		80.840
Pond	FSR: 1 years: +0 %: 120 mins: Winter	98.479	98.479	0.079	0.079	2.6	2.531	0.000	0.000	1.7	10.374		84.749

Project:	Date: 22/04/2026			
	Designed by:	Checked by:	Approved By:	
	Karol.Gyba			
Report Details:	Company Address:			
Type: Stormwater Controls Summary				
Storm Phase: Phase				

Status
OK
OK

Project:

Report Details:

Date:
22/04/2026

Designed by:
Karol.Gyba

Checked by:

Approved By:

Company Address:

I

DRN



FSR: 30 years: Increase Rainfall (%): +35: 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 (%)
Porous Surfacing	FSR: 30 years: +35 %: 120 mins: Winter	98.665	98.626	0.195	0.176	12.8	16.696	0.000	0.000	6.4	33.934	45	38.161
Pond	FSR: 30 years: +35 %: 120 mins: Winter	98.625	98.625	0.225	0.225	6.4	8.961	0.000	0.000	3.3	31.491	25	46.013

Project:	Date: 22/04/2026			
	Designed by:	Checked by:	Approved By:	
	Karol.Gyba			
Report Details:	Company Address:			
Type: Stormwater Controls Summary				
Storm Phase: Phase				

Status
OK
OK

Project:

Report Details:

Date:
22/04/2026

Designed by:
Karol.Gyba

Checked by:

Approved By:

Company Address:

I

DRN



FSR: 100 years: Increase Rainfall (%): +40: 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 (%)
Porous Surfacing	FSR: 100 years: +40 %: 120 mins: Winter	98.731	98.700	0.261	0.250	17.5	22.941	0.000	0.000	8.7	44.824	95	15.033
Pond	FSR: 100 years: +40 %: 120 mins: Winter	98.699	98.699	0.299	0.299	8.7	13.195	0.000	0.000	3.9	39.933	75	20.504

Project:	Date: 22/04/2026			
	Designed by:	Checked by:	Approved By:	
	Karol.Gyba			
Report Details:	Company Address:			
Type: Stormwater Controls Summary				
Storm Phase: Phase				

Status
OK
OK

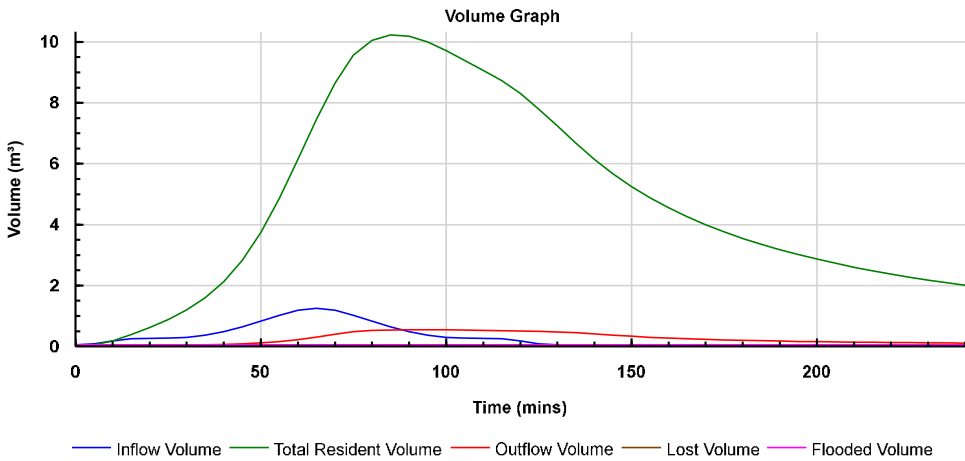
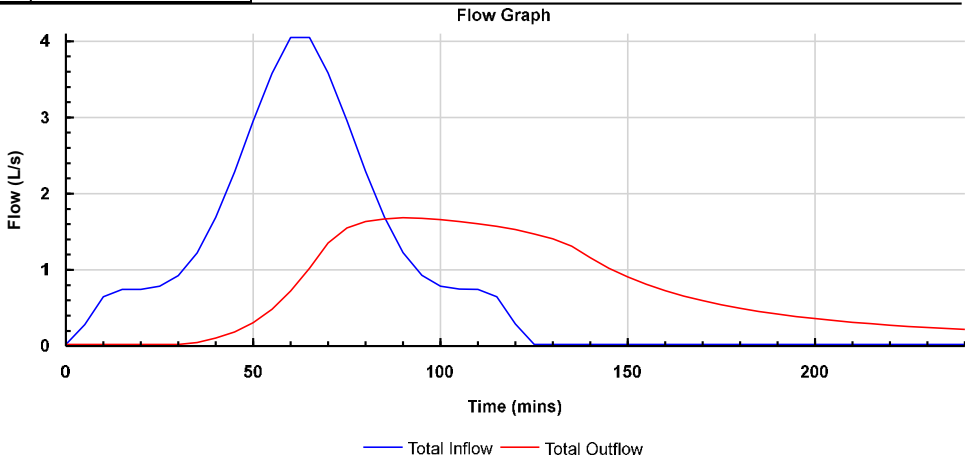
Project:	Date: 22/04/2026			
	Designed by: Karol.Gyba	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Phase Management Storm Phase: Phase				

 **Phase**
FSR: 1 years: Increase Rainfall (%): +0: 120 mins: Winter

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Pond			1.7	10.374
TOTAL	4.1	11.871	1.7	10.374

Graphs



Project:	Date: 22/04/2026			
	Designed by: Karol.Gyba	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Phase Management				
Storm Phase: Phase				

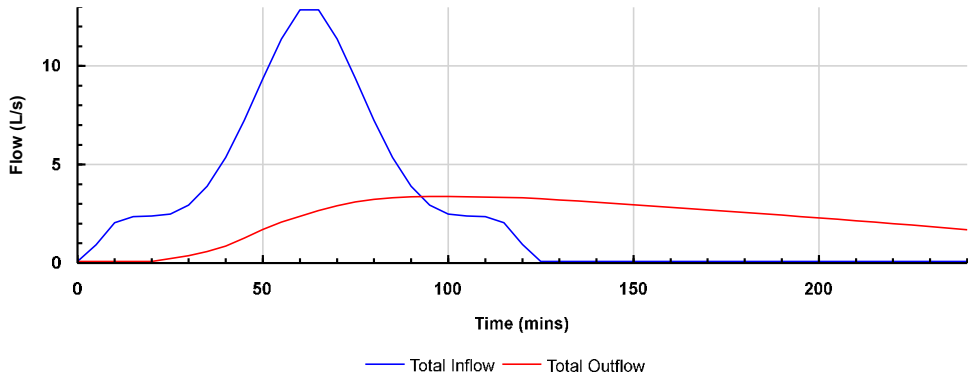
 **Phase**
FSR: 30 years: Increase Rainfall (%): +35: 120 mins: Winter

Tables

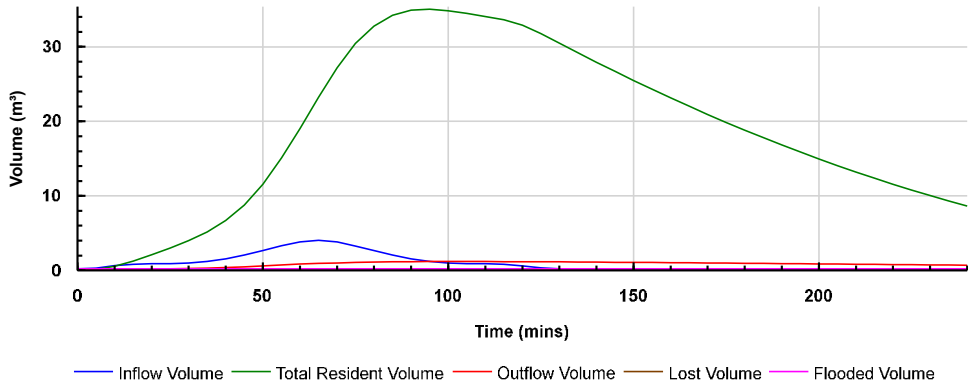
Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Pond			3.3	31.491
TOTAL	12.8	37.611	3.3	31.491

Graphs

Flow Graph



Volume Graph



Project:	Date: 22/04/2026			
	Designed by: Karol.Gyba	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Phase Management				
Storm Phase: Phase				

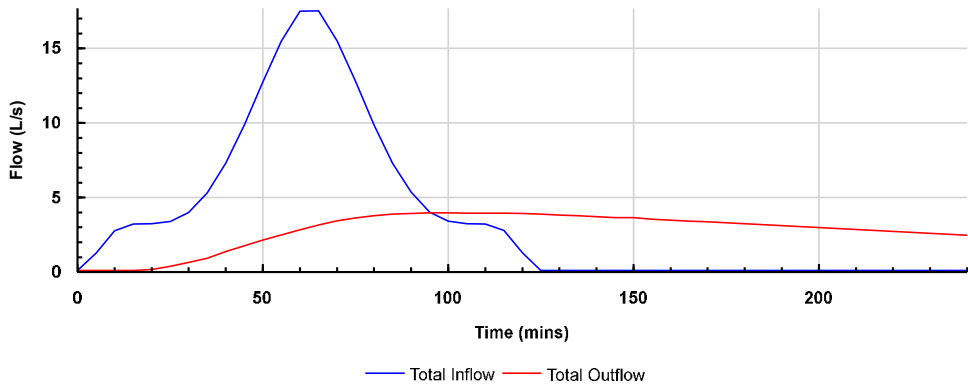
 **Phase**
FSR: 100 years: Increase Rainfall (%): +40: 120 mins: Winter

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Pond			3.9	39.063
TOTAL	17.5	51.299	3.9	39.063

Graphs

Flow Graph



Volume Graph

