

DATE:	02 June 2025	STATUS:	For Planning Approval
SUBJECT:	Surface Water Drainage Statement – 3 Sunningdale Avenue, Whitefield, M45 7GW		
DOC REF.:	JOF0188-TN-SWD-001	CLIENT:	Mr Usman Ali
AUTHOR:	Joao Gil	Revision:	(-)

Technical Note – Surface Water Drainage Statement

1 CONTEXT AND PURPOSE

- 1.1 Joflows was commissioned by Mr Usman Ali (hereafter referred to as ‘the Client’) to interpret site specific BRE365 infiltration testing to inform the design of the geo-cellular soakaway presented in drawing ref.: 240304-MAK-00-ZZ-DR-C-92-000-P01, designed by MAKE Consulting Structural Engineers, and submitted as part of Planning Application ref.: 70105.
- 1.2 It is understood that the design of the original soakaway undertaken by MAKE Consulting Structural Engineers was informed by theoretical infiltration rates, and therefore the Local Planning Authority at Bury Metropolitan Borough Council has requested site-specific infiltration testing to BRE365.
- 1.3 The Strategy was informed by the following elements:
- Borehole log A6184, by Earh Environmental & Geotechnical (November 2024) – **Appendix A**;
 - Site-specific Infiltration Testing to BRE365, by Vesta Construction (May 2025) – **Appendix B**;
 - Proposed Drainage Plan (re.: 240304-MAK-00-ZZ-DR-C-92-000-P01), by MAKE Consulting Structural Engineers;
- 1.4 This technical note was produced with the sole intention of providing a redesigned geo-cellular soakaway, informed by site-specific infiltration rates. No revision of the previous design and its underlying assumptions was undertaken and no liability is accepted as a result of any considerations that informed the previous design. The present design excludes the following (amongst others): i) assessment of hydrology data ii) revision of design parameters to inform the design of the soakaway and iii) assessment of geo-spatial that may constrain soakaways.

2 GROUND INVESTIGATIONS

- 2.1 Infiltration testing to BRE365 was undertaken by Vesta Construction on the 20th of May 2025. The infiltration tests took place in two separate holes, with three consecutive tests on each hole. The infiltration testing logs and calculations sheets are included in **Appendix B**.

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Technical Note – Surface Water Drainage Statement

- 2.2 The design infiltration rate was taken as the lowest rate recorded in both holes i.e. $2.39 \times 10^{-5} \text{m/s}$. This rate is considerably lower than the theoretical infiltration rate adopted by MAKE Consulting Structural Engineers ($1 \times 10^{-4} \text{m/s}$) and therefore a redesign of the soakaway is required.

3 REDESIGN OF GEO-CELLULAR SOAKAWAY

- 3.1 The redesign of the geo-cellular soakaway was based on a design rate of $2.39 \times 10^{-5} \text{m/s}$.
- 3.2 An Autodesk Infodrainage model was set up with two nodes, in line with the model prepared by MAKE Consulting Structural Engineers, which included a total contribution area of 430m^2 .
- 3.3 All other design parameters included in the original design prepared by MAKE Consulting Structural Engineers, including hydrology, were kept unchanged.
- 3.4 In accordance with the calculations prepared in Autodesk Infodrainage (**Appendix C**), the new soakaway should cover a total of 49m^2 for the same height of crates ($7 \text{m} \times 7 \text{m} \times 440 \text{mm}$). The soakaway should be sited to a minimum of 5m from the new building and 2.5m from the boundaries of the curtilage. The invert level of the soakaway will remain unchanged i.e. 117.16m AOD. The location of the new redesigned soakaway can be found in Figure 1, which shows the new dimensions drawn to scale.
- 3.5 Alternatively, a deeper geo-cellular soakaway with two crate units in depth and a total footprint of 28m^2 can also be used ($7 \text{m} \times 4 \text{m} \times 880 \text{mm}$). If this alternative is preferred, the base of the soakaway should be lowered to 116.720m AOD. This option was also modelled in Autodesk Infodrainage (**Appendix C**).

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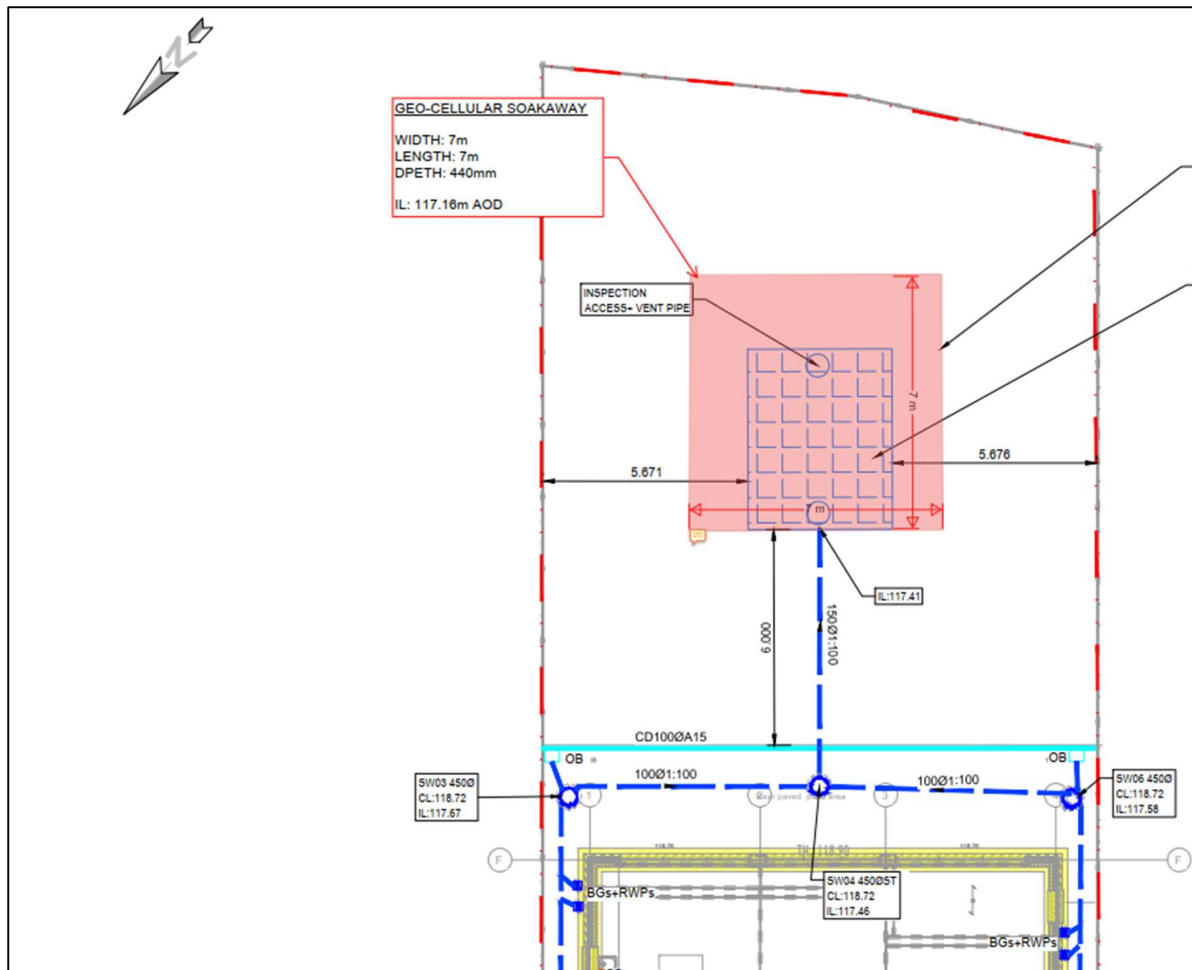


Figure 1 – New redesigned geo-cellular soakaway shown as a red hatch.

JOFLAWS

Appendix A - Borehole log A6184

					Borehole Log			Borehole No. WS01 Sheet 1 of 2	
Project Name: 3 Sunningdale Avenue					Project No. A6184		Co-ords: 379415.00 - 405253.00		Hole Type WS
Location: Whitefield					Level:		Scale 1:20		Logged By TP
Client: Mr Usman Ali					Dates: 27/11/2024 - 27/11/2024				

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			MADE GROUND. Light grey, concrete. Overlain with 0.02m thick, dark grey, driveway paving slabs.	1 2 3 4
		0.30	ES		0.40			MADE GROUND. Brownish grey, slightly clayey, sandy GRAVEL. Gravel is angular to subangular, fine to coarse of concrete, red brick, asphalt, plastic, ceramic and sandstone. Brown, fine to coarse SAND.	
		0.70	ES						
		1.20		N=8 (1,1/2,2,2,2)				<i>Sand is loose from 1.20m bgl.</i>	
		2.00		N=7 (2,2/2,1,2,2)	2.10				
		2.20	D		2.30			Brown, slightly sandy SILT.	
		3.00	D	N=18 (3,4/4,5,4,5)				Loose, light brown, fine to coarse SAND.	
		3.00							
		3.50	ES		3.40			Medium dense, light brown, fine SAND. <i>Light brown mottled black between 3.50 and 3.60m bgl.</i>	
		4.00		N=18 (4,4/4,4,5,5)					

Continued on next sheet

Remarks
 1) Borehole location was scanned and cleared with CAT. 2) Hand-dug pit excavated to 1.20m. 3) No monitoring installation; backfilled with arisings.



Borehole Log

Borehole No.

WS01

Sheet 2 of 2

Project Name: 3 Sunningdale Avenue

Project No.
A6184

Co-ords: 379415.00 - 405253.00

Hole Type
WS

Location: Whitefield

Level:

Scale
1:20

Client: Mr Usman Ali

Dates: 27/11/2024 - 27/11/2024

Logged By
TP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		5.00	D	N=17 (4,4/4,4,4,5)	6.00			Becoming silty between 4.60 and 4.80m bgl.	5
		5.20							
		6.00		N=23 (4,5/5,6,6,6)				Light brown mottled black between 4.60 and 4.80m bgl.	
								Window Sample Borehole terminated at 6.00m bgl at target depth.	6
								End of borehole at 6.00 m	7
									8

Remarks

1) Borehole location was scanned and cleared with CAT. 2) Hand-dug pit excavated to 1.20m. 3) No monitoring installation; backfilled with arisings.

					Borehole Log			Borehole No. WS02 Sheet 1 of 2	
Project Name: 3 Sunningdale Avenue					Project No. A6184		Co-ords: 379418.00 - 405259.00		Hole Type WS
Location: Whitefield					Level:		Scale 1:20		Logged By TP
Client: Mr Usman Ali					Dates: 27/11/2024 - 27/11/2024				

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			MADE GROUND. Light grey, concrete. Overlain with 0.02m thick, dark grey, driveway paving slabs.	1
		0.40	ES					MADE GROUND. Light brown mottled black, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine of concrete, asphalt, red brick and sandstone.	
		0.60	D						
			0.90	ES					
			1.20		N=7 (2,1/2,1,2,2)	1.20			
			2.00		N=8 (2,2/2,2,2,2)				2
						2.60			
			2.80	D					
			3.00		N=11 (2,2/3,2,2,4)				3
						3.20			
		3.50	D						
		4.00		N=19 (3,4/4,5,5,5)					4

Continued on next sheet

Remarks

1) Borehole location was scanned and cleared with CAT. 2) Hand-dug pit excavated to 1.20m. 3) No monitoring installation; backfilled with arisings.



					Borehole Log			Borehole No. WS03 Sheet 1 of 2	
Project Name: 3 Sunningdale Avenue					Project No. A6184		Co-ords: 379424.00 - 405241.00		Hole Type WS
Location: Whitefield					Level:		Scale 1:20		Logged By TP
Client: Mr Usman Ali					Dates: 27/11/2024 - 27/11/2024				

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.30		MADE GROUND. Dark brown, slightly clayey, slightly gravelly, fine to coarse SAND with occasional rootlets. Gravel is angular to subrounded, fine to coarse of sandstone, mudstone and red brick.	1	
	0.50	D		0.60		MADE GROUND. Light brown, slightly clayey, gravelly, fine to coarse SAND. Gravel is subangular to well rounded, fine to coarse of sandstone, mudstone and red brick.			
	0.70	ES				Loose, light brown, slightly gravelly, fine to coarse SAND. Gravel is subangular to rounded, fine to coarse of mustone and sandstone.			
		1.20		N=17 (3,3/4,4,4,5)			Becoming gravelly at 1.00m bgl.	2	
		2.00 2.00	D	N=10 (3,2/2,2,3,3)	2.40				
		3.00		N=15 (3,3/3,3,4,5)			Medium dense, light brown, slightly gravelly, fine to medium SAND. Gravel is rounded to well rounded, fine to coarse, of sandstone.		
		4.00		N=17 (4,4/4,4,4,5)				3	
Continued on next sheet								4	

Remarks
 1) Borehole location was scanned and cleared with CAT. 2) Hand-dug pit excavated to 1.20m. 3) No monitoring installation; backfilled with arisings.



Borehole Log

Borehole No.

WS03

Sheet 2 of 2

Project Name: 3 Sunningdale Avenue

Project No.
A6184

Co-ords: 379424.00 - 405241.00

Hole Type
WS

Location: Whitefield

Level:

Scale
1:20

Client: Mr Usman Ali

Dates: 27/11/2024 - 27/11/2024

Logged By
TP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		4.80	D						
		5.00		N=20 (3,4/5,5,5,5)					5
								<i>Slightly silty between 5.20 and 5.50m bgl.</i>	
								<i>Inclusion of angular, fine to coarse mudstone grave at 5.50m bgl.</i>	
		6.00		N=23 (4,5/5,6,6,6)	6.00			<i>Window Sample Borehole terminated at 6.00m bgl at target depth.</i>	6
								End of borehole at 6.00 m	
									7
									8

Remarks

1) Borehole location was scanned and cleared with CAT. 2) Hand-dug pit excavated to 1.20m. 3) No monitoring installation; backfilled with arisings.



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Stockport, SK5 6DA

Tel: 0161 975 6088
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Web: www.earthenvironmental.co.uk

HAND-DUG PIT LOG

Project Name: 3 Sunningdale Avenue, Whitefield

Date: 27/11/2024

Project No.: A6184-24

Client: Mr Usman Ali

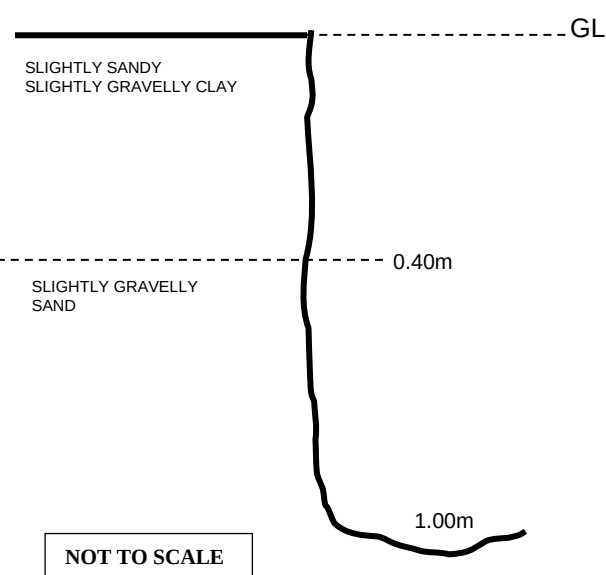
Hole Number: HDP01

Logged By: Tom Pudifoot

Total Depth: 1.00m

Remarks: N/A

Schematic Profile:



Legend	Depth (m)	Description
	GL-0.40	Topsoil. Soft, dark brown, slightly sandy, slightly gravelly CLAY with frequent rootlets. Gravel is angular to subrounded, fine to coarse of sandstone and mudstone.
	0.40-1.00	Light brown, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse of sandstone.

Hand-dug pit terminated at 1.00m.

Hand-dug pit terminated at 1.00m bgl at the target depth.

Pictures:



HDP01: Arisings



HDP01: Internal view of pit



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HAND-DUG PIT LOG

Project Name: 3 Sunningdale Avenue, Whitefield

Date: 27/11/2024

Project No.: A6184-24

Client: Mr Usman Ali

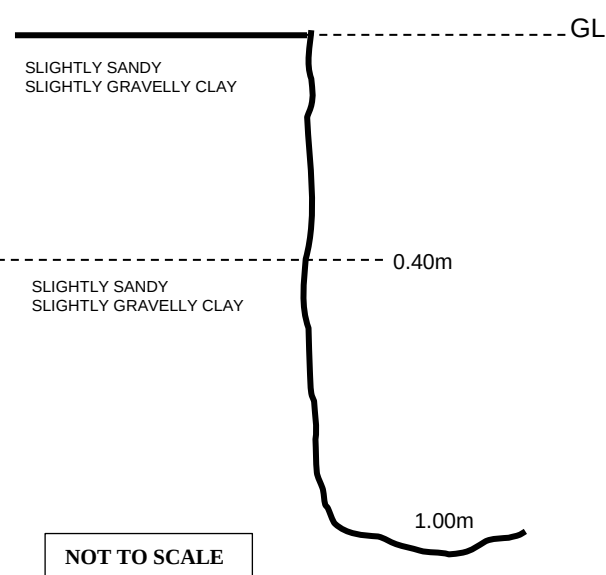
Hole Number: HDP02

Logged By: Tom Pudifoot

Total Depth: 1.00m

Remarks: N/A

Schematic Profile:



Legend	Depth (m)	Description
	GL-0.40	Topsoil. Soft, dark brown, slightly sandy, slightly gravelly CLAY with frequent rootlets. Gravel is subangular to subrounded, fine to coarse of sandstone and mudstone.
	0.40-1.00	Soft, light brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to rounded, fine to coarse of sandstone and mudstone.

Hand-dug pit terminated at 1.00m.

Hand-dug pit terminated at 1.00m bgl at the target depth.

Pictures:



HDP02: Arisings



HDP02: Internal view of pit

JOFLOWS

Appendix B - Ground Investigations & Calculation Sheets

JOFLOWS

APPENDIX B – BRE365 RECORD SHEET (BLANK)

PIT01-01

PIT02-03

PIT01-03

Start Reading	Test 1		Test 2		Test 3	
	Time	Depth of water BGL (mm)	Time	Depth of water BGL (mm)	Time	Depth of water BGL (mm)
1	14:28	1000	15:01	1000	15:42	1000
2	14:31	900	15:06	850	15:46	900
3	14:33	800	15:14	800	15:53	800
4	14:40	700	15:22	700	16:02	700
5	14:50	600	15:35	650	16:11	550
6	15:05	500	15:40	500	16:22	400
7	15:18	400	15:57	400	16:37	300
8	15:33	250	16:22	250	16:57	150
9	—		16:52	100		
10	—					
11	—					
12	—					
13	—					
14	—					
15						
16						
17						
18						
19						
20						
21						
22						
23						

enquiries@joflows.co.uk
07857 447987
joflows.co.uk

Project:

3 Sunnigdale Avenue

Subject:

Infiltration test to BRE365 (Hole 1 Test 1)

Created by:

Joao Gil

Client:

Shane Carrol

Date:

#REF!

Project code:

JOF0126

Verified by:

#REF!

Sheet no:

1

Date:

#REF!

Revision:

0

Soakaway test results:

Project Name:

3 Sunnigdale Avenue

Location:

Whitefield

Project Ref:

JOF0188

Date

30/05/2025

BRE 365 test?

Yes

Percolation test ?

No

Pit ref.:

01

Test ref.:

01

Time (hours)	Water level (mBGL)	Effective depth (mAIL)
0.00	0.00	1.00
0.05	0.10	0.90
0.08	0.20	0.80
0.20	0.30	0.70
0.37	0.40	0.60
0.62	0.50	0.50
0.83	0.60	0.40
1.08	0.75	0.25

Trial pit dimensions:

Length:

0.9

(m)

Width:

0.3

(m)

Depth:

1.0

(m)

Depth of Water (mBGL)

Time from end of filling (hours)

Water level

Maximum water level

75% Full

50% Full

25% Full

Bottom of pit

0.00

0.10

0.20

0.30

0.40

0.50

0.60

0.70

0.80

0.90

1.00

1.10

0.00

0.50

1.00

BRE 365 auxiliary calculations:

Eff depth:

1.00

(m)

Eff depth @ 75%:

0.75

(m)

Eff depth @ 25%:

0.25

(m)

Time @ 75%:

8.50

(min)

Time @ 25%:

65.00

(min)

$t_{p75-25} =$

56.5

(min)

a_{p50}

:

1.5

(m²)

V_{p75-25}

:

0.1

(m³)

The Building Regs auxiliary calculations:

Eff depth:

-

(m)

Eff depth @ 75%:

-

(mm)

Eff depth @ 25%:

-

(mm)

Time @ 75%:

-

(min)

Time @ 25%:

-

(min)

$t_{p75-25} =$

-

(s)

Infiltration testing results:

f

2.71E-05

(m/s)

Infiltration rate calculate in accordance to the procedure outlined in the BRE Digest 365 Soakaway design

V_p

N/A

(s/mm)

Average time requierd for water to drop 1mm, in accordance to the methodology outlined in 'The Building Regulations 2010'

Rev 1 (November 2024)

#REF!

Project:

3 Sunnigdale Avenue

Subject:

Infiltration test to BRE365 (Hole 1 Test 3)

Created by:

Joao Gil

Client:

Shane Carrol

Date:

#REF!

Project code:

JOF0126

Verified by:

#REF!

Sheet no:

1

Date:

#REF!

Revision:

0

Soakaway test results:

Project Name:

3 Sunnigdale Avenue

Location:

Whitefield

Project Ref:

JOF0188

Date

30/05/2025

BRE 365 test?

Yes

Percolation test ?

No

Pit ref.:

01

Test ref.:

03

Time (hours)	Water level (mBGL)	Effective depth (mAIL)
0.00	0.00	1.00
0.07	0.10	0.90
0.18	0.20	0.80
0.33	0.30	0.70
0.48	0.45	0.55
0.67	0.60	0.40
0.92	0.70	0.30
1.25	0.85	0.15

Trial pit dimensions:

Length:

0.9

(m)

Width:

0.3

(m)

Depth:

1.0

(m)

Depth of Water (mBGL)

Time from end of filling (hours)

Water level

Maximum water level

75% Full

50% Full

25% Full

Bottom of pit

0.00

0.10

0.20

0.30

0.40

0.50

0.60

0.70

0.80

0.90

1.00

1.10

0.00

0.50

1.00

1.50

Infiltration testing results:

f

3.32E-05

(m/s)

Infiltration rate calculate in accordance to the procedure outlined in the BRE Digest 365 Soakaway design

V_p

N/A

(s/mm)

Average time required for water to drop 1mm, in accordance to the methodology outlined in 'The Building Regulations 2010'

BRE 365 auxiliary calculations:

Eff depth:

1.00

(m)

Eff depth @ 75%:

0.75

(m)

Eff depth @ 25%:

0.25

(m)

Time @ 75%:

15.50

(min)

Time @ 25%:

61.67

(min)

t_{p75-25} =:

46.2

(min)

a_{p50} :

1.5

(m²)

V_{p75 - 25} :

0.1

(m³)

The Building Regs auxiliary calculations:

Eff depth:

-

(m)

Eff depth @ 75%:

-

(mm)

Eff depth @ 25%:

-

(mm)

Time @ 75%:

-

(min)

Time @ 25%:

-

(min)

t_{p75-25} =:

-

(s)

Rev 1 (November 2024)

#REF!

Soakaway test results:	
Project Name:	3 Sunnigdale Avenue
Location:	Whitefield
Project Ref:	JOF0188
Date	30/05/2025
BRE 365 test?	Yes
Percolation test ?	No

Pit ref.:	02	Test ref.:	03
-----------	----	------------	----

Time (hours)	Water level (mBGL)	Effective depth (mAIL)
0.00	0.00	1.00
0.08	0.10	0.90
0.22	0.20	0.80
0.35	0.30	0.70
0.57	0.40	0.60
0.65	0.50	0.50
0.93	0.60	0.40
1.35	0.75	0.25
1.85	0.90	0.10

Trial pit dimensions:

Length: 0.9 (m) Width: 0.3 (m)

Depth: 1.0 (m)

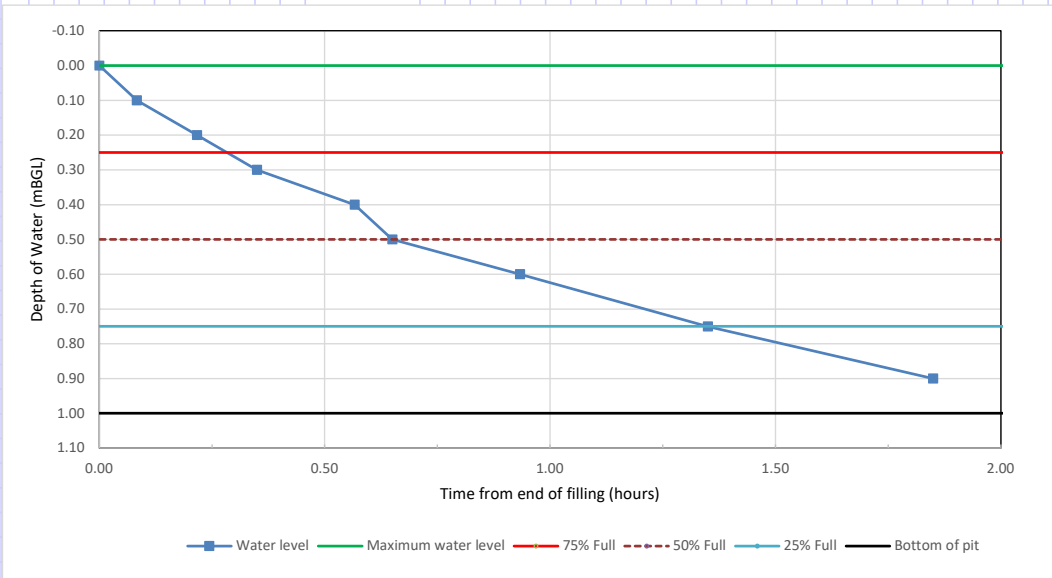
Depth of Water (mBGL)

Time from end of filling (hours)

Legend:

- Water level
- Maximum water level
- 75% Full
- 50% Full
- 25% Full
- Bottom of pit

Time from end of filling (hours)	Water level (mBGL)	Maximum water level (mBGL)	75% Full (mBGL)	50% Full (mBGL)	25% Full (mBGL)	Bottom of pit (mBGL)
0.00	0.00	0.00	0.25	0.50	0.75	1.00
0.10	0.10	0.00	0.25	0.50	0.75	1.00
0.20	0.20	0.00	0.25	0.50	0.75	1.00
0.35	0.30	0.00	0.25	0.50	0.75	1.00
0.55	0.40	0.00	0.25	0.50	0.75	1.00
0.65	0.50	0.00	0.25	0.50	0.75	1.00
0.95	0.60	0.00	0.25	0.50	0.75	1.00
1.35	0.75	0.00	0.25	0.50	0.75	1.00
1.85	0.90	0.00	0.25	0.50	0.75	1.00



BRE 365 auxiliary calculations:		
Eff depth:	1.00	(m)
Eff depth @ 75%:	0.75	(m)
Eff depth @ 25%:	0.25	(m)
Time @ 75%:	17.00	(min)
Time @ 25%:	81.00	(min)
$t_{p75-25} =$	64.0	(min)
$a_{p50} :$	1.5	(m ²)
$V_{p75-25} :$	0.1	(m ³)

BRE 365 auxiliary calculations:		
Eff depth:	1.00	(m)
Eff depth @ 75%:	0.75	(m)
Eff depth @ 25%:	0.25	(m)
Time @ 75%:	17.00	(min)
Time @ 25%:	81.00	(min)
$t_{p75-25} =$	64.0	(min)
$a_{p50} :$	1.5	(m ²)
$V_{p75-25} :$	0.1	(m ³)

The Building Regs auxiliary calculations:		
Eff depth:	-	(m)
Eff depth @ 75%:	-	(mm)
Eff depth @ 25%:	-	(mm)
Time @ 75%:	-	(min)
Time @ 25%:	-	(min)
$t_{p75-25} =$:	-	(s)

The Building Regs auxiliary calculations:		
Eff depth:	-	(m)
Eff depth @ 75%:	-	(mm)
Eff depth @ 25%:	-	(mm)
Time @ 75%:	-	(min)
Time @ 25%:	-	(min)
$t_{p75-25} =$:	-	(s)

Infiltration testing results:		
f	2.39E-05 (m/s)	Infiltration rate calculate in accordance to the procedure outlined in the BRE Digest 365 Soakaway design
V _p	N/A (s/mm)	Average time required for water to drop 1mm, in accordance to the methodology outlined in 'The Building Regulations 2010'

Infiltration testing results:		
f	2.39E-05 (m/s)	Infiltration rate calculate in accordance to the procedure outlined in the BRE Digest 365 Soakaway design
V _p	N/A (s/mm)	Average time required for water to drop 1mm, in accordance to the methodology outlined in 'The Building Regulations 2010'

JOFLOWS

Appendix C - Autodesk Infodrainage Outputs

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by: jpdsg	Checked by:	Approved By:	
	Report Details: Type: Junctions Storm Phase: 440mm			
Company Address:				

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SW04	Manhole	358301.431	406105.323	118.720	1.262	117.458	Circular	0.450

Name	Lock
SW04	None

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
SW04	Inlet	Catchment Area (3)	(None)	No Restriction

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SW04	Outlet	1.004	Free Discharge

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by: jpdsg	Checked by:	Approved By:	
	Report Details: Type: Stormwater Controls Storm Phase: 440mm			
Company Address:				



SOAKAWAY

Type : Cellular Storage

Dimensions	
Exceedance Level (m)	117.610
Depth (m)	0.440
Base Level (m)	117.160
Number of Crates Long	7
Number of Crates Wide	14
Number of Crates High	1
Porosity (%)	98
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.44
Total Volume (m³)	21.139
Inlets	
Inlet	
Inlet Type	Point Inflow
Incoming Item(s)	1.004
Bypass Destination	(None)
Capacity Type	No Restriction
Advanced	
Base Infiltration Rate (m/hr)	0.086
Side Infiltration Rate (m/hr)	0.086
Safety Factor	2.0

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025						
	Designed by: jpdsg	Checked by:	Approved By:				
	Report Details: Type: Connections Storm Phase: 440mm						
			Company Address:				

Name	From	To	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)
1.004	SW04	SOAKAWAY	6.979	Pipe	145.405		0.6	150

Name	Upstream Cover Level (m)	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Lock	Culvert Type	Culvert Entrance
1.004	118.720	117.458	117.610	117.410	All	(None)	(None)

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by: jpdsg	Checked by:	Approved By:	
	Company Address:			
Report Details: Type: Manhole Schedule Storm Phase: 440mm				

Name	Cover Level (m) Invert Level (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
SW04	118.720 117.458	Diameter / Length: 0.450					Manhole
E:358301.431 N:406105.323	1.262		{a} 1.004	Pipe	117.458	Diam/Width:150	Not Applicable

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by:	Checked by:	Approved By:	
	jpdsg			
Report Details: Type: Inflow Summary Storm Phase: 440mm	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 (3)	SW04		Time of Concentration	0.043	100	0	100	0.043
TOTAL		0.0		0.043				0.043

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Network Design Criteria Storm Phase: 440mm		
Company Address:			

Flow Options

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

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Manhole Options

Apply Offset	☐
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Manhole Size Library

Default

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025				
	Designed by: jpdsg	Checked by:	Approved By:		
	Report Details: Type: Junctions Storm Phase: 880mm				
			Company Address:		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SW04	Manhole	358301.431	406105.323	118.720	1.262	117.458	Circular	0.450

Name	Lock
SW04	None

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
SW04	Inlet	Catchment Area (3)	(None)	No Restriction

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SW04	Outlet	1.004	Free Discharge

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by: jpdsg	Checked by:	Approved By:	
	Report Details: Type: Stormwater Controls Storm Phase: 880mm			
Company Address:				

**SOAKAWAY**

Type : Cellular Storage

Dimensions	
Exceedance Level (m)	117.610
Depth (m)	0.880
Base Level (m)	116.720
Number of Crates Long	7
Number of Crates Wide	8
Number of Crates High	2
Porosity (%)	98
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.44
Total Volume (m³)	24.157
Inlets	
Inlet	
Inlet Type	Point Inflow
Incoming Item(s)	1.004
Bypass Destination	(None)
Capacity Type	No Restriction
Advanced	
Base Infiltration Rate (m/hr)	0.086
Side Infiltration Rate (m/hr)	0.086
Safety Factor	2.0

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by:	Checked by:	Approved By:	
	jpdsg			
Report Details: Type: Connections Storm Phase: 880mm	Company Address:			

Name	From	To	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)
1.004	SW04	SOAKAWAY	6.979	Pipe	-26.639		0.6	150

Name	Upstream Cover Level (m)	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Lock	Culvert Type	Culvert Entrance
1.004	118.720	117.458	117.610	117.720	All	(None)	(None)

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by:	Checked by:	Approved By:	
	jpdsg			
Report Details: Type: Manhole Schedule Storm Phase: 880mm	Company Address:			

Name	Cover Level (m) Invert Level (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
SW04	118.720 117.458	Diameter / Length: 0.450					Manhole
E:358301.431 N:406105.323	1.262		{a} 1.004	Pipe	117.458	Diam/Width:150	Not Applicable

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by:	Checked by:	Approved By:	
	jpdsg			
Report Details: Type: Inflow Summary Storm Phase: 880mm		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 (3)	SW04		Time of Concentration	0.043	100	0	100	0.043
TOTAL		0.0		0.043				0.043

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Network Design Criteria Storm Phase: 880mm		
Company Address:			

Flow Options

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

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Manhole Options

Apply Offset	☐
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Manhole Size Library

Default

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by: jpdsg	Checked by:	Approved By:	
	Report Title: Rainfall Analysis Criteria			
Company Address:				

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	☐

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Junctions Summary Storm Phase: 440mm		
Company Address:			



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

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
SW04	FSR: 100 years: +40 %: 15 mins: Summer	118.72 0	117.45 8	117.651	0.193	19.0	0.031	0.000	18.4	8.441	Surcharged

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Junctions Summary Storm Phase: 440mm		
Company Address:			



FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
SW04	FSR: 30 years: +0 %: 15 mins: Summer	118.720	117.458	117.561	0.103	10.7	0.016	0.000	10.5	4.675	OK

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Company Address:		
Report Details: Type: Junctions Summary Storm Phase: 440mm			





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

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
SW04	FSR: 1 years: +0 %: 15 mins: Summer	118.720	117.458	117.517	0.059	4.4	0.009	0.000	4.3	1.922	OK

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Stormwater Controls Summary Storm Phase: 440mm		
Company Address:			



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

Storm Event	Stormwater Control	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 (%)	Half Drain Down Time (mins)
FSR: 100 years: +40 %: 240 mins: Winter	SOAKAWAY	117.551	117.551	0.391	0.391	4.9	18.776	0.000	18.912	0.0	0.000	11.179	237

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by:	Checked by:	Approved By:	
	jpdsg			
Report Details: Type: Stormwater Controls Summary Storm Phase: 440mm	Company Address:			

Status

OK

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Stormwater Controls Summary Storm Phase: 440mm		
Company Address:			



FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Storm Event	Stormwater Control	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 (%)	Half Drain Down Time (mins)
FSR: 30 years: +0 %: 120 mins: Winter	SOAKAWAY	117.326	117.326	0.166	0.166	4.2	7.951	0.000	8.707	0.0	0.000	62.388	120

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Stormwater Controls Summary Storm Phase: 440mm		
Company Address:			

Status

OK

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Stormwater Controls Summary Storm Phase: 440mm		
Company Address:			



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

Storm Event	Stormwater Control	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 (%)	Half Drain Down Time (mins)
FSR: 1 years: +0 %: 60 mins: Winter	SOAKAWAY	117.202	117.202	0.042	0.042	2.5	2.030	0.000	3.907	0.0	0.000	90.398	37

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by: jpdsg	Checked by:	Approved By:	
	Report Details: Type: Stormwater Controls Summary Storm Phase: 440mm			
Company Address:				

Status

OK

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by:	Checked by:	Approved By:
	jpdsg		
Report Details: Type: Connections Summary Storm Phase: 440mm	Company Address:		





FSR: 100 years: Increase Rainfall (%): +40: 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
1.004	FSR: 100 years: +40 %: 15 mins: Winter	Pipe	SW04	SOAKAW AY	118.720	117.662	0.150	9.559	1.1	1.32	19.4	Surchar ged

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Connections Summary Storm Phase: 440mm		
Company Address:			



FSR: 30 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 (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.004	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SW04	SOAKAWAY	118.720	117.567	0.103	5.296	0.9	0.76	11.2	OK

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Connections Summary Storm Phase: 440mm		
Company Address:			



FSR: 1 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 (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.004	FSR: 1 years: +0 %: 15 mins: Winter	Pipe	SW04	SOAKAW AY	118.720	117.519	0.059	2.174	0.7	0.31	4.6	OK

MODELLING OUTPUTS::
3 SUNNIGDALE AVENUE
WHITEFIELD, MANCHESTER
M45 7GW

Date:
23/05/2025

Designed by:
jpdsg

Checked by:

Approved By:

Report Details:
Type: Phase Management
Storm Phase: 440mm

Company Address:

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DRN

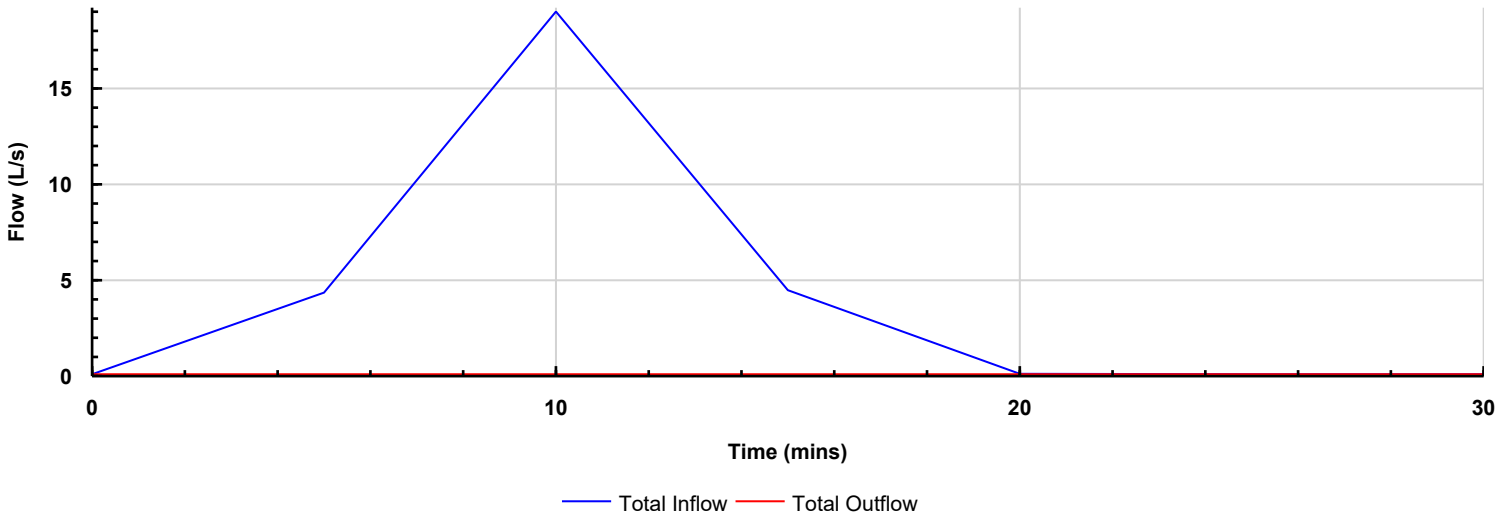
 **440mm**
FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

Tables

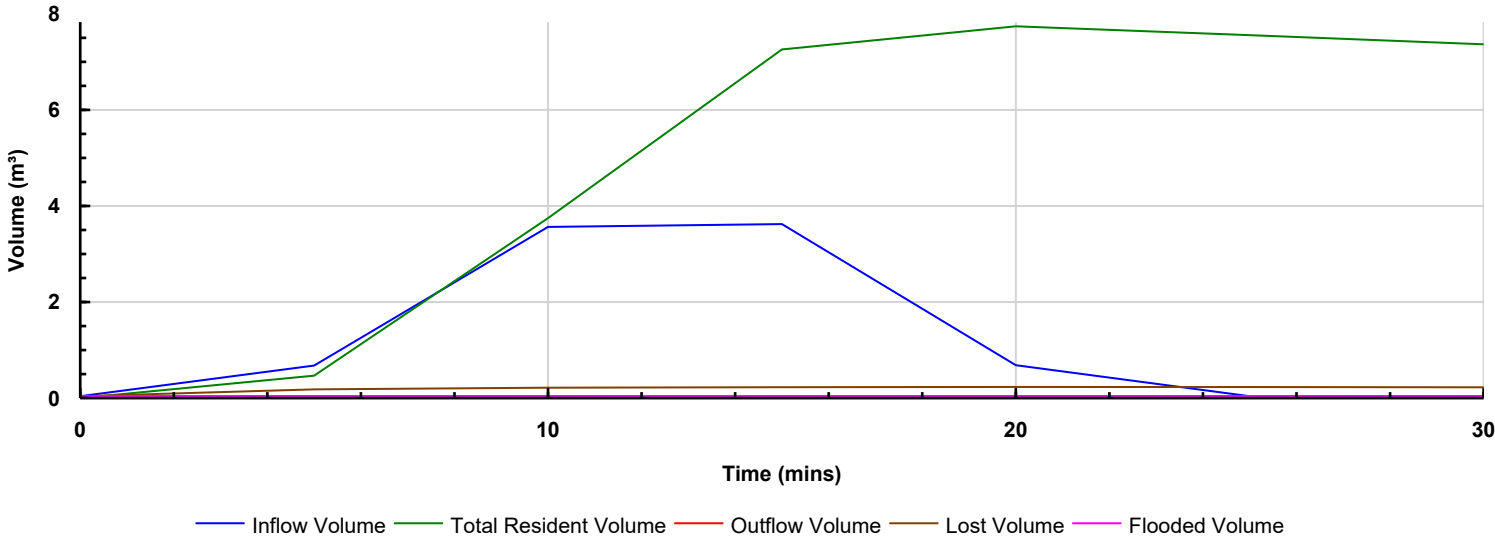
Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	19.0	8.435	0.0	0.000

Graphs

Flow Graph



Volume Graph



MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by:	Checked by:	Approved By:
	ipdsg		
Report Details: Type: Phase Management Storm Phase: 440mm	Company Address:		



I

DRN



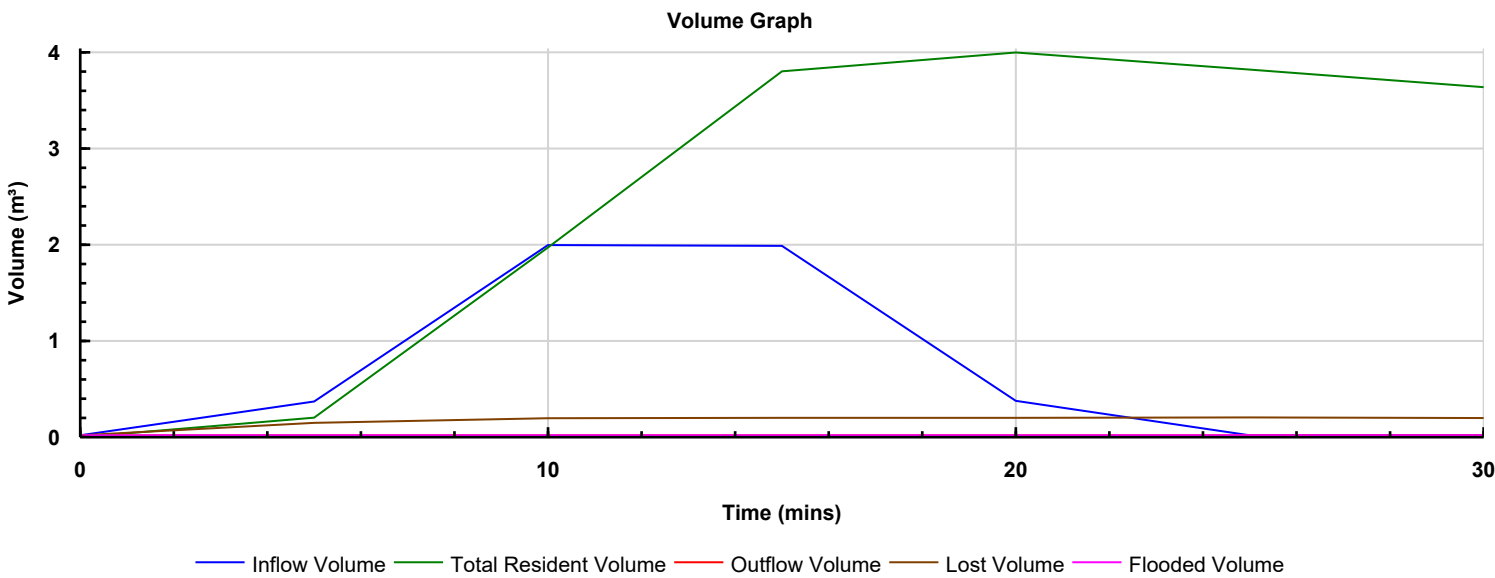
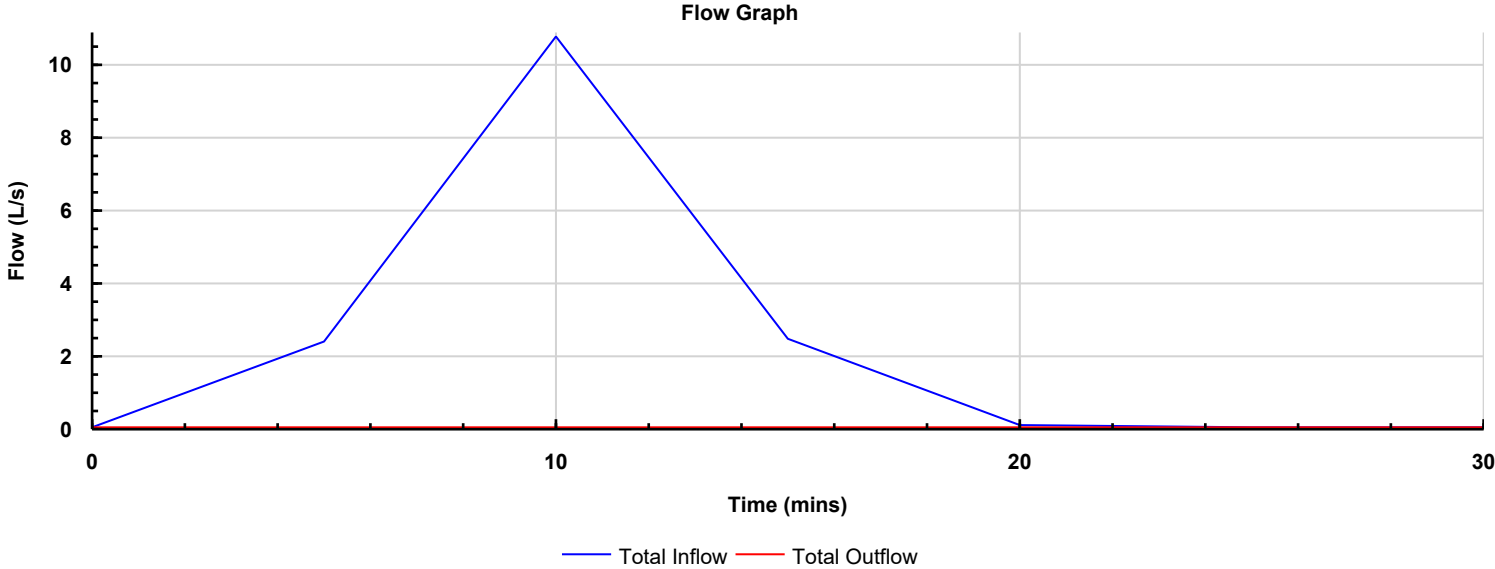
440mm

FSR: 30 years: Increase Rainfall (%): +0: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	10.8	4.678	0.0	0.000

Graphs



MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by:	Checked by:	Approved By:
	ipdsg		
Report Details:	Company Address:		
Type: Phase Management			
Storm Phase: 440mm			

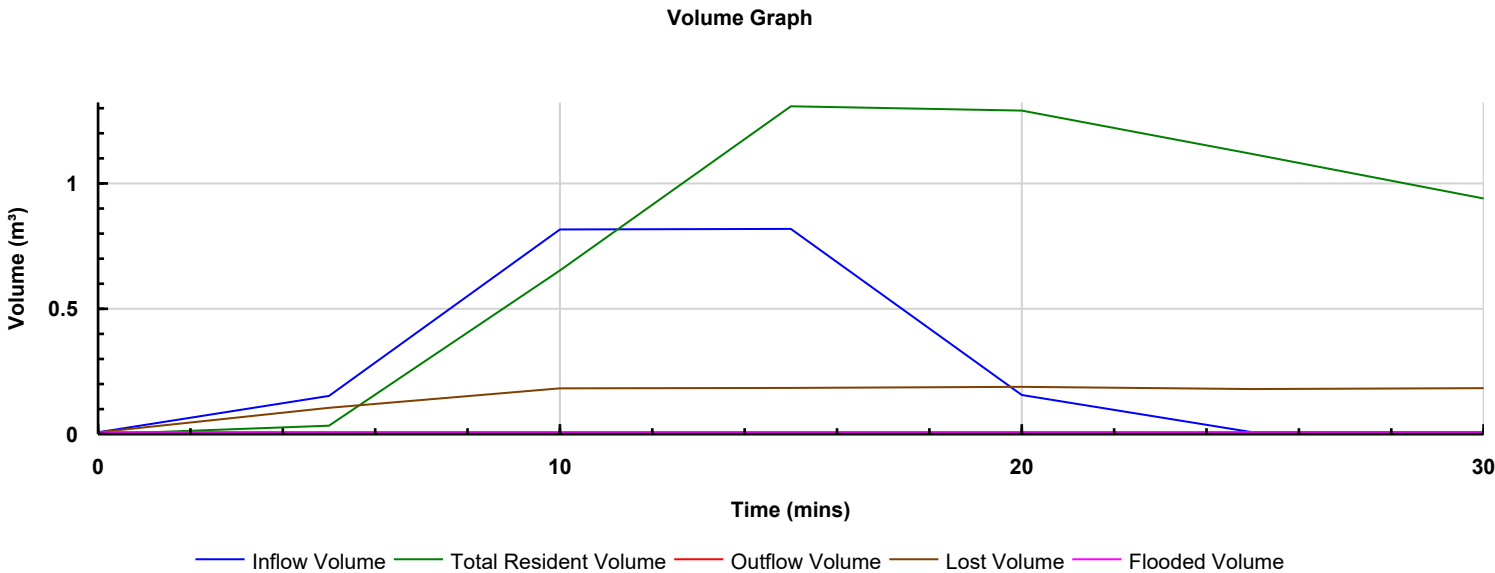
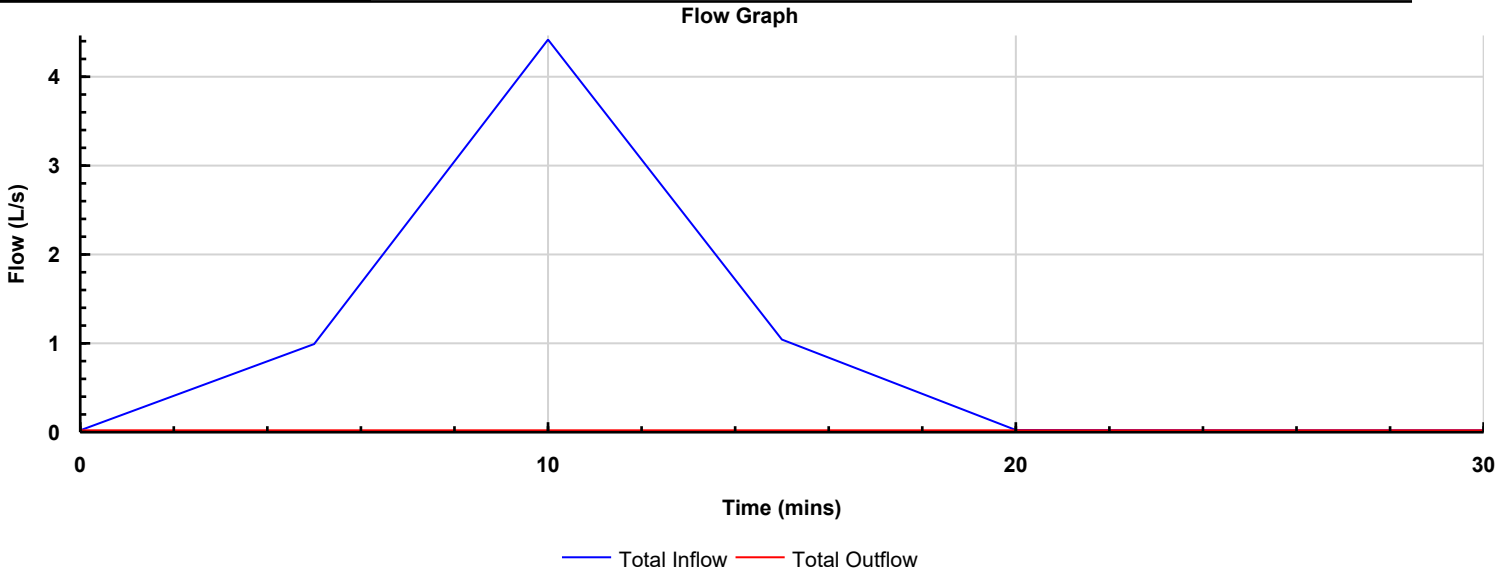



440mm
FSR: 1 years: Increase Rainfall (%): +0: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	4.4	1.925	0.0	0.000

Graphs



MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Junctions Summary Storm Phase: 880mm		
Company Address:			



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

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
SW04	FSR: 100 years: +40 %: 15 mins: Summer	118.72 0	117.45 8	117.944	0.486	18.7	0.077	0.000	17.7	8.289	Surcharged

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Company Address:		
Report Details: Type: Junctions Summary Storm Phase: 880mm			





FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
SW04	FSR: 30 years: +0 %: 15 mins: Summer	118.720	117.458	117.826	0.368	10.4	0.059	0.000	10.0	4.501	Surcharged

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Company Address:		
Report Details: Type: Junctions Summary Storm Phase: 880mm			





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

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
SW04	FSR: 1 years: +0 %: 15 mins: Summer	118.720	117.458	117.761	0.303	4.3	0.048	0.000	4.2	1.797	Surcharged

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Stormwater Controls Summary Storm Phase: 880mm		
Company Address:			



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

Storm Event	Stormwater Control	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 (%)	Half Drain Down Time (mins)
FSR: 100 years: +40 %: 360 mins: Winter	SOAKAWAY	117.518	117.518	0.798	0.798	3.6	21.908	0.000	19.584	0.0	8.492	9.310	397

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025			
	Designed by:	Checked by:	Approved By:	
	jpdsg			
Report Details: Type: Stormwater Controls Summary Storm Phase: 880mm	Company Address:			

Status

OK

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Stormwater Controls Summary Storm Phase: 880mm		
Company Address:			



FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Storm Event	Stormwater Control	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 (%)	Half Drain Down Time (mins)
FSR: 30 years: +0 %: 240 mins: Winter	SOAKAWAY	117.082	117.082	0.362	0.362	3.3	9.941	0.000	10.782	0.0	5.722	58.849	210

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Report Details: Type: Stormwater Controls Summary Storm Phase: 880mm	Company Address:			

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	Designed by: jpdsg	Checked by:	Approved By:
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Company Address:			

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

Storm Event	Stormwater Control	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 (%)	Half Drain Down Time (mins)
FSR: 1 years: +0 %: 180 mins: Winter	SOAKAWAY	116.825	116.825	0.105	0.105	2.3	2.889	0.000	5.200	0.0	2.411	88.042	75

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Report Details: Type: Stormwater Controls Summary Storm Phase: 880mm	Company Address:			

Status

OK

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	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Connections Summary Storm Phase: 880mm		
Company Address:			



FSR: 100 years: Increase Rainfall (%): +40: 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
1.004	FSR: 100 years: +40 %: 15 mins: Winter	Pipe	SW04	SOAKAW AY	118.720	117.964	0.150	0.000	1.1	1.43	19.0	Surchar ged

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Connections Summary Storm Phase: 880mm		
Company Address:			



FSR: 30 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 (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.004	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SW04	SOAKAWAY	118.720	117.835	0.150	0.000	0.6	0.8	10.7	Surcharged

MODELLING OUTPUTS:: 3 SUNNIGDALE AVENUE WHITEFIELD, MANCHESTER M45 7GW	Date: 23/05/2025		
	Designed by: jpdsg	Checked by:	Approved By:
	Report Details: Type: Connections Summary Storm Phase: 880mm		
Company Address:			



FSR: 1 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 (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.004	FSR: 1 years: +0 %: 15 mins: Winter	Pipe	SW04	SOAKAW AY	118.720	117.764	0.150	0.000	0.2	0.33	4.4	Surcharged

MODELLING OUTPUTS::
3 SUNNIGDALE AVENUE
WHITEFIELD, MANCHESTER
M45 7GW

Date:
23/05/2025

Report Details:
Type: Phase Management
Storm Phase: 880mm

Designed by:
jpdsg

Checked by:

Approved By:

Company Address:

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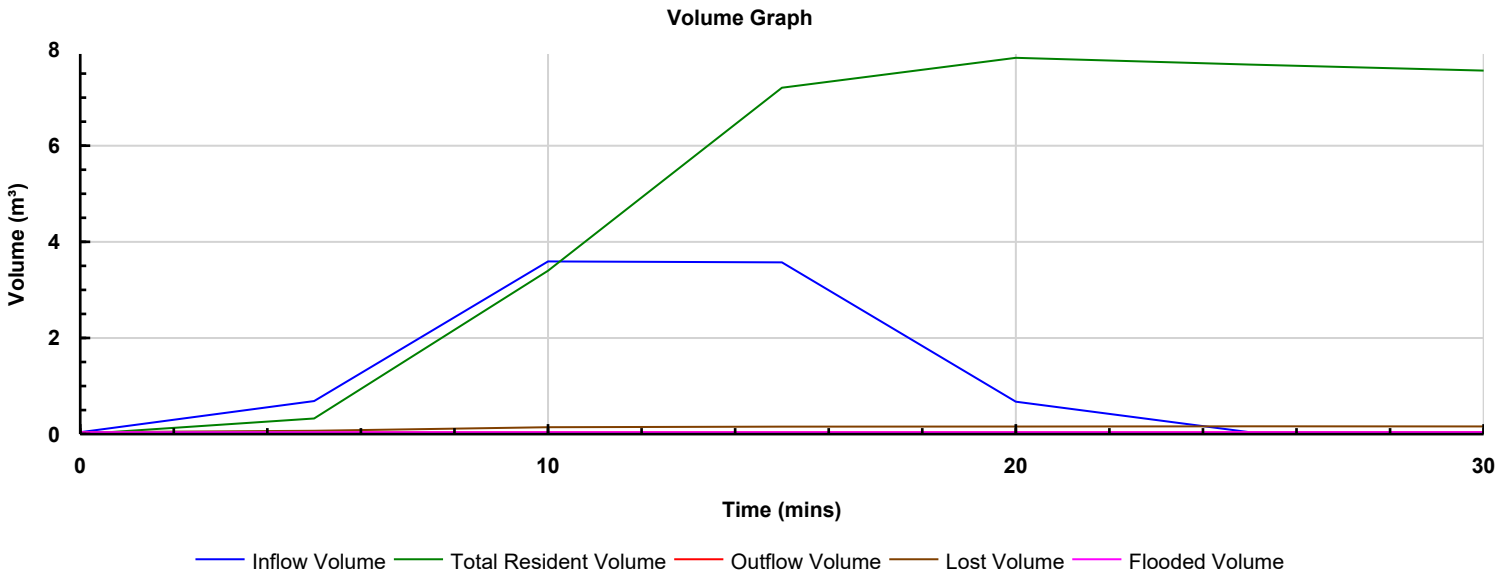
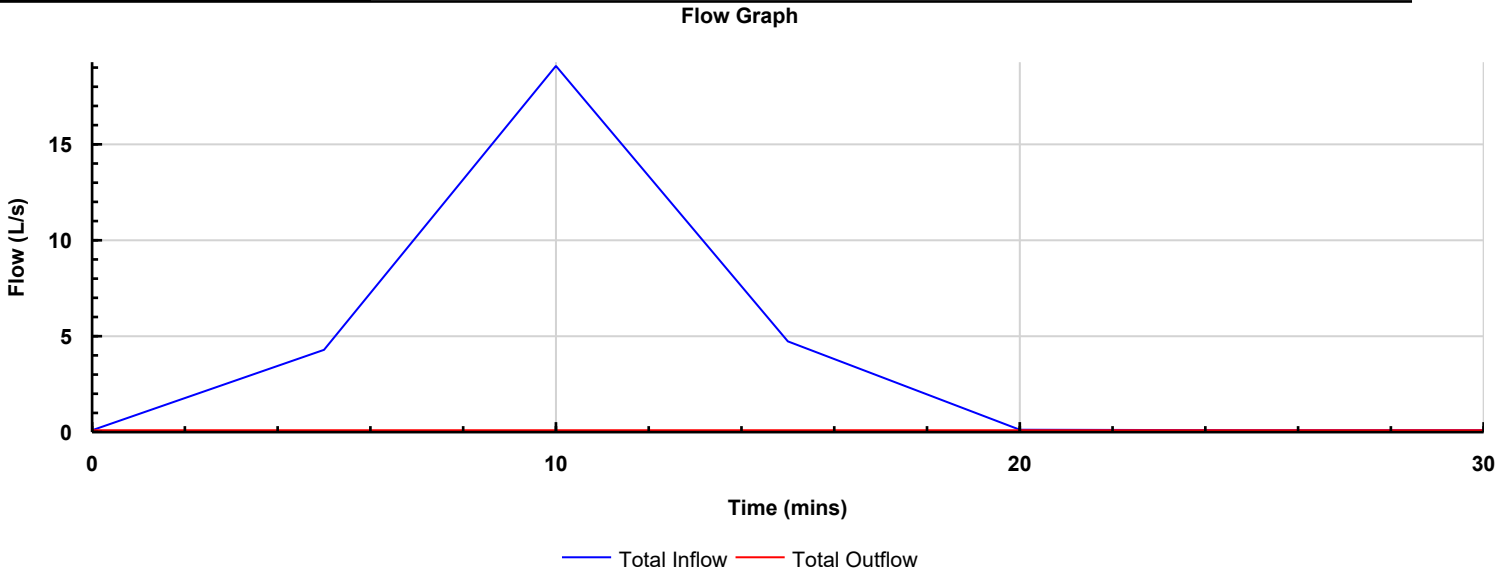
DRN

880mm
FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	19.1	8.412	0.0	0.000

Graphs



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	Company Address:		
Report Details: Type: Phase Management Storm Phase: 880mm			



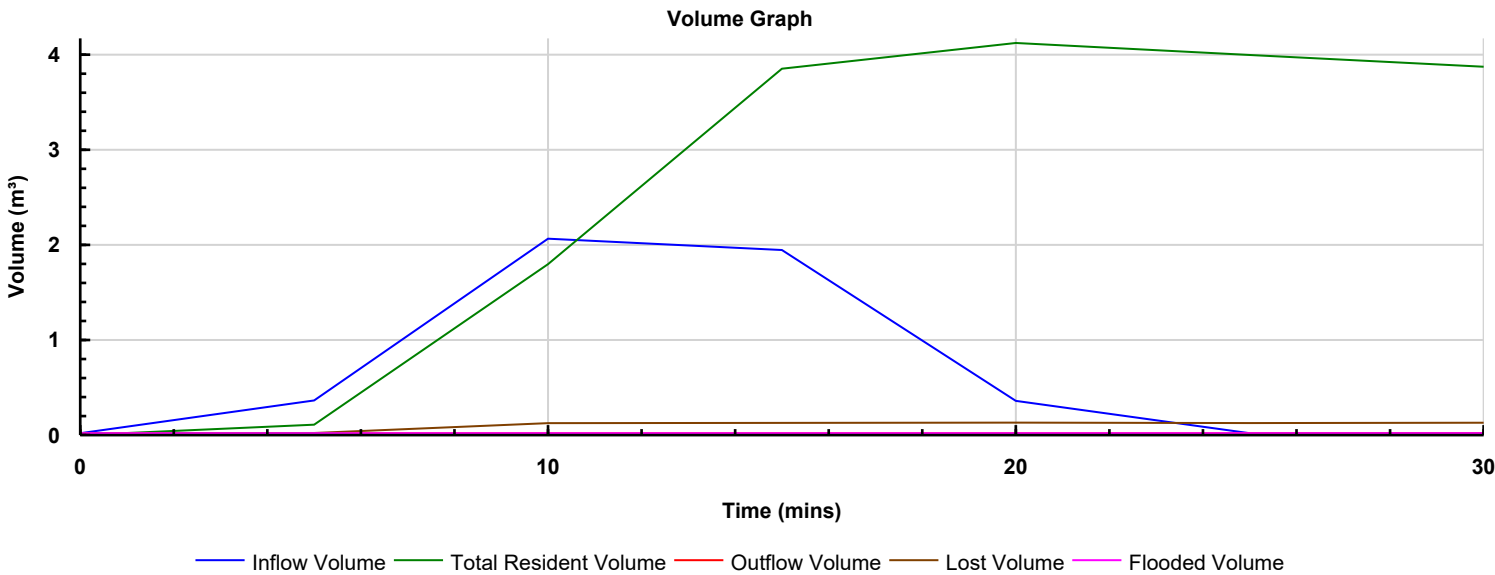
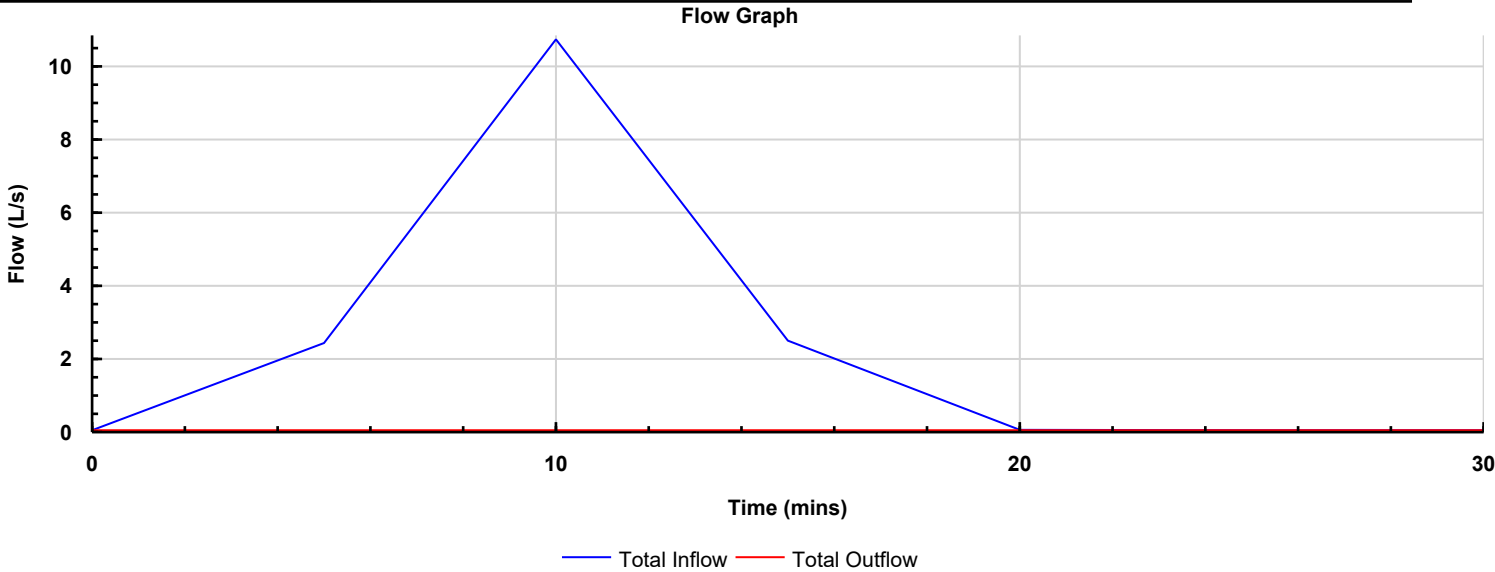
880mm
 FSR: 30 years: Increase Rainfall (%): +0: 15 mins: Summer

Simulation Health - The results show flow continuity issues, please try a shorter time step.

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	10.7	4.678	0.0	0.000

Graphs



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	Company Address:		
Report Details: Type: Phase Management Storm Phase: 880mm			



880mm

FSR: 1 years: Increase Rainfall (%): +0: 15 mins: Summer

Simulation Health - The results show flow continuity issues, please try a shorter time step.

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	4.4	1.922	0.0	0.000

Graphs

