

## **3536 – Residential Development at Millfield House, Haxby**

The existing site is a residential dwelling which is to remain unchanged. The proposal is for two new residential dwellings. One to the West and one to the East of Millfield House. The Site area of the West plot is 719m<sup>2</sup>. The Site area of the East plot is 475m<sup>2</sup>. The total site area is 1194m<sup>2</sup>.

The greenfield runoff rates for a 0.12ha site have been calculated as:

QBar – 0.19l/s

Q1 year – 0.16 l/s

Q30 year – 0.33 l/s

Q100 year – 0.39 l/s

To limit the risk of blockages it is proposed to limit the discharge to 0.5l/s.

### **WEST PLOT**

Proposed Impermeable Areas:

Building = 155m<sup>2</sup>

Hardstanding = 119m<sup>2</sup>

**Total = 274m<sup>2</sup>**

### **EAST PLOT**

Proposed Impermeable Areas:

Building = 97m<sup>2</sup>


Hardstanding = 133m<sup>2</sup>

**Total = 230m<sup>2</sup>**

Total impermeable area 504m<sup>2</sup>. Discharge will be limited via a Hydrobrake with a pumped discharge to the nearest sewer.

Both driveways will be drained via permeable surfaces with attenuation storage within the subbase. The drainage network has been designed to accommodate rainfall event up to 1 in 100 years with 30% allowance for climate change. Attenuation storage has been designed within the subbase of the permeable driveway and below ground storage tanks as per attached calculations. A min 250mm depth of subbase with 30% void ratio is proposed and 5m x 2m x 0.4m deep attenuation with 95% void ratio is required to accommodate a range of storm durations for up to 1 in 100 years with 30% allowance for climate change.



Project:	Date: 09/08/2023			
	Designed by: GraemeBeaven	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address:			



**Catchment Area**

Type : Catchment Area

Area (ha)	0.025
-----------	-------

**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



**Catchment Area (1)**

Type : Catchment Area

Area (ha)	0.025
-----------	-------

**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: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		



**Porous Paving**

Type : Porous Paving

**Dimensions**

Exceedence Level (m)	10.000
Depth (m)	0.500
Base Level (m)	9.500
Paving Layer Depth (mm)	250
Membrane Percolation (m/hr)	0.01
Porosity (%)	30
Length (m)	25.000
Long. Slope (1:x)	10000.00
Width (m)	10.000
Total Volume (m³)	18.750

**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)	10000.0
---------------------	---------

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		



### Cellular Storage

Type : Cellular Storage

#### Dimensions

Exceedence Level (m)	10.000
Depth (m)	0.400
Base Level (m)	9.000
Number of Crates Long	5
Number of Crates Wide	4
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m <sup>3</sup> )	4.400

#### Inlets

##### Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (1)
Bypass Destination	(None)
Capacity Type	No Restriction

##### Inlet (1)

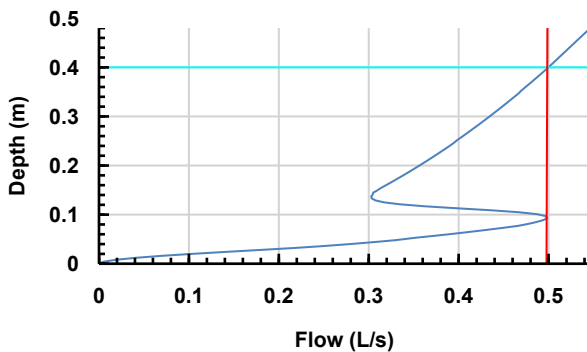
Inlet Type	Point Inflow
Incoming Item(s)	Pipe (1)
Bypass Destination	(None)
Capacity Type	No Restriction


#### Outlets

##### Outlet

Outgoing Connection	(None)
Outlet Type	Hydro-Brake®
Invert Level (m)	9.000
Design Depth (m)	0.400
Design Flow (L/s)	0.5
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	<input type="checkbox"/>

Unit Reference	CHE-0040-5000-0400-5000
----------------	-------------------------




Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	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)
Pipe	3.369	Pipe	33.688		0.6	100	10.003	9.500
Pipe (1)	9.357	Pipe	23.392		0.6	100	10.000	9.400

Name	Downstream Cover Level (m)	Downstream Invert Level (m)
Pipe	10.000	9.400
Pipe (1)	10.000	9.000

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked 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 Paving		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (1)	Cellular Storage		Time of Concentration	0.025	100	0	100	0.025
<b>TOTAL</b>		<b>0.0</b>		<b>0.051</b>				<b>0.051</b>



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Network Design Criteria Storm Phase: Phase	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 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	<input type="checkbox"/>
Reduce Channel Depths	<input type="checkbox"/>

### Pipe Size Library

#### Default

Add. Increment (mm)	75
---------------------	----

Diameter (mm)	Min. Slope (1:x)	Max. Slope (1:x)
100	0.00	0.00
150	0.00	0.00

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address:		

**Manhole Options**

Apply Offset	<input type="checkbox"/>
Synchronise Manhole Invert Levels	<input checked="" type="checkbox"/>

**Manhole Size Library**

**Default**

**Diameter / Width**

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

**Additional Sizing**

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

**Depth**


Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

**Access**

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230


**Benching Requirements**

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

Project:	Date: 09/08/2023			
	Designed by: GraemeBeaven	Checked by:	Approved By:	
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address:			

<b>Outfalls</b>
-----------------

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
Cellular Storage	Free Discharge		

Project:	Date: 09/08/2023			
	Designed by: GraemeBeaven	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)	0
Perform No Discharge Analysis	<input type="checkbox"/>

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		



**FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item**

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m <sup>3</sup> )
Catchment Area	FSR: 1 years: +0 %: 15 mins: Winter	0.03	3.4	1.559
Catchment Area (1)	FSR: 1 years: +0 %: 15 mins: Winter	0.03	3.4	1.559

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		



**FSR: 30 years: Increase Rainfall (%): +30: Critical Storm Per Item**

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m <sup>3</sup> )
Catchment Area	FSR: 30 years: +30 %: 15 mins: Winter	0.03	10.8	5.016
Catchment Area (1)	FSR: 30 years: +30 %: 15 mins: Winter	0.03	10.8	5.016


Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		



**FSR: 100 years: Increase Rainfall (%): +30: Critical Storm Per Item**

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m <sup>3</sup> )
Catchment Area	FSR: 100 years: +30 %: 15 mins: Winter	0.03	14.0	6.526
Catchment Area (1)	FSR: 100 years: +30 %: 15 mins: Winter	0.03	14.0	6.526

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		




**FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item**

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
Manhole	FSR: 1 years: +0 %: 60 mins: Winter	10.00 0	9.400	9.412	0.012	0.4	0.010	0.000	0.4	1.400	OK



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		



**FSR: 30 years: Increase Rainfall (%): +30: Critical Storm Per Item**

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
Manhole	FSR: 30 years: +30 %: 240 mins: Winter	10.00 0	9.400	9.671	0.271	1.4	0.213	0.000	0.8	13.275	Surcharged

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		



**FSR: 100 years: Increase Rainfall (%): +30: Critical Storm Per Item**

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
Manhole	FSR: 100 years: +30 %: 180 mins: Winter	10.00 0	9.400	9.750	0.350	2.7	0.275	0.000	1.0	13.294	Surcharged

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		



**FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item**

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
Porous Paving	FSR: 1 years: +0 %: 180 mins: Winter	9.535	9.514	0.033	0.014	0.8	1.946	0.000	0.000	0.4	2.975	90	OK
Cellular Storage	FSR: 1 years: +0 %: 120 mins: Winter	9.273	9.273	0.273	0.273	1.4	2.597	0.000	0.000	0.5	4.655	41	OK

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		



**FSR: 30 years: Increase Rainfall (%): +30: Critical Storm Per Item**

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
Porous Paving	FSR: 30 years: +30 %: 240 mins: Winter	9.673	9.671	0.170	0.171	3.4	12.825	0.000	0.000	0.9	9.950	32	OK
Cellular Storage	FSR: 30 years: +30 %: 30 mins: Winter	9.683	9.683	0.683	0.683	7.9	4.072	0.000	0.000	0.6	3.829	7	OK

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		



**FSR: 100 years: Increase Rainfall (%): +30: Critical Storm Per Item**

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
Porous Paving	FSR: 100 years: +30 %: 240 mins: Winter	9.752	10.006	0.249	0.506	4.6	19.490	0.747	0.000	1.1	9.579	-4	Flood
Cellular Storage	FSR: 100 years: +30 %: 30 mins: Winter	9.874	9.874	0.874	0.874	10.5	4.254	0.000	0.000	0.6	5.742	3	OK

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		



**FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item**

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: 1 years: +0 %: 60 mins: Winter	Pipe	Porous Paving	Manhole	10.0	9.524	0.014	1.408	0.7	0.04	0.4	OK
Pipe (1)	FSR: 1 years: +0 %: 60 mins: Winter	Pipe	Manhole	Cellular Storage	10.0	9.412	0.100	1.400	0.1	0.04	0.4	OK

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		



**FSR: 30 years: Increase Rainfall (%): +30: Critical Storm Per Item**

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: 30 years: +30 %: 30 mins: Summer	Pipe	Porous Paving	Manhole	10.0	9.589	0.100	0.527	0.8	0.22	2.3	OK
Pipe (1)	FSR: 30 years: +30 %: 60 mins: Winter	Pipe	Manhole	Cellular Storage	10.0	9.642	0.100	0.452	0.2	0.1	1.2	Surcharged

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		



**FSR: 100 years: Increase Rainfall (%): +30: Critical Storm Per Item**

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: +30 %: 15 mins: Winter	Pipe	Porous Paving	Manhole	10.0	9.612	0.100	0.229	1.0	0.19	2.0	Surcharged
Pipe (1)	FSR: 100 years: +30 %: 15 mins: Winter	Pipe	Manhole	Cellular Storage	10.0	9.666	0.100	0.198	0.2	0.15	1.9	Surcharged



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address:		

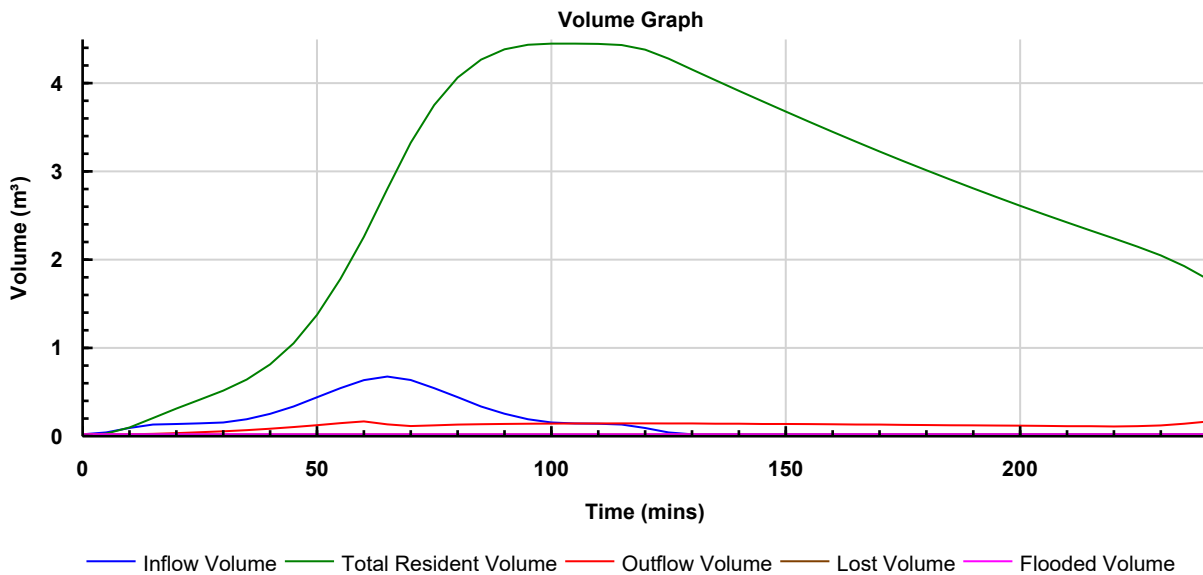
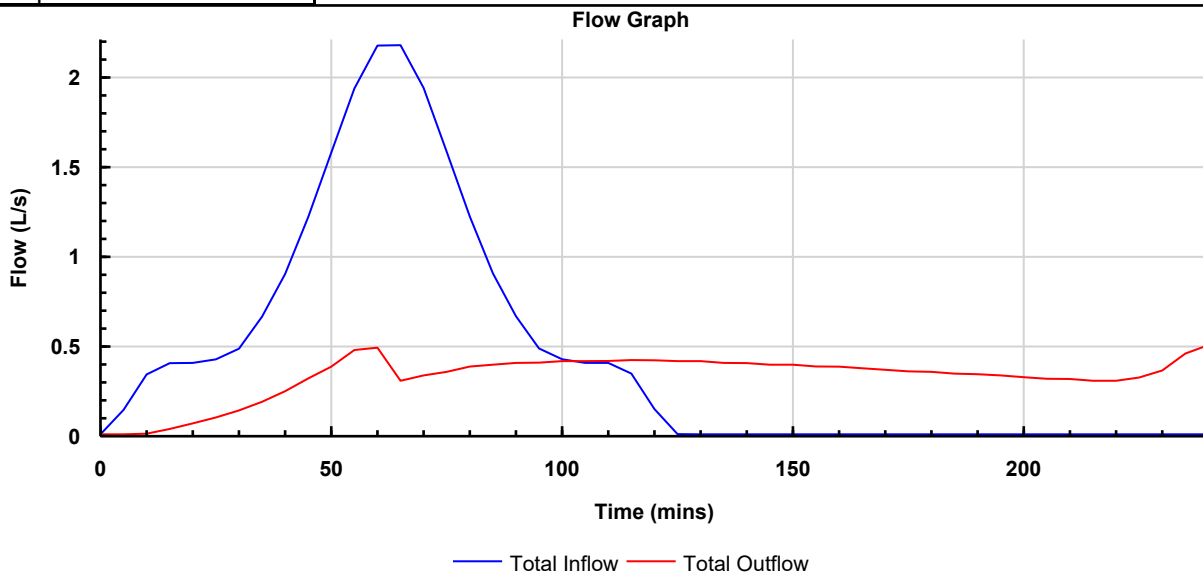


**Phase**  
FSR: 1 years: Increase Rainfall (%): +0: 120 mins: Winter

**Tables**

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Cellular Storage			0.5	4.655
TOTAL	2.2	6.392	0.5	4.655

**Graphs**



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address:		

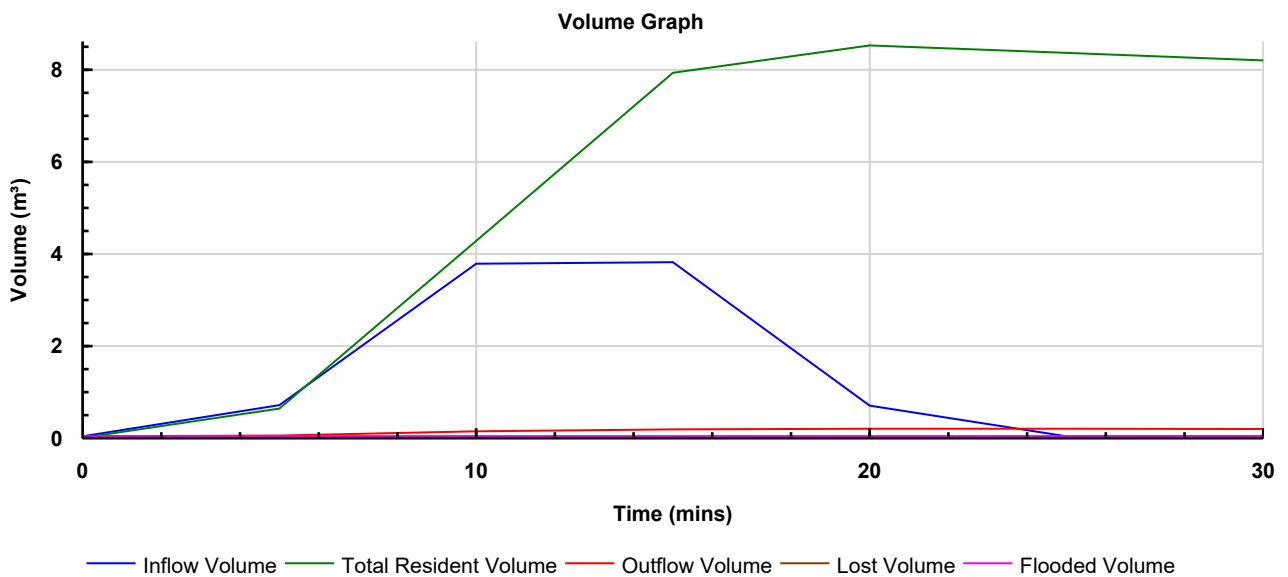
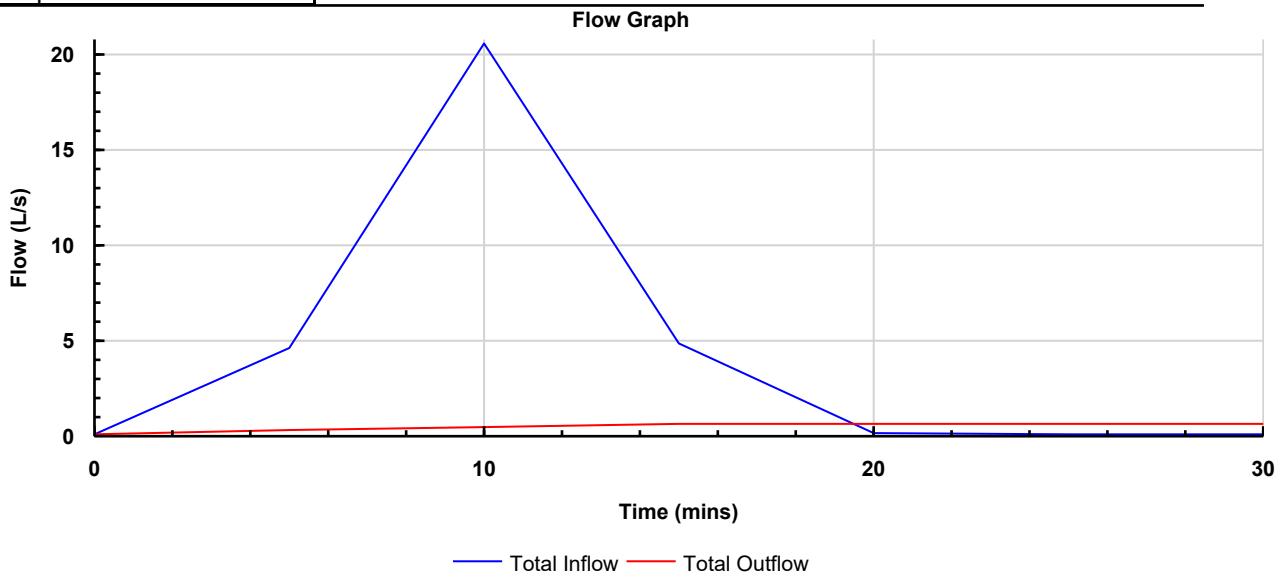


**Phase**  
FSR: 30 years: Increase Rainfall (%): +30: 15 mins: Summer

**Tables**

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Cellular Storage			0.6	0.765
TOTAL	20.6	8.914	0.6	0.765

**Graphs**



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address:		

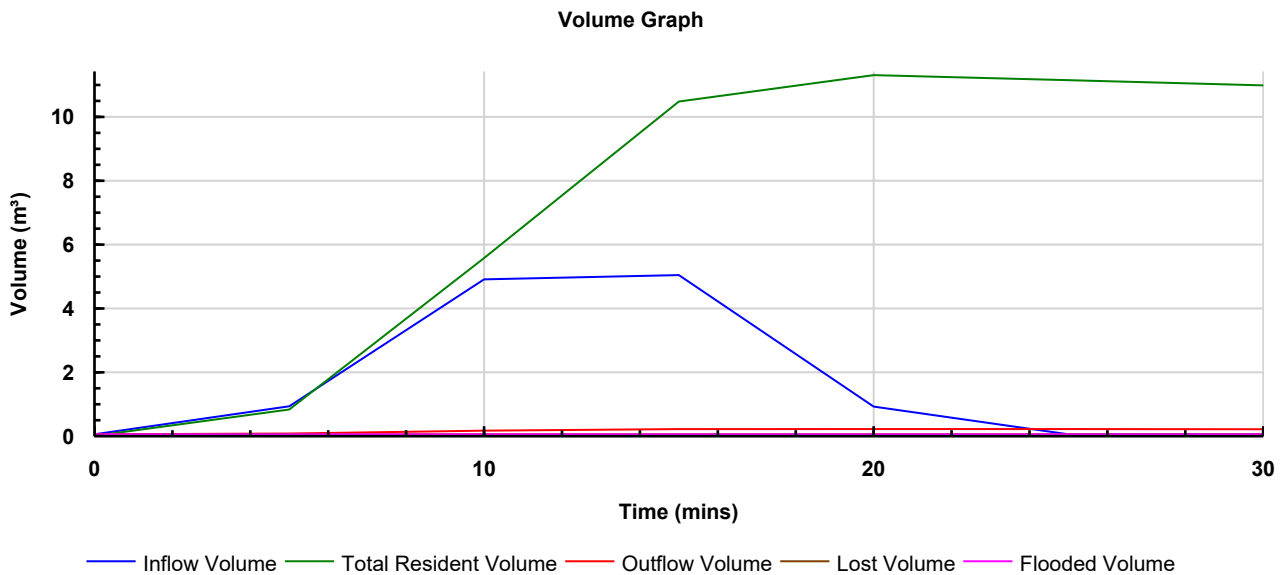
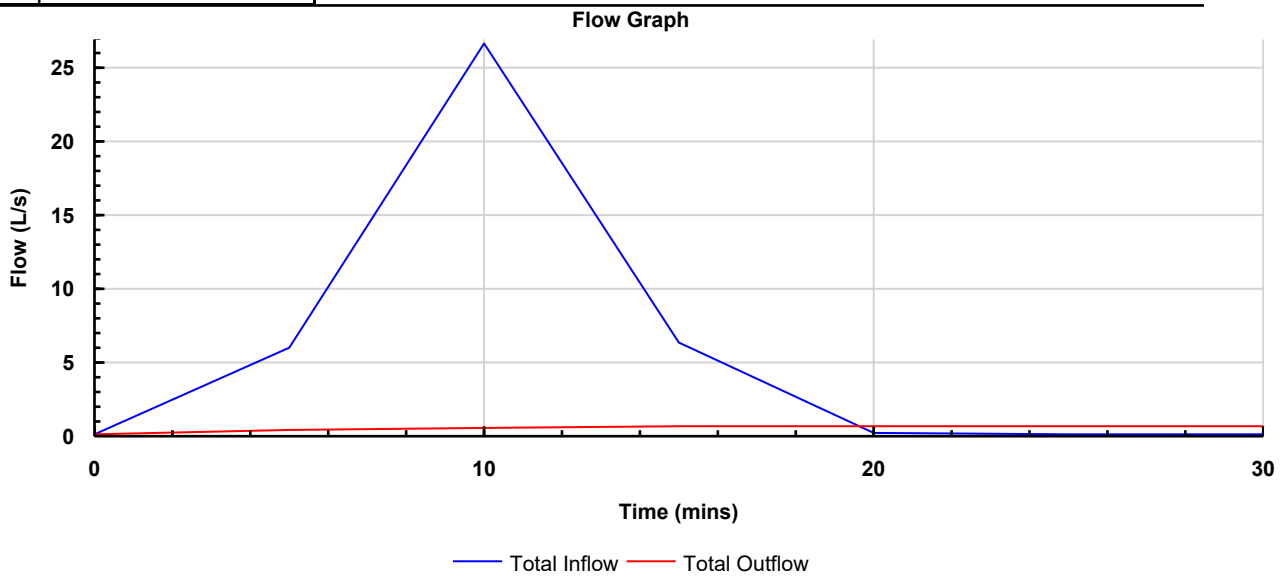



**Phase**  
FSR: 100 years: Increase Rainfall (%): +30: 15 mins: Summer

**Tables**

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
Cellular Storage			0.6	0.792
TOTAL	26.6	11.645	0.6	0.792

**Graphs**



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		



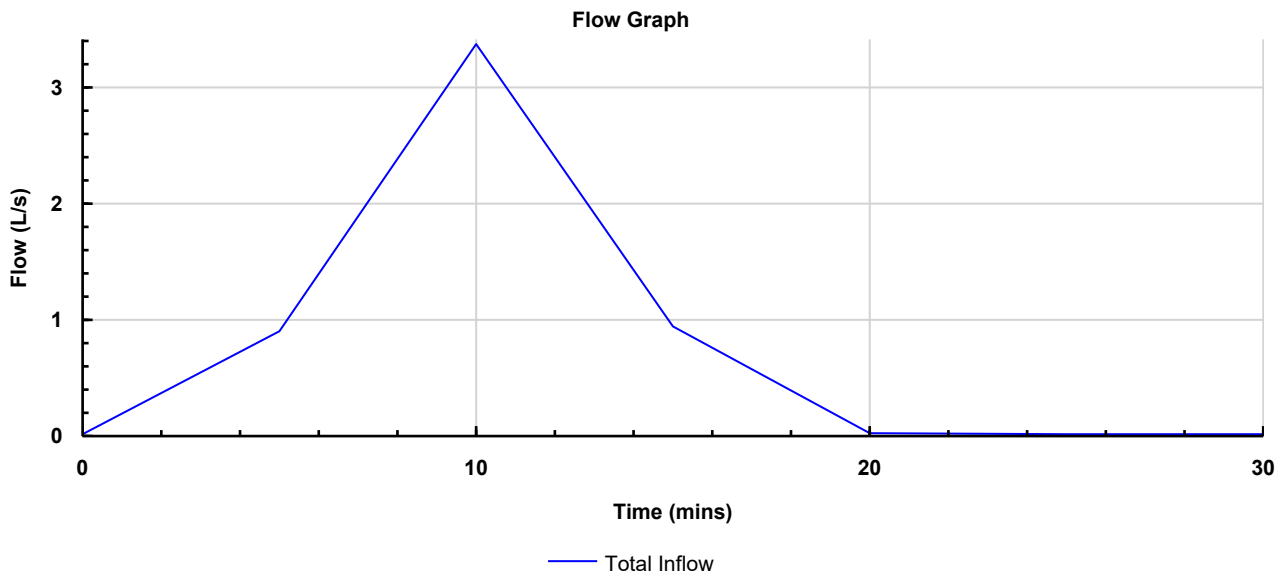
**Catchment Area**  
**Critical by Return Period: FSR: 1 years: Increase Rainfall (%): +0: 15 mins: Winter**

Type : Catchment Area

**Inflow**


Max. Inflow (L/s)	3.4
Total Inflow Volume (m <sup>3</sup> )	1.559

**Graphs**



**Tables**

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.9
10	3.4
15	0.9
20	0.0
25	0.0
30	0.0

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		



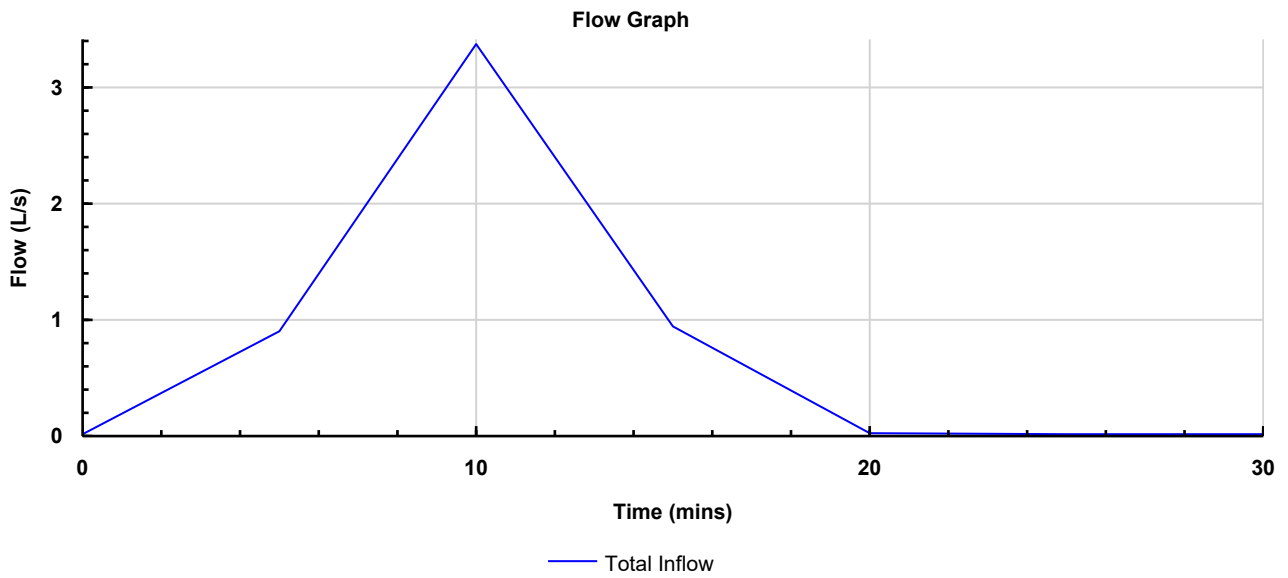
**Catchment Area (1)**  
**Critical by Return Period: FSR: 1 years: Increase Rainfall (%): +0: 15 mins: Winter**

Type : Catchment Area

**Inflow**


Max. Inflow (L/s)	3.4
Total Inflow Volume (m <sup>3</sup> )	1.559

**Graphs**



**Tables**

Time (mins)	Total Inflow (L/s)
0	0.0
5	0.9
10	3.4
15	0.9
20	0.0
25	0.0
30	0.0

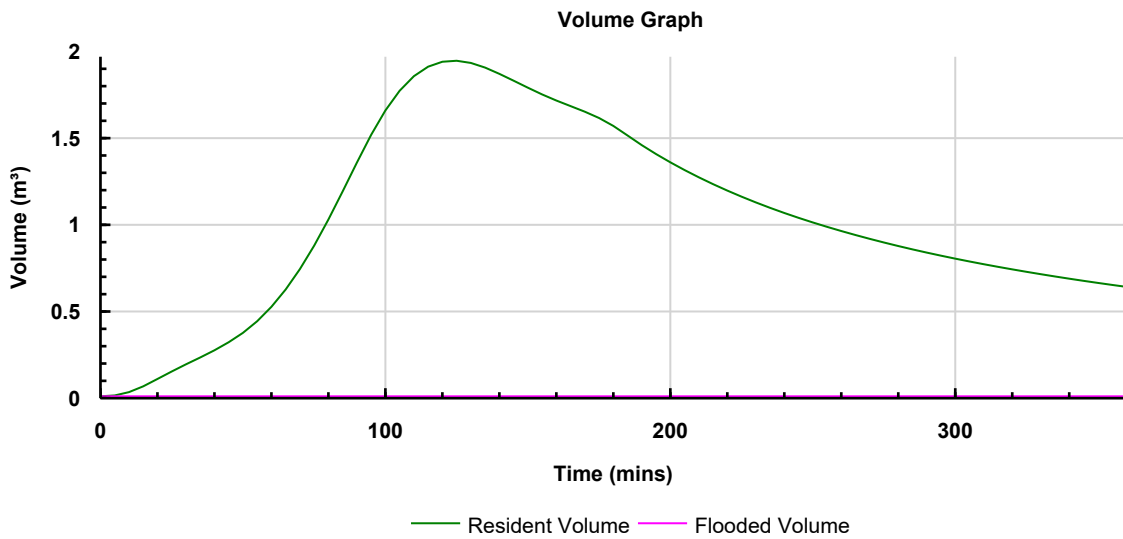
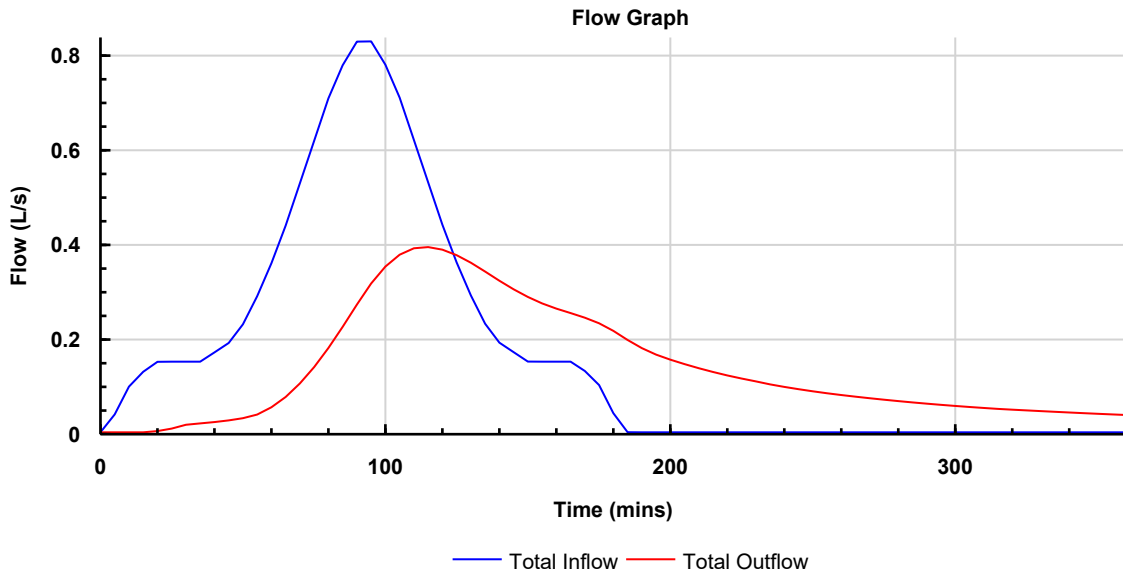
Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		




**Porous Paving**  
**Critical by Return Period: FSR: 1 years: Increase Rainfall (%): +0: 180 mins: Winter**

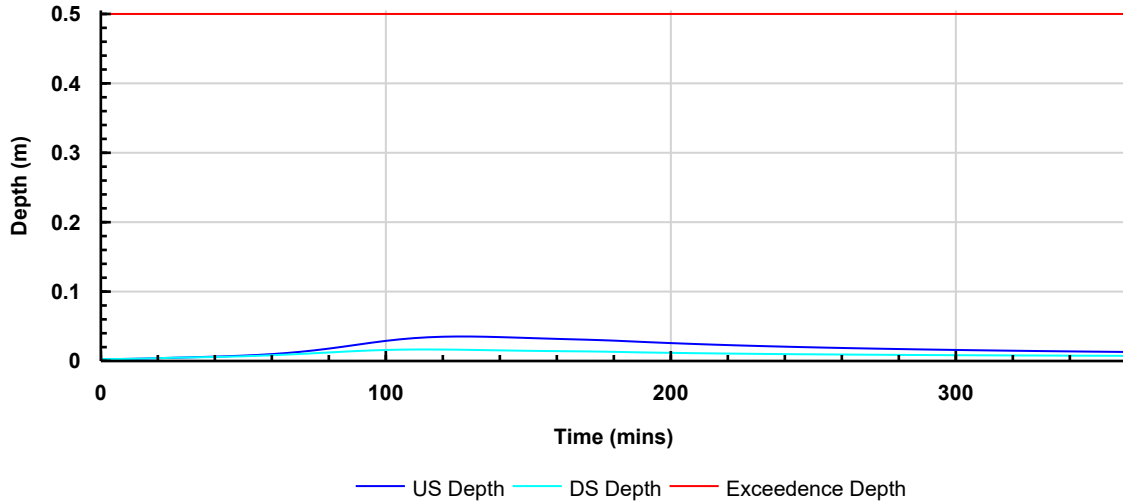
Type : Porous Paving

**Graphs**



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

**Depth Graph**



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



**Tables**


Time (mins)	Total Inflow (L/s)	US Depth (m)	DS Depth (m)	Resident Volume( m³ )	Flooded Volume (m³)	Total Outflow (L/s)
0	0.0	0.000	0.000	0.000	0.000	0.0
5	0.0	0.000	0.000	0.005	0.000	0.0
10	0.1	0.000	0.000	0.024	0.000	0.0
15	0.1	0.001	0.001	0.058	0.000	0.0
20	0.1	0.001	0.001	0.101	0.000	0.0
25	0.2	0.002	0.002	0.144	0.000	0.0
30	0.2	0.002	0.002	0.185	0.000	0.0
35	0.2	0.003	0.003	0.225	0.000	0.0
40	0.2	0.004	0.003	0.267	0.000	0.0
45	0.2	0.004	0.004	0.314	0.000	0.0
50	0.2	0.005	0.004	0.368	0.000	0.0
55	0.3	0.006	0.005	0.435	0.000	0.0
60	0.4	0.007	0.006	0.519	0.000	0.1
65	0.4	0.009	0.007	0.619	0.000	0.1
70	0.5	0.011	0.008	0.738	0.000	0.1
75	0.6	0.013	0.009	0.874	0.000	0.1
80	0.7	0.015	0.010	1.025	0.000	0.2
85	0.8	0.018	0.011	1.188	0.000	0.2
90	0.8	0.021	0.012	1.356	0.000	0.3
95	0.8	0.024	0.013	1.517	0.000	0.3
100	0.8	0.026	0.013	1.658	0.000	0.4
105	0.7	0.029	0.014	1.772	0.000	0.4
110	0.6	0.030	0.014	1.857	0.000	0.4
115	0.5	0.032	0.014	1.912	0.000	0.4
120	0.4	0.032	0.014	1.941	0.000	0.4
125	0.4	0.033	0.014	1.946	0.000	0.4
130	0.3	0.033	0.013	1.934	0.000	0.4
135	0.2	0.032	0.013	1.907	0.000	0.3
140	0.2	0.032	0.013	1.870	0.000	0.3
145	0.2	0.031	0.012	1.831	0.000	0.3
150	0.2	0.031	0.012	1.790	0.000	0.3
155	0.2	0.030	0.012	1.751	0.000	0.3
160	0.2	0.029	0.012	1.716	0.000	0.3
165	0.2	0.029	0.011	1.683	0.000	0.3
170	0.1	0.028	0.011	1.651	0.000	0.2
175	0.1	0.028	0.011	1.614	0.000	0.2
180	0.0	0.027	0.011	1.568	0.000	0.2
185	0.0	0.026	0.010	1.513	0.000	0.2
190	0.0	0.025	0.010	1.457	0.000	0.2
195	0.0	0.024	0.009	1.405	0.000	0.2
200	0.0	0.023	0.009	1.357	0.000	0.2
205	0.0	0.022	0.009	1.312	0.000	0.1
210	0.0	0.022	0.009	1.270	0.000	0.1
215	0.0	0.021	0.008	1.231	0.000	0.1
220	0.0	0.020	0.008	1.193	0.000	0.1
225	0.0	0.020	0.008	1.158	0.000	0.1
230	0.0	0.019	0.008	1.125	0.000	0.1
235	0.0	0.019	0.007	1.093	0.000	0.1
240	0.0	0.018	0.007	1.063	0.000	0.1
245	0.0	0.018	0.007	1.035	0.000	0.1
250	0.0	0.017	0.007	1.008	0.000	0.1
255	0.0	0.017	0.007	0.983	0.000	0.1
260	0.0	0.016	0.007	0.959	0.000	0.1
265	0.0	0.016	0.007	0.935	0.000	0.1
270	0.0	0.015	0.006	0.913	0.000	0.1



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



Time (mins)	Total Inflow (L/s)	US Depth ( m )	DS Depth ( m )	Resident Volume( m³ )	Flooded Volume (m³)	Total Outflow (L/s)
275	0.0	0.015	0.006	0.892	0.000	0.1
280	0.0	0.015	0.006	0.872	0.000	0.1
285	0.0	0.014	0.006	0.852	0.000	0.1
290	0.0	0.014	0.006	0.833	0.000	0.1
295	0.0	0.014	0.006	0.816	0.000	0.1
300	0.0	0.013	0.006	0.798	0.000	0.1
305	0.0	0.013	0.006	0.782	0.000	0.1
310	0.0	0.013	0.006	0.766	0.000	0.1
315	0.0	0.012	0.005	0.751	0.000	0.0
320	0.0	0.012	0.005	0.736	0.000	0.0
325	0.0	0.012	0.005	0.722	0.000	0.0
330	0.0	0.012	0.005	0.708	0.000	0.0
335	0.0	0.011	0.005	0.695	0.000	0.0
340	0.0	0.011	0.005	0.682	0.000	0.0
345	0.0	0.011	0.005	0.670	0.000	0.0
350	0.0	0.011	0.005	0.658	0.000	0.0
355	0.0	0.011	0.005	0.646	0.000	0.0
360	0.0	0.010	0.005	0.635	0.000	0.0

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

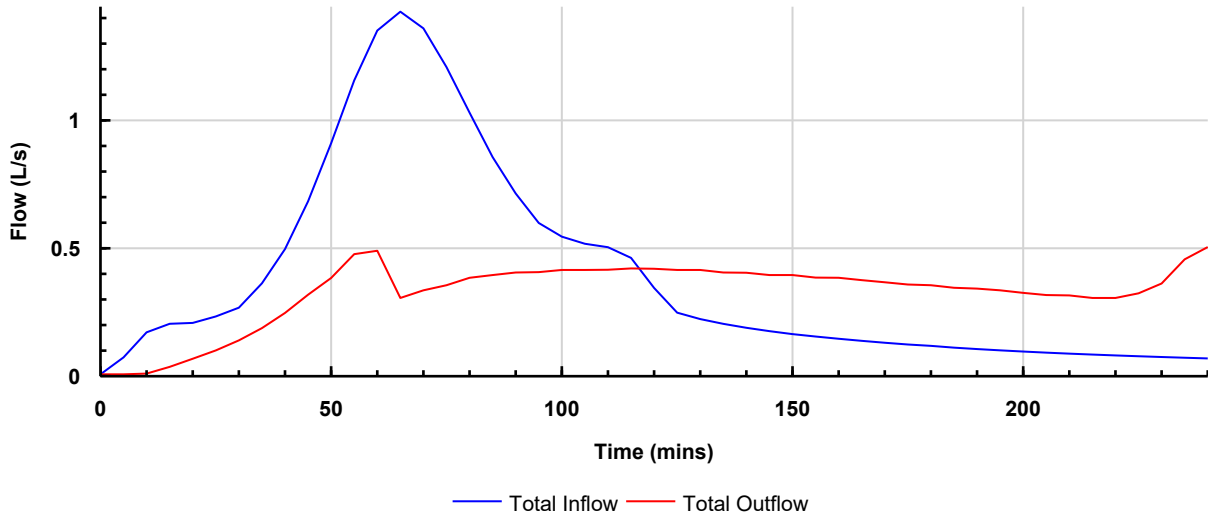


**Cellular Storage**  
**Critical by Return Period: FSR: 1 years: Increase Rainfall (%): +0: 120 mins: Winter**

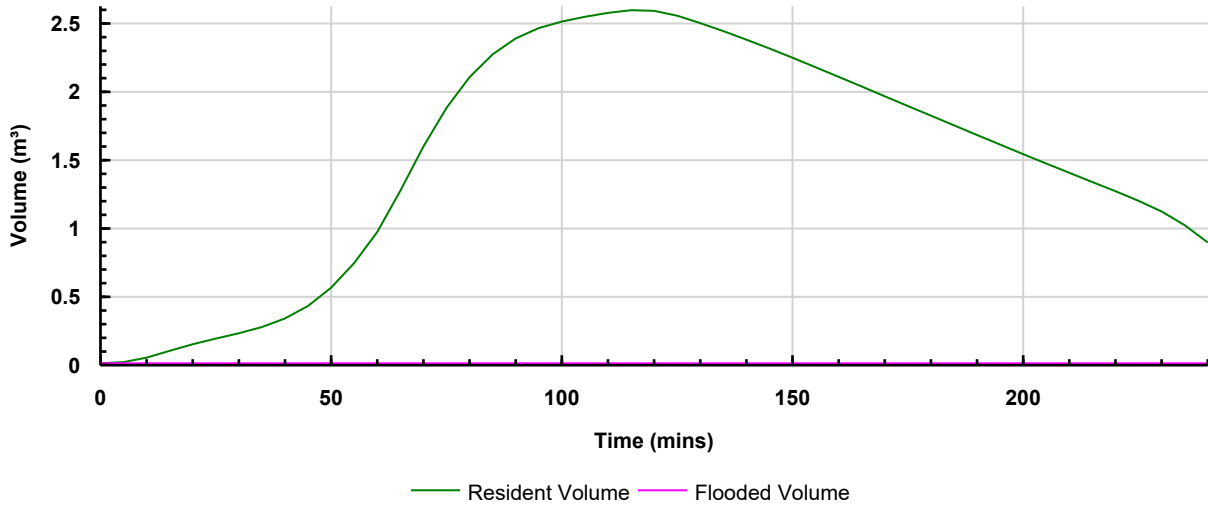
Type : Cellular Storage


**Graphs**

**Flow Graph**

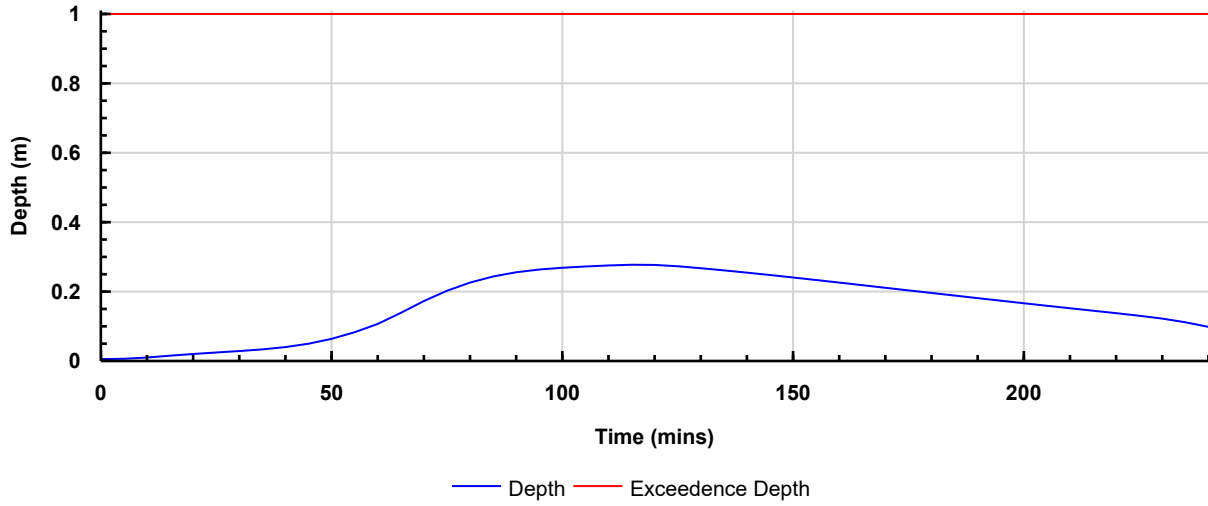


**Volume Graph**



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

**Depth Graph**




Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



**Tables**

Time (mins)	Total Inflow (L/s)	Depth( m )	Resident Volume( m³ )	Flooded Volume (m³)	Total Outflow (L/s)
0	0.0	0.000	0.000	0.000	0.0
5	0.1	0.001	0.009	0.000	0.0
10	0.2	0.005	0.042	0.000	0.0
15	0.2	0.010	0.092	0.000	0.0
20	0.2	0.015	0.140	0.000	0.1
25	0.2	0.019	0.182	0.000	0.1
30	0.3	0.023	0.221	0.000	0.1
35	0.4	0.028	0.267	0.000	0.2
40	0.5	0.035	0.330	0.000	0.2
45	0.7	0.045	0.422	0.000	0.3
50	0.9	0.059	0.556	0.000	0.4
55	1.2	0.078	0.738	0.000	0.5
60	1.4	0.102	0.966	0.000	0.5
65	1.4	0.134	1.269	0.000	0.3
70	1.4	0.168	1.595	0.000	0.3
75	1.2	0.198	1.878	0.000	0.3
80	1.0	0.222	2.105	0.000	0.4
85	0.9	0.239	2.272	0.000	0.4
90	0.7	0.252	2.390	0.000	0.4
95	0.6	0.260	2.466	0.000	0.4
100	0.5	0.265	2.514	0.000	0.4
105	0.5	0.268	2.549	0.000	0.4
110	0.5	0.271	2.577	0.000	0.4
115	0.5	0.273	2.597	0.000	0.4
120	0.3	0.273	2.593	0.000	0.4
125	0.2	0.269	2.557	0.000	0.4
130	0.2	0.263	2.502	0.000	0.4
135	0.2	0.257	2.443	0.000	0.4
140	0.2	0.251	2.381	0.000	0.4
145	0.2	0.244	2.316	0.000	0.4
150	0.2	0.237	2.248	0.000	0.4
155	0.1	0.229	2.178	0.000	0.4
160	0.1	0.222	2.107	0.000	0.4
165	0.1	0.214	2.036	0.000	0.4
170	0.1	0.207	1.964	0.000	0.4
175	0.1	0.199	1.892	0.000	0.4
180	0.1	0.192	1.822	0.000	0.3
185	0.1	0.184	1.750	0.000	0.3
190	0.1	0.177	1.679	0.000	0.3
195	0.1	0.169	1.609	0.000	0.3
200	0.1	0.162	1.538	0.000	0.3
205	0.1	0.155	1.469	0.000	0.3
210	0.1	0.147	1.401	0.000	0.3
215	0.1	0.140	1.333	0.000	0.3
220	0.1	0.133	1.266	0.000	0.3
225	0.1	0.126	1.195	0.000	0.3
230	0.1	0.117	1.117	0.000	0.4
235	0.1	0.107	1.016	0.000	0.5
240	0.1	0.093	0.889	0.000	0.5

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Connection Results Storm Phase: Phase	Company Address:		

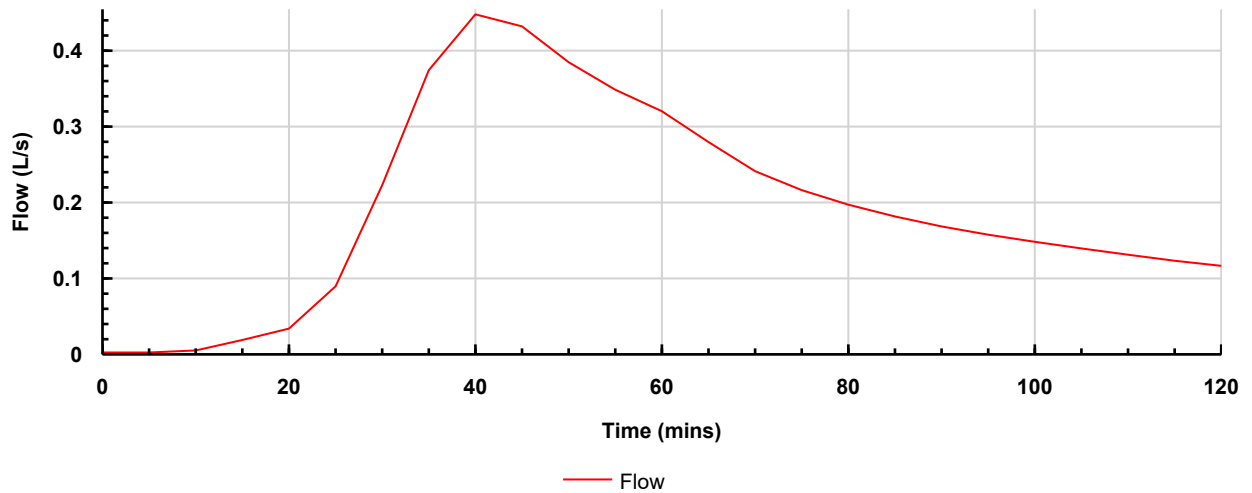


**Pipe**  
**Critical by Return Period: FSR: 1 years: Increase Rainfall (%): +0: 60 mins: Winter**

Type : Pipe


Graphs

Flow Graph



Tables

Time (mins)	Depth (m)	Flow (L/s)
0	0.000	0.0
5	0.000	0.0
10	0.001	0.0
15	0.002	0.0
20	0.004	0.0
25	0.006	0.1
30	0.010	0.2
35	0.012	0.4
40	0.014	0.4
45	0.014	0.4
50	0.013	0.4
55	0.012	0.3
60	0.012	0.3
65	0.011	0.3
70	0.010	0.2
75	0.009	0.2
80	0.009	0.2
85	0.009	0.2
90	0.008	0.2
95	0.008	0.2
100	0.008	0.1
105	0.008	0.1
110	0.007	0.1
115	0.007	0.1
120	0.007	0.1

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Connection Results Storm Phase: Phase	Company Address:		

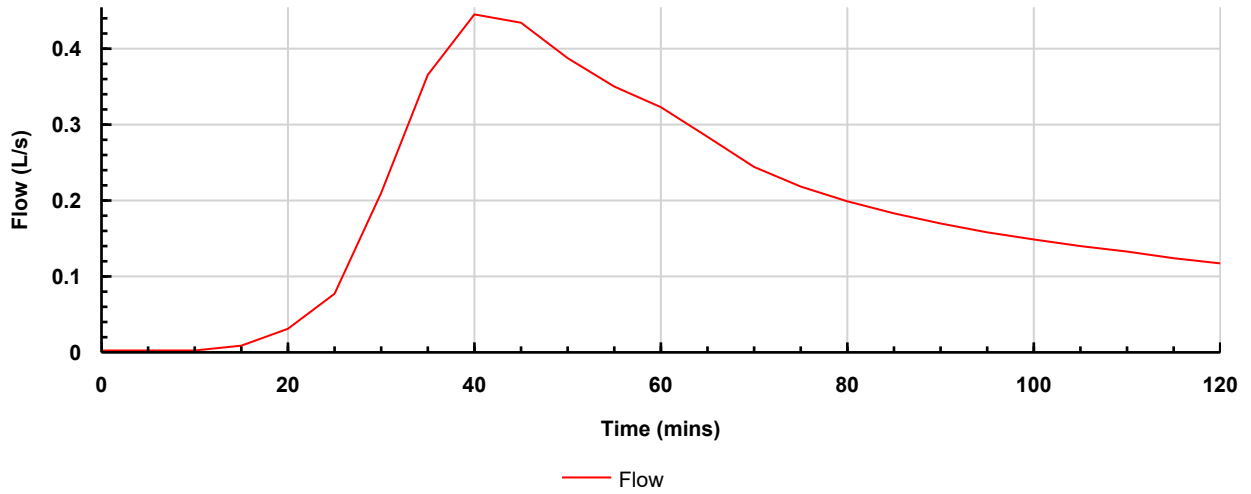


**Pipe (1)**  
**Critical by Return Period: FSR: 1 years: Increase Rainfall (%): +0: 60 mins: Winter**

Type : Pipe


**Graphs**

**Flow Graph**



**Tables**

Time (mins)	Depth (m)	Flow (L/s)
0	0.000	0.0
5	0.001	0.0
10	0.005	0.0
15	0.011	0.0
20	0.017	0.0
25	0.028	0.1
30	0.047	0.2
35	0.073	0.4
40	0.097	0.4
45	0.100	0.4
50	0.100	0.4
55	0.100	0.3
60	0.100	0.3
65	0.100	0.3
70	0.100	0.2
75	0.100	0.2
80	0.100	0.2
85	0.100	0.2
90	0.100	0.2
95	0.100	0.2
100	0.100	0.1
105	0.100	0.1
110	0.099	0.1
115	0.096	0.1
120	0.092	0.1

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		



**Catchment Area**

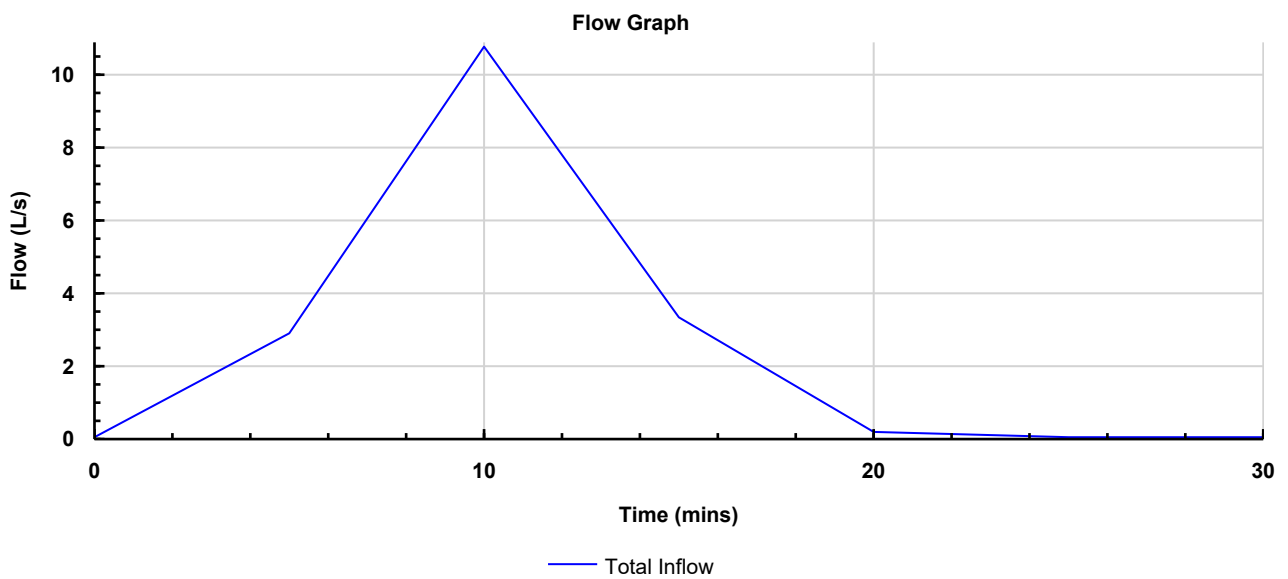
Critical by Return Period: FSR: 30 years: Increase Rainfall (%): +30: 15 mins: Winter

Type : Catchment Area

**Inflow**


Max. Inflow (L/s)	10.8
Total Inflow Volume (m³)	5.016

**Graphs**



**Tables**

Time (mins)	Total Inflow (L/s)
0	0.0
5	2.9
10	10.8
15	3.3
20	0.1
25	0.0
30	0.0

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		



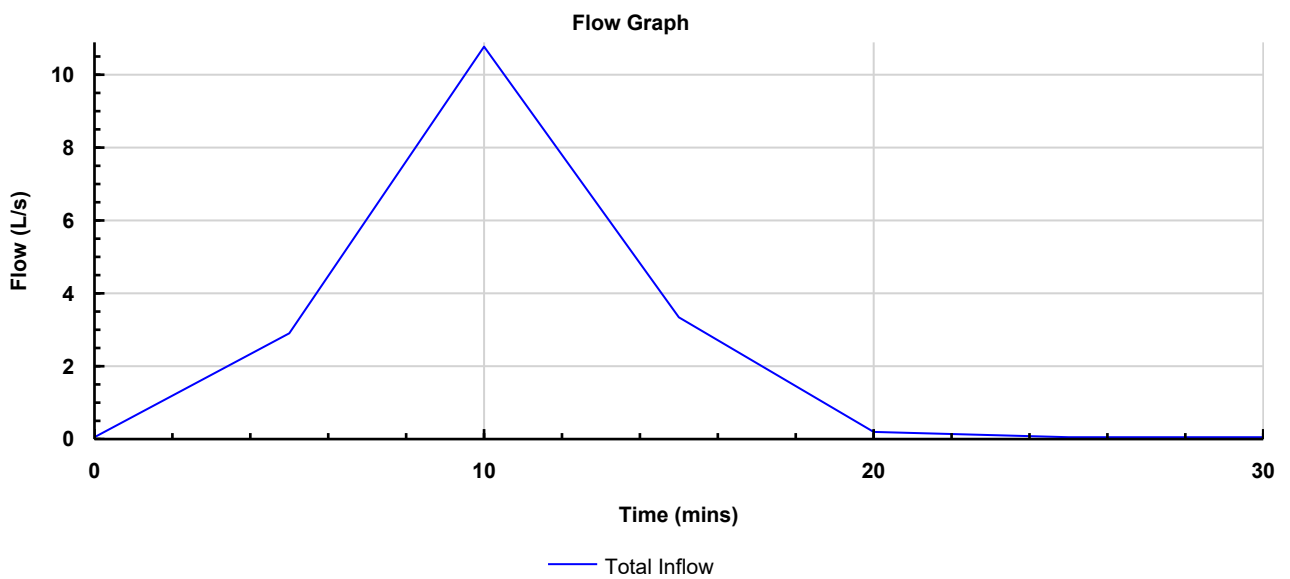
**Catchment Area (1)**  
**Critical by Return Period: FSR: 30 years: Increase Rainfall (%): +30: 15 mins: Winter**

Type : Catchment Area

**Inflow**

Max. Inflow (L/s)	10.8
Total Inflow Volume (m³)	5.016


**Graphs**



**Tables**

Time (mins)	Total Inflow (L/s)
0	0.0
5	2.9
10	10.8
15	3.3
20	0.1
25	0.0
30	0.0



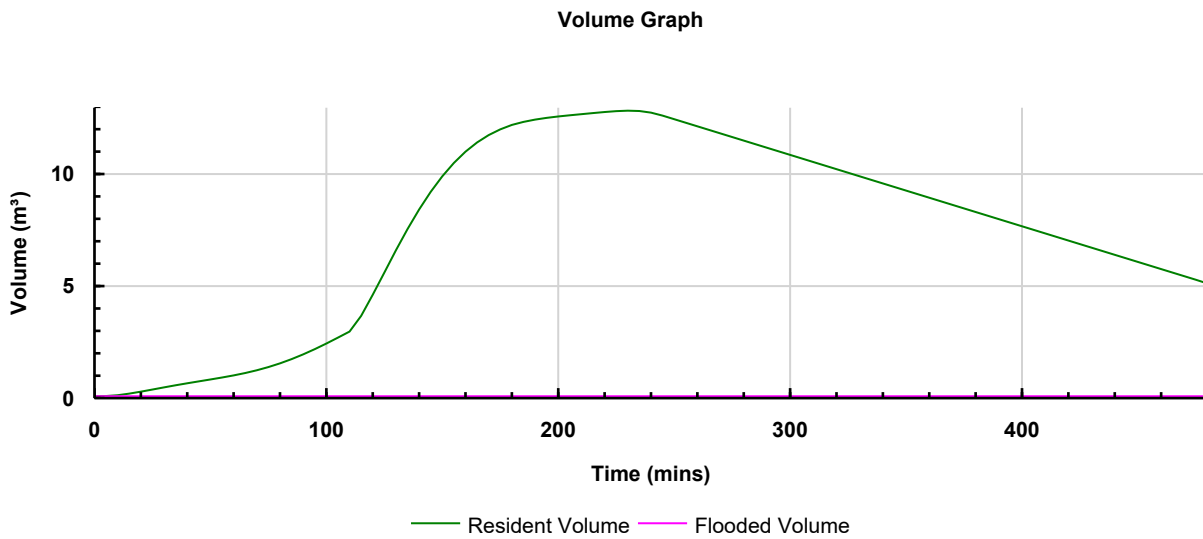
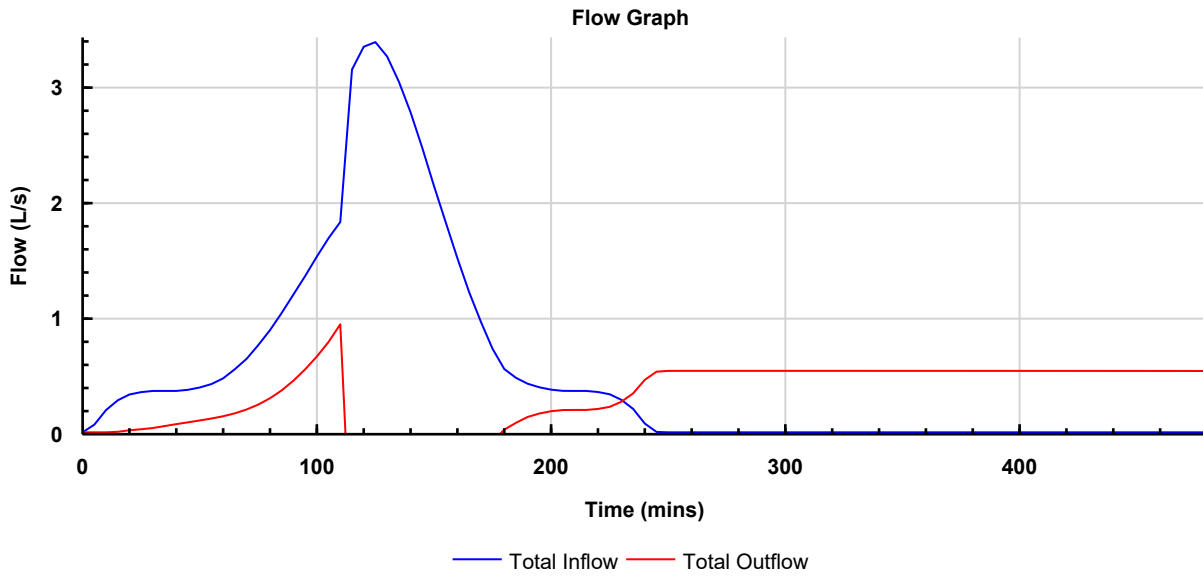
Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		




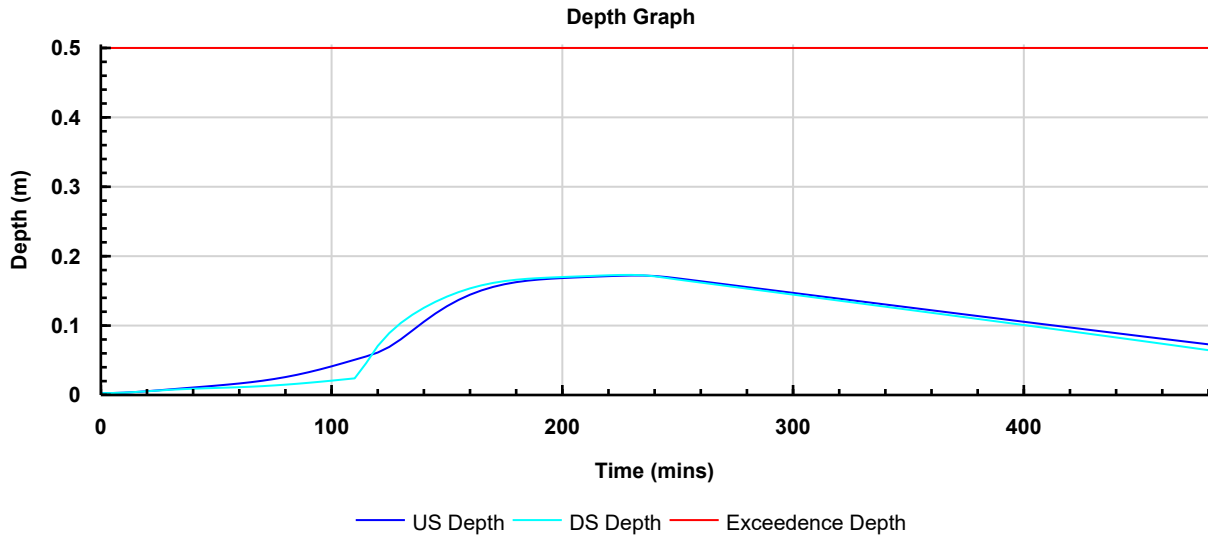
**Porous Paving**  
**Critical by Return Period: FSR: 30 years: Increase Rainfall (%): +30: 240 mins: Winter**

Type : Porous Paving

**Graphs**



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		




**Tables**

Time (mins)	Total Inflow (L/s)	US Depth ( m )	DS Depth ( m )	Resident Volume( m³ )	Flooded Volume (m³)	Total Outflow (L/s)
0	0.0	0.000	0.000	0.000	0.000	0.0
5	0.1	0.000	0.000	0.009	0.000	0.0
10	0.2	0.001	0.001	0.045	0.000	0.0
15	0.3	0.002	0.002	0.117	0.000	0.0
20	0.3	0.003	0.003	0.205	0.000	0.0
25	0.3	0.004	0.004	0.300	0.000	0.0
30	0.4	0.005	0.005	0.397	0.000	0.0
35	0.4	0.007	0.006	0.492	0.000	0.1
40	0.4	0.008	0.006	0.581	0.000	0.1
45	0.4	0.009	0.007	0.667	0.000	0.1
50	0.4	0.011	0.007	0.752	0.000	0.1
55	0.4	0.012	0.008	0.840	0.000	0.1
60	0.5	0.014	0.009	0.935	0.000	0.1
65	0.5	0.016	0.009	1.042	0.000	0.2
70	0.6	0.018	0.010	1.166	0.000	0.2
75	0.8	0.020	0.011	1.309	0.000	0.2
80	0.9	0.023	0.012	1.476	0.000	0.3
85	1.0	0.027	0.014	1.666	0.000	0.4
90	1.2	0.030	0.015	1.880	0.000	0.4
95	1.4	0.034	0.016	2.114	0.000	0.5
100	1.5	0.039	0.018	2.367	0.000	0.7
105	1.7	0.043	0.020	2.633	0.000	0.8
110	1.8	0.048	0.021	2.904	0.000	0.9
115	3.2	0.053	0.044	3.608	0.000	-1.2
120	3.4	0.059	0.068	4.558	0.000	-1.3
125	3.4	0.067	0.087	5.552	0.000	-1.4
130	3.3	0.078	0.102	6.555	0.000	-1.3
135	3.1	0.091	0.113	7.507	0.000	-1.2
140	2.8	0.103	0.124	8.387	0.000	-1.1
145	2.5	0.115	0.132	9.181	0.000	-0.9
150	2.1	0.126	0.140	9.878	0.000	-0.8
155	1.8	0.135	0.146	10.478	0.000	-0.6
160	1.5	0.143	0.152	10.984	0.000	-0.5
165	1.2	0.149	0.156	11.399	0.000	-0.3
170	1.0	0.154	0.160	11.730	0.000	-0.2
175	0.7	0.158	0.162	11.986	0.000	-0.1
180	0.6	0.161	0.164	12.186	0.000	0.0
185	0.5	0.163	0.166	12.321	0.000	0.1
190	0.4	0.165	0.167	12.424	0.000	0.1
195	0.4	0.166	0.167	12.502	0.000	0.2
200	0.4	0.167	0.168	12.565	0.000	0.2
205	0.4	0.167	0.169	12.619	0.000	0.2
210	0.4	0.168	0.169	12.668	0.000	0.2
215	0.4	0.169	0.170	12.718	0.000	0.2
220	0.4	0.169	0.171	12.765	0.000	0.2
225	0.3	0.170	0.171	12.804	0.000	0.2
230	0.3	0.170	0.171	12.825	0.000	0.3
235	0.2	0.170	0.171	12.810	0.000	0.3
240	0.1	0.170	0.169	12.738	0.000	0.5
245	0.0	0.168	0.167	12.603	0.000	0.5
250	0.0	0.166	0.165	12.443	0.000	0.5
255	0.0	0.164	0.162	12.283	0.000	0.5
260	0.0	0.162	0.160	12.123	0.000	0.5
265	0.0	0.160	0.158	11.962	0.000	0.5
270	0.0	0.158	0.156	11.802	0.000	0.5

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



Time (mins)	Total Inflow (L/s)	US Depth (m)	DS Depth (m)	Resident Volume( m³ )	Flooded Volume (m³)	Total Outflow (L/s)
275	0.0	0.156	0.154	11.642	0.000	0.5
280	0.0	0.154	0.151	11.481	0.000	0.5
285	0.0	0.152	0.149	11.321	0.000	0.5
290	0.0	0.149	0.147	11.161	0.000	0.5
295	0.0	0.147	0.145	11.000	0.000	0.5
300	0.0	0.145	0.143	10.840	0.000	0.5
305	0.0	0.143	0.141	10.679	0.000	0.5
310	0.0	0.141	0.138	10.519	0.000	0.5
315	0.0	0.139	0.136	10.359	0.000	0.5
320	0.0	0.137	0.134	10.198	0.000	0.5
325	0.0	0.135	0.132	10.038	0.000	0.5
330	0.0	0.133	0.130	9.878	0.000	0.5
335	0.0	0.130	0.127	9.717	0.000	0.5
340	0.0	0.128	0.125	9.557	0.000	0.5
345	0.0	0.126	0.123	9.397	0.000	0.5
350	0.0	0.124	0.121	9.236	0.000	0.5
355	0.0	0.122	0.119	9.076	0.000	0.5
360	0.0	0.120	0.116	8.916	0.000	0.5
365	0.0	0.118	0.114	8.755	0.000	0.5
370	0.0	0.116	0.112	8.595	0.000	0.5
375	0.0	0.114	0.110	8.435	0.000	0.5
380	0.0	0.112	0.108	8.274	0.000	0.5
385	0.0	0.110	0.105	8.114	0.000	0.5
390	0.0	0.108	0.103	7.954	0.000	0.5
395	0.0	0.105	0.101	7.793	0.000	0.5
400	0.0	0.103	0.099	7.633	0.000	0.5
405	0.0	0.101	0.096	7.473	0.000	0.5
410	0.0	0.099	0.094	7.313	0.000	0.5
415	0.0	0.097	0.092	7.152	0.000	0.5
420	0.0	0.095	0.090	6.992	0.000	0.5
425	0.0	0.093	0.087	6.832	0.000	0.5
430	0.0	0.091	0.085	6.672	0.000	0.5
435	0.0	0.089	0.083	6.511	0.000	0.5
440	0.0	0.087	0.081	6.351	0.000	0.5
445	0.0	0.085	0.078	6.191	0.000	0.5
450	0.0	0.083	0.076	6.031	0.000	0.5
455	0.0	0.081	0.074	5.871	0.000	0.5
460	0.0	0.079	0.071	5.711	0.000	0.5
465	0.0	0.077	0.069	5.550	0.000	0.5
470	0.0	0.075	0.067	5.390	0.000	0.5
475	0.0	0.073	0.065	5.230	0.000	0.5
480	0.0	0.071	0.062	5.063	0.000	0.5

Project:	Date: 09/08/2023			
	Designed by: GraemeBeaven	Checked by:	Approved By:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:			

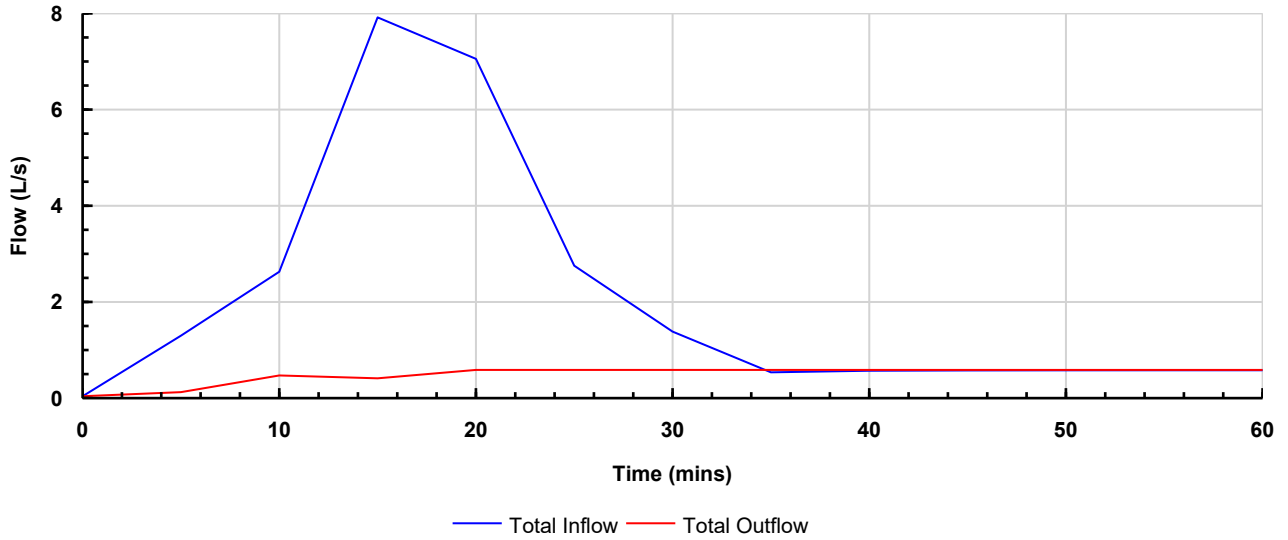


**Cellular Storage**  
**Critical by Return Period: FSR: 30 years: Increase Rainfall (%): +30: 30 mins: Winter**

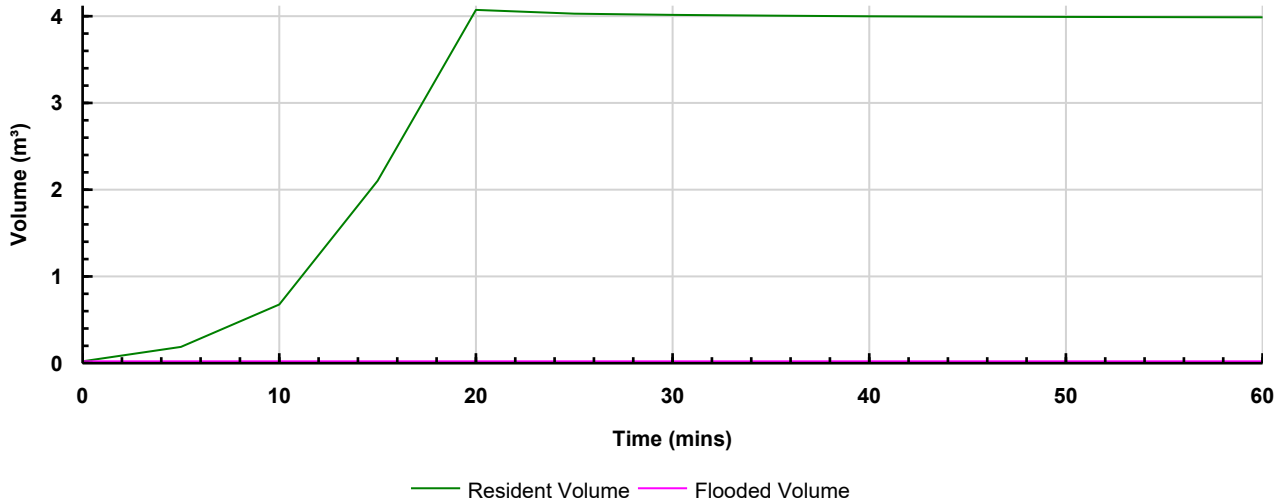
Type : Cellular Storage


**Graphs**

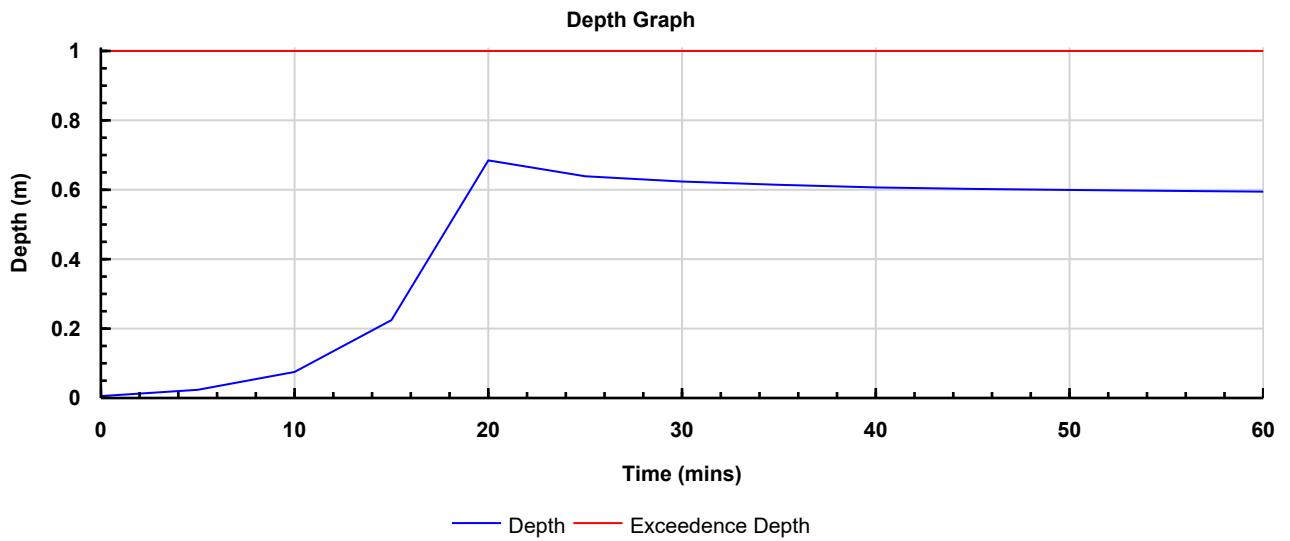
**Flow Graph**



**Volume Graph**



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		




Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



**Tables**

Time (mins)	Total Inflow (L/s)	Depth( m )	Resident Volume( m³ )	Flooded Volume (m³)	Total Outflow (L/s)
0	0.0	0.000	0.000	0.000	0.0
5	1.3	0.018	0.167	0.000	0.1
10	2.6	0.070	0.658	0.000	0.4
15	7.9	0.220	2.091	0.000	0.4
20	7.1	0.683	4.072	0.000	0.5
25	2.7	0.637	4.029	0.000	0.5
30	1.4	0.622	4.015	0.000	0.5
35	0.5	0.612	4.006	0.000	0.5
40	0.5	0.605	3.998	0.000	0.5
45	0.5	0.600	3.994	0.000	0.5
50	0.5	0.597	3.991	0.000	0.5
55	0.5	0.595	3.989	0.000	0.5
60	0.5	0.592	3.986	0.000	0.5

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Connection Results Storm Phase: Phase	Company Address:		

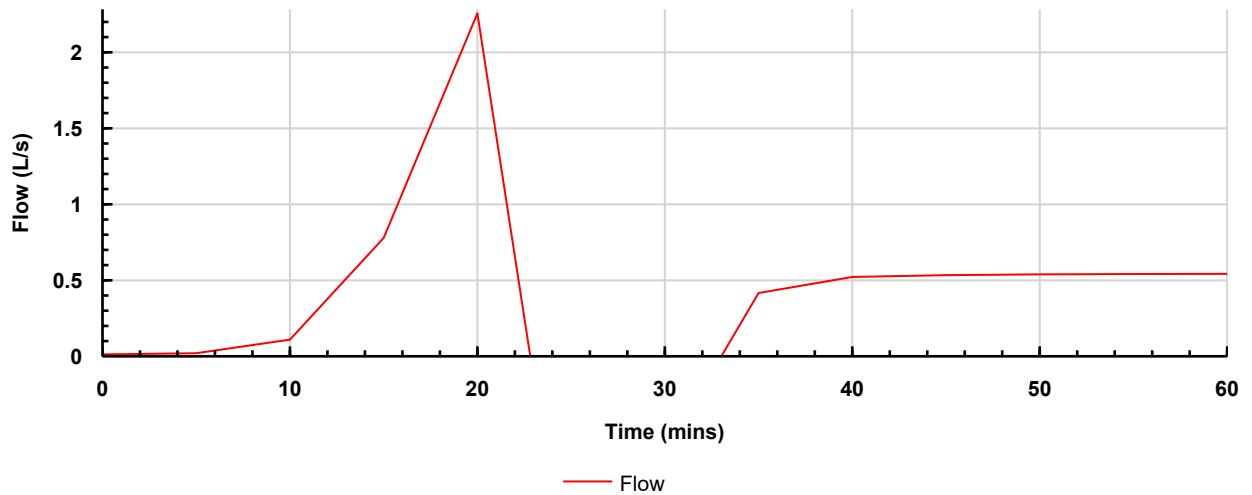


**Pipe**  
**Critical by Return Period: FSR: 30 years: Increase Rainfall (%): +30: 30 mins: Summer**

Type : Pipe

Graphs


Flow Graph



Tables

Time (mins)	Depth (m)	Flow (L/s)
0	0.000	0.0
5	0.001	0.0
10	0.006	0.1
15	0.018	0.8
20	0.072	2.3
25	0.100	-1.8
30	0.100	-0.6
35	0.100	0.4
40	0.100	0.5
45	0.100	0.5
50	0.100	0.5
55	0.100	0.5
60	0.100	0.5



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Connection Results Storm Phase: Phase	Company Address:		

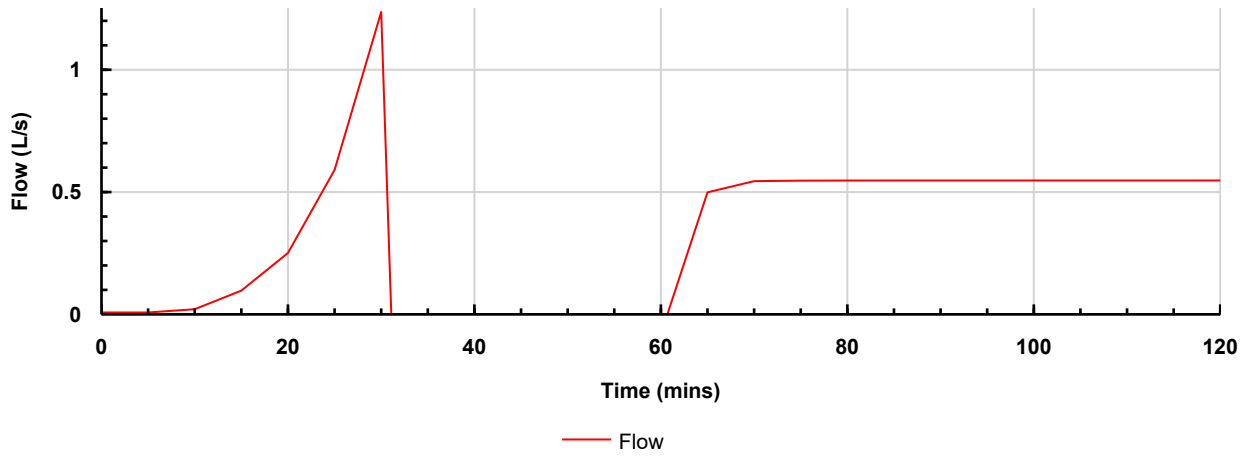


**Pipe (1)**  
**Critical by Return Period: FSR: 30 years: Increase Rainfall (%): +30: 60 mins: Winter**

Type : Pipe


**Graphs**

**Flow Graph**



**Tables**

Time (mins)	Depth (m)	Flow (L/s)
0	0.000	0.0
5	0.004	0.0
10	0.017	0.0
15	0.031	0.1
20	0.053	0.2
25	0.100	0.6
30	0.100	1.2
35	0.100	-4.5
40	0.100	-3.1
45	0.100	-1.5
50	0.100	-0.7
55	0.100	-0.5
60	0.100	-0.1
65	0.100	0.5
70	0.100	0.5
75	0.100	0.5
80	0.100	0.5
85	0.100	0.5
90	0.100	0.5
95	0.100	0.5
100	0.100	0.5
105	0.100	0.5
110	0.100	0.5
115	0.100	0.5
120	0.100	0.5

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		



**Catchment Area**

Critical by Return Period: FSR: 100 years: Increase Rainfall (%): +30: 15 mins: Winter

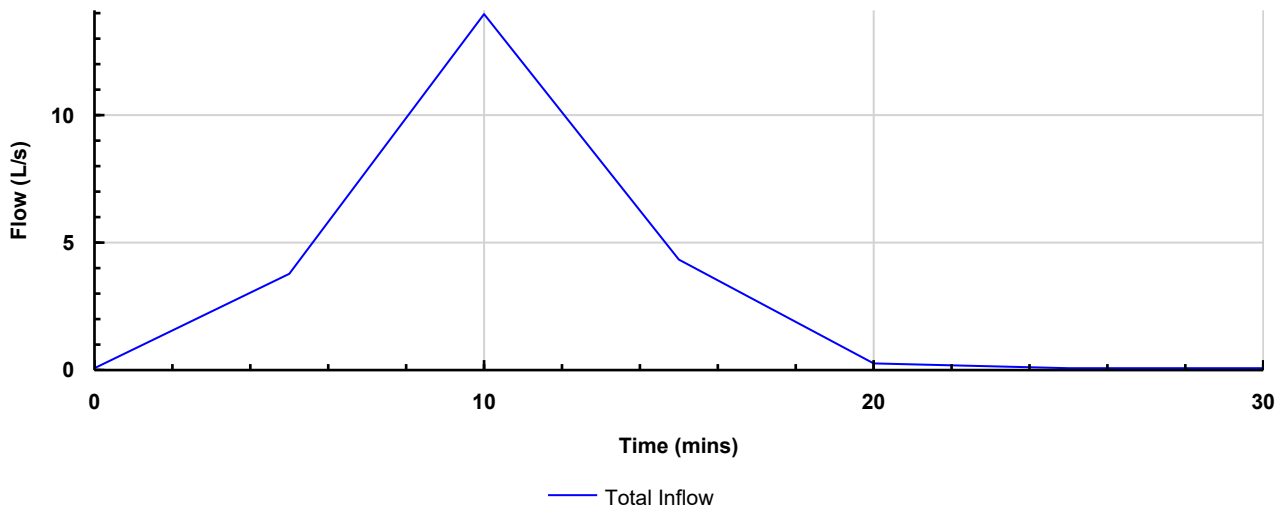
Type : Catchment Area

**Inflow**

Max. Inflow (L/s)	14.0
Total Inflow Volume (m <sup>3</sup> )	6.526


**Graphs**

**Flow Graph**



**Tables**

Time (mins)	Total Inflow (L/s)
0	0.0
5	3.7
10	14.0
15	4.3
20	0.2
25	0.0
30	0.0

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		



**Catchment Area (1)**  
**Critical by Return Period: FSR: 100 years: Increase Rainfall (%): +30: 15 mins: Winter**

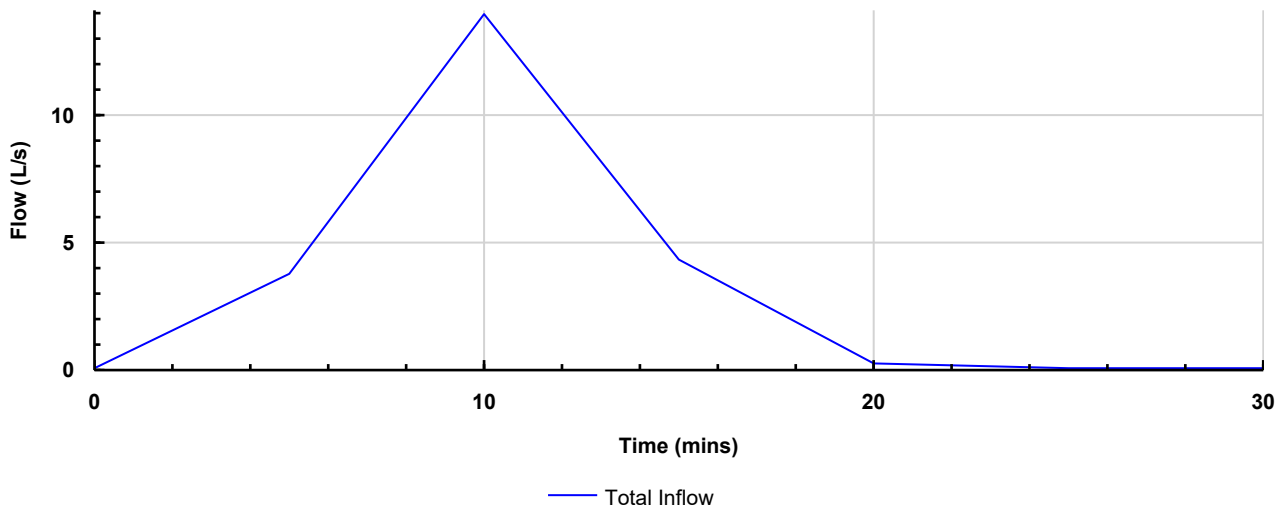
Type : Catchment Area

**Inflow**

Max. Inflow (L/s)	14.0
Total Inflow Volume (m <sup>3</sup> )	6.526


**Graphs**

**Flow Graph**



**Tables**

Time (mins)	Total Inflow (L/s)
0	0.0
5	3.7
10	14.0
15	4.3
20	0.2
25	0.0
30	0.0

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

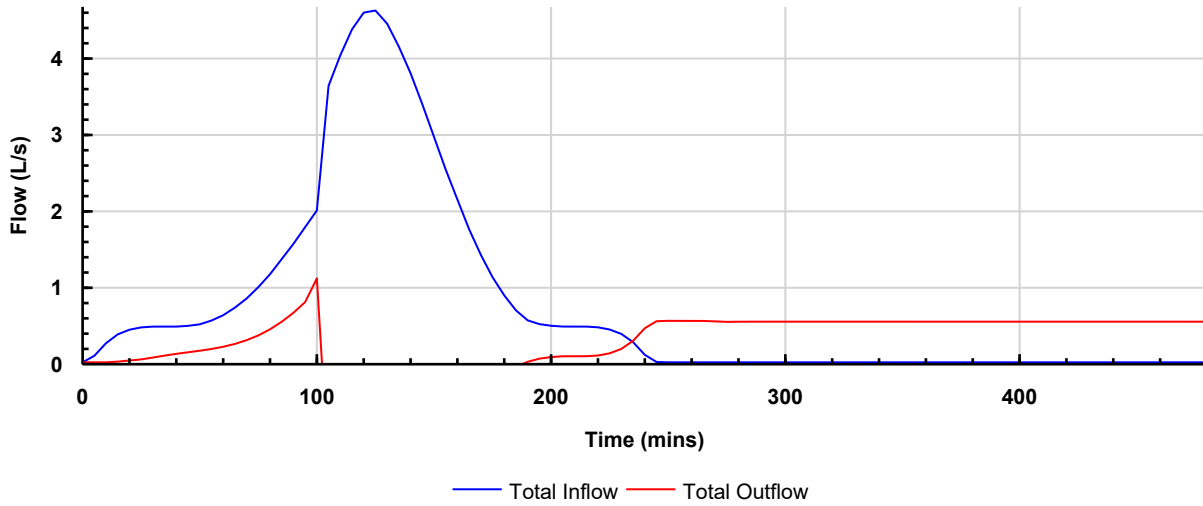


**Porous Paving**  
**Critical by Return Period: FSR: 100 years: Increase Rainfall (%): +30: 240 mins: Winter**

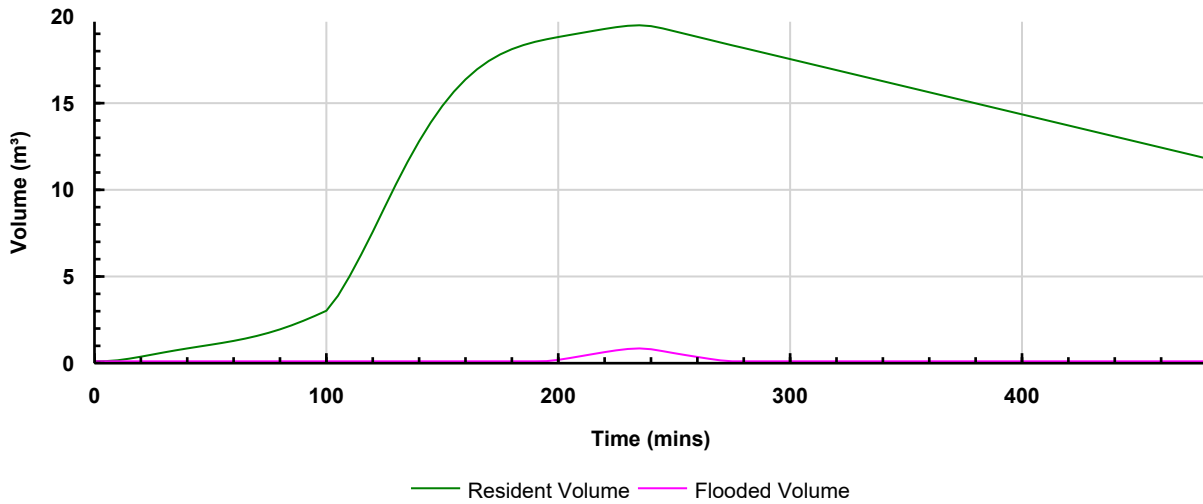
Type : Porous Paving


**Graphs**

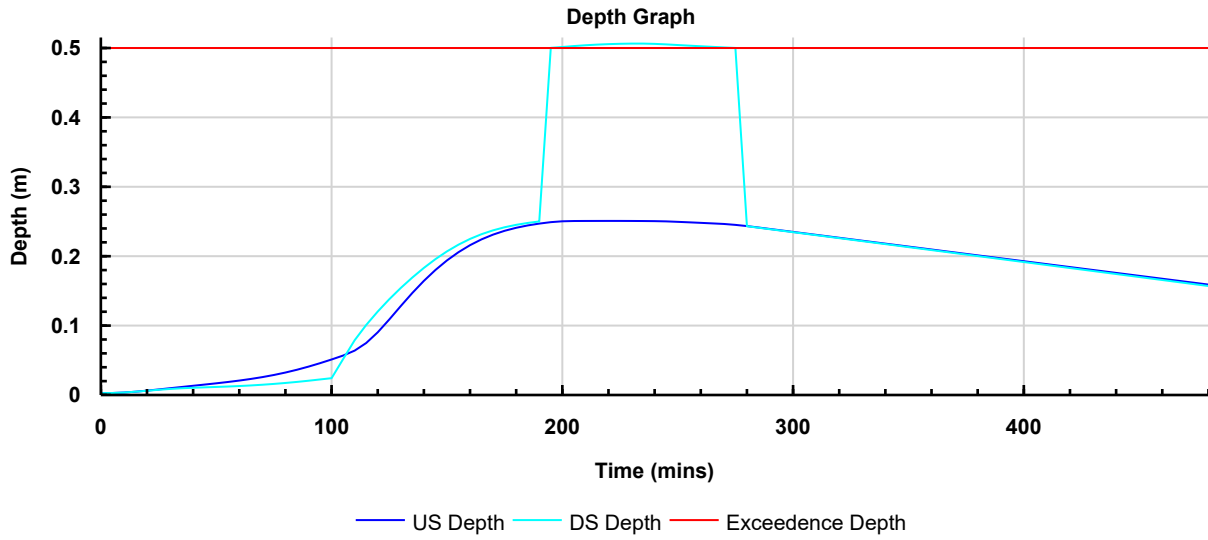
**Flow Graph**



**Volume Graph**



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		




## Tables

Time (mins)	Total Inflow (L/s)	US Depth (m)	DS Depth (m)	Resident Volume( m³ )	Flooded Volume (m³)	Total Outflow (L/s)
0	0.0	0.000	0.000	0.000	0.000	0.0
5	0.1	0.000	0.000	0.011	0.000	0.0
10	0.3	0.001	0.001	0.059	0.000	0.0
15	0.4	0.002	0.002	0.153	0.000	0.0
20	0.4	0.004	0.003	0.267	0.000	0.0
25	0.5	0.005	0.005	0.391	0.000	0.0
30	0.5	0.007	0.006	0.516	0.000	0.1
35	0.5	0.009	0.007	0.635	0.000	0.1
40	0.5	0.011	0.008	0.746	0.000	0.1
45	0.5	0.012	0.008	0.852	0.000	0.1
50	0.5	0.014	0.009	0.956	0.000	0.2
55	0.5	0.016	0.010	1.064	0.000	0.2
60	0.6	0.018	0.010	1.183	0.000	0.2
65	0.7	0.021	0.011	1.317	0.000	0.2
70	0.8	0.023	0.012	1.471	0.000	0.3
75	1.0	0.026	0.013	1.648	0.000	0.4
80	1.2	0.030	0.015	1.853	0.000	0.4
85	1.4	0.034	0.016	2.085	0.000	0.5
90	1.6	0.038	0.018	2.345	0.000	0.7
95	1.8	0.043	0.020	2.630	0.000	0.8
100	2.0	0.049	0.022	2.932	0.000	1.1
105	3.6	0.054	0.049	3.798	0.000	-1.4
110	4.0	0.062	0.077	4.930	0.000	-1.7
115	4.4	0.073	0.099	6.185	0.000	-1.8
120	4.6	0.088	0.118	7.511	0.000	-2.0
125	4.6	0.107	0.136	8.897	0.000	-2.0
130	4.5	0.126	0.152	10.265	0.000	-1.9
135	4.2	0.145	0.167	11.562	0.000	-1.8
140	3.8	0.163	0.181	12.762	0.000	-1.6
145	3.4	0.178	0.194	13.848	0.000	-1.4
150	3.0	0.192	0.205	14.810	0.000	-1.2
155	2.5	0.204	0.215	15.642	0.000	-1.0
160	2.1	0.214	0.223	16.349	0.000	-0.8
165	1.8	0.223	0.230	16.939	0.000	-0.6
170	1.4	0.230	0.236	17.418	0.000	-0.4
175	1.1	0.235	0.240	17.802	0.000	-0.3
180	0.9	0.240	0.244	18.105	0.000	-0.2
185	0.7	0.243	0.247	18.343	0.000	-0.1
190	0.6	0.246	0.249	18.531	0.000	0.0
195	0.5	0.248	0.500	18.679	0.010	0.0
200	0.5	0.249	0.501	18.809	0.083	0.1
205	0.5	0.249	0.503	18.929	0.189	0.1
210	0.5	0.249	0.504	19.046	0.303	0.1
215	0.5	0.249	0.505	19.163	0.419	0.1
220	0.5	0.249	0.506	19.278	0.532	0.1
225	0.4	0.249	0.506	19.381	0.635	0.1
230	0.4	0.249	0.506	19.460	0.714	0.2
235	0.3	0.249	0.506	19.490	0.747	0.3
240	0.1	0.249	0.506	19.441	0.701	0.4
245	0.0	0.249	0.505	19.310	0.590	0.5
250	0.0	0.248	0.504	19.147	0.471	0.5
255	0.0	0.247	0.503	18.983	0.359	0.5
260	0.0	0.247	0.502	18.819	0.251	0.5
265	0.0	0.246	0.502	18.656	0.147	0.5
270	0.0	0.245	0.501	18.491	0.052	0.5

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



Time (mins)	Total Inflow (L/s)	US Depth (m)	DS Depth (m)	Resident Volume (m³)	Flooded Volume (m³)	Total Outflow (L/s)
275	0.0	0.244	0.500	18.327	0.000	0.5
280	0.0	0.242	0.242	18.172	0.000	0.5
285	0.0	0.240	0.240	18.012	0.000	0.5
290	0.0	0.238	0.237	17.851	0.000	0.5
295	0.0	0.236	0.235	17.691	0.000	0.5
300	0.0	0.234	0.233	17.530	0.000	0.5
305	0.0	0.231	0.231	17.370	0.000	0.5
310	0.0	0.229	0.229	17.209	0.000	0.5
315	0.0	0.227	0.227	17.049	0.000	0.5
320	0.0	0.225	0.224	16.889	0.000	0.5
325	0.0	0.223	0.222	16.728	0.000	0.5
330	0.0	0.221	0.220	16.568	0.000	0.5
335	0.0	0.219	0.218	16.407	0.000	0.5
340	0.0	0.217	0.216	16.247	0.000	0.5
345	0.0	0.214	0.214	16.086	0.000	0.5
350	0.0	0.212	0.212	15.926	0.000	0.5
355	0.0	0.210	0.209	15.766	0.000	0.5
360	0.0	0.208	0.207	15.605	0.000	0.5
365	0.0	0.206	0.205	15.445	0.000	0.5
370	0.0	0.204	0.203	15.284	0.000	0.5
375	0.0	0.202	0.201	15.124	0.000	0.5
380	0.0	0.200	0.199	14.963	0.000	0.5
385	0.0	0.197	0.196	14.803	0.000	0.5
390	0.0	0.195	0.194	14.643	0.000	0.5
395	0.0	0.193	0.192	14.482	0.000	0.5
400	0.0	0.191	0.190	14.322	0.000	0.5
405	0.0	0.189	0.188	14.161	0.000	0.5
410	0.0	0.187	0.186	14.001	0.000	0.5
415	0.0	0.185	0.183	13.841	0.000	0.5
420	0.0	0.183	0.181	13.680	0.000	0.5
425	0.0	0.180	0.179	13.520	0.000	0.5
430	0.0	0.178	0.177	13.359	0.000	0.5
435	0.0	0.176	0.175	13.199	0.000	0.5
440	0.0	0.174	0.173	13.039	0.000	0.5
445	0.0	0.172	0.170	12.878	0.000	0.5
450	0.0	0.170	0.168	12.718	0.000	0.5
455	0.0	0.168	0.166	12.557	0.000	0.5
460	0.0	0.166	0.164	12.397	0.000	0.5
465	0.0	0.164	0.162	12.237	0.000	0.5
470	0.0	0.161	0.160	12.076	0.000	0.5
475	0.0	0.159	0.157	11.916	0.000	0.5
480	0.0	0.157	0.155	11.751	0.000	0.5

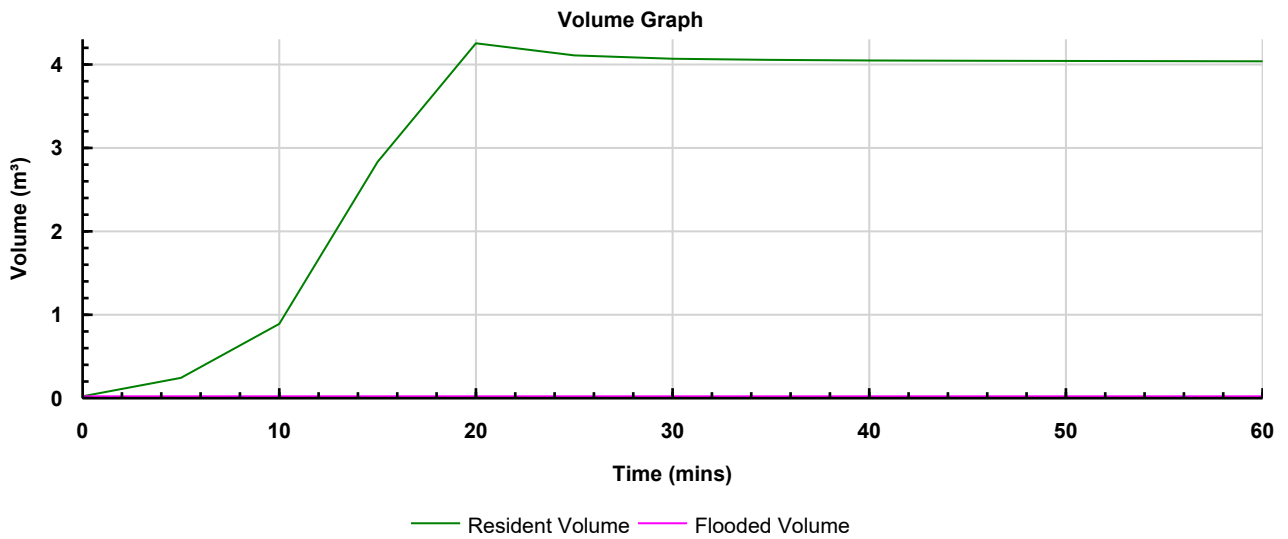
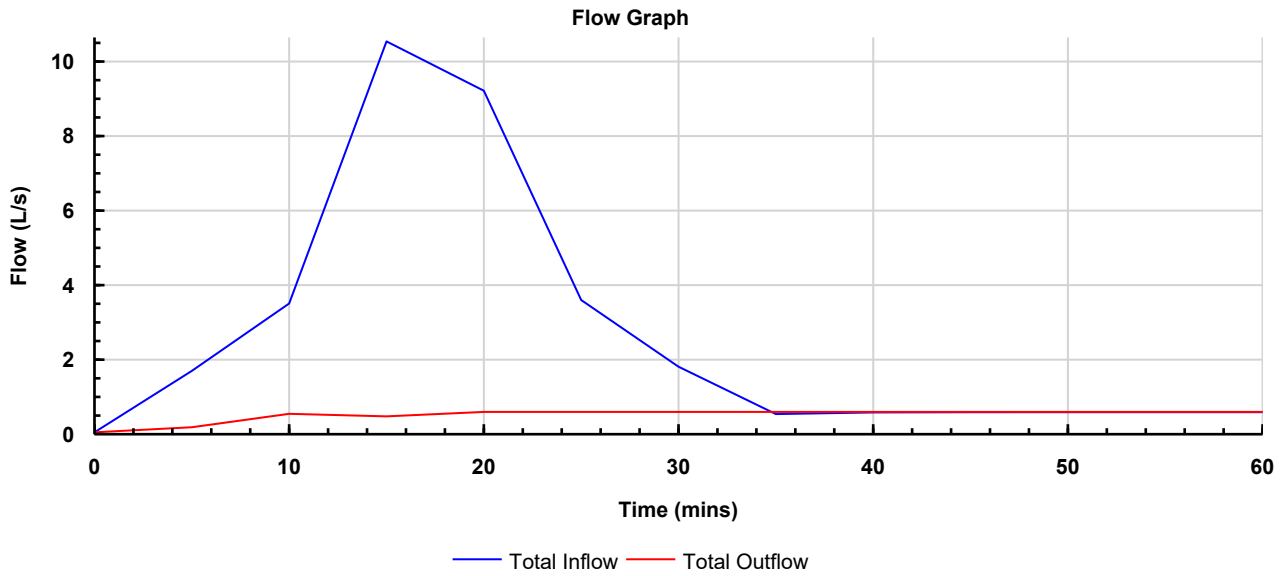
Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		




**Cellular Storage**  
**Critical by Return Period: FSR: 100 years: Increase Rainfall (%): +30: 30 mins: Winter**

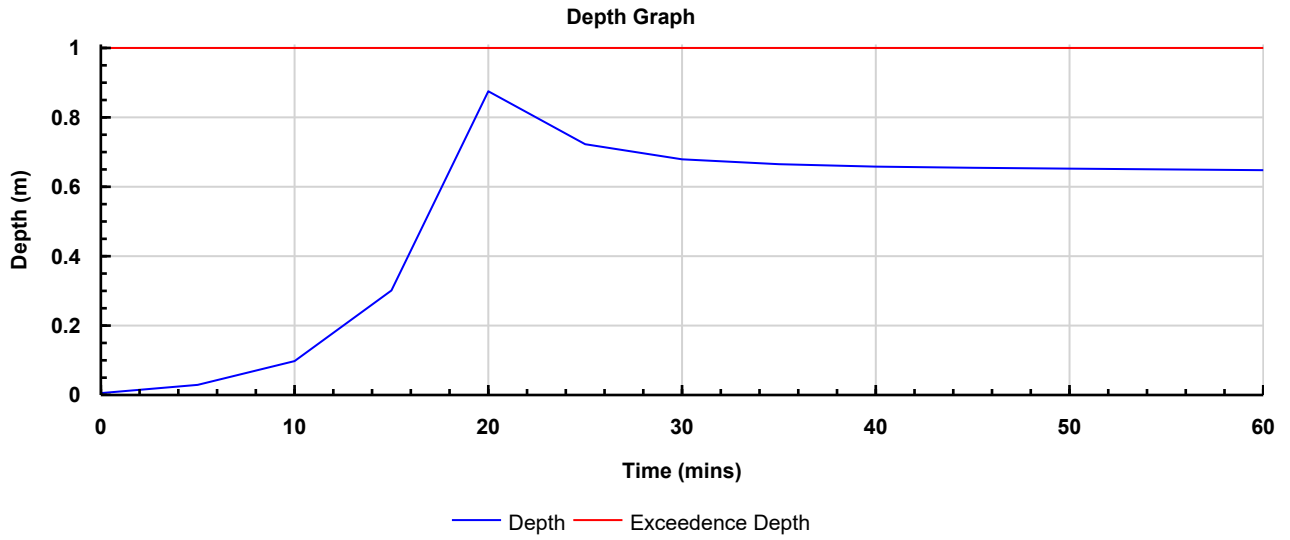
Type : Cellular Storage


**Graphs**






Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

<b>Tables</b>
---------------

Time (mins)	Total Inflow (L/s)	Depth( m )	Resident Volume( m³ )	Flooded Volume (m³)	Total Outflow (L/s)
0	0.0	0.000	0.000	0.000	0.0
5	1.7	0.024	0.222	0.000	0.1
10	3.5	0.093	0.873	0.000	0.5
15	10.5	0.297	2.825	0.000	0.4
20	9.2	0.874	4.254	0.000	0.5
25	3.6	0.721	4.109	0.000	0.5
30	1.8	0.677	4.068	0.000	0.5
35	0.5	0.663	4.054	0.000	0.5
40	0.5	0.656	4.047	0.000	0.5
45	0.5	0.653	4.044	0.000	0.5
50	0.5	0.650	4.041	0.000	0.5
55	0.5	0.648	4.039	0.000	0.5
60	0.5	0.646	4.037	0.000	0.5

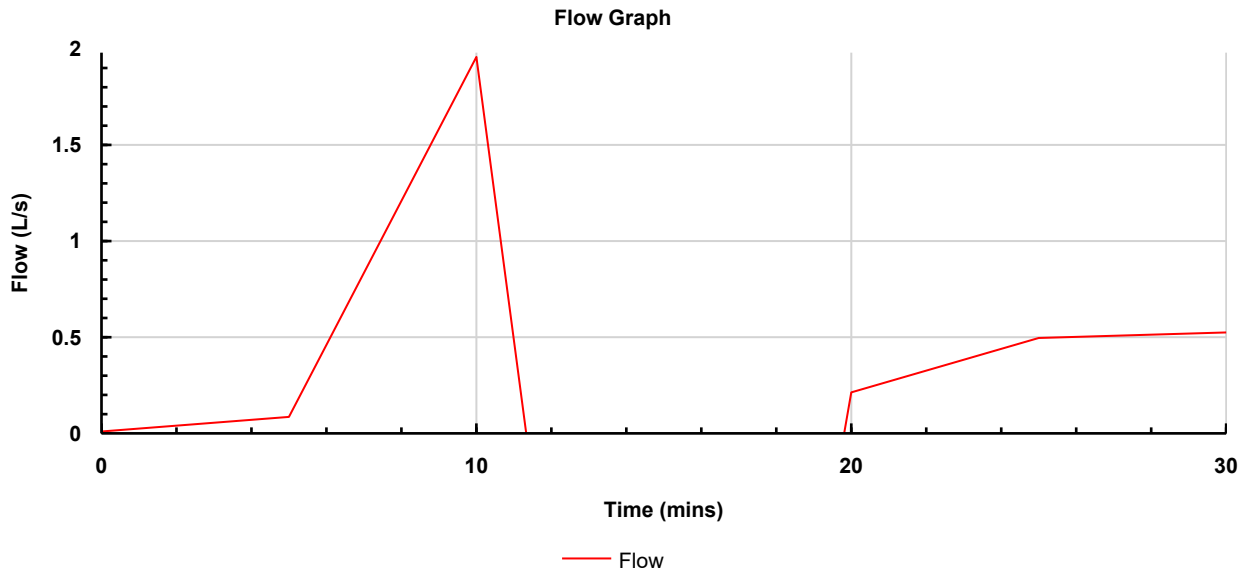
Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Connection Results Storm Phase: Phase	Company Address:		



**Pipe**  
**Critical by Return Period: FSR: 100 years: Increase Rainfall (%): +30: 15 mins: Winter**


Type : Pipe

**Graphs**



**Tables**

Time (mins)	Depth (m)	Flow (L/s)
0	0.000	0.0
5	0.005	0.1
10	0.029	2.0
15	0.100	-5.4
20	0.100	0.2
25	0.100	0.5
30	0.100	0.5

Project:	Date: 09/08/2023		
	Designed by: GraemeBeaven	Checked by:	
Report Details: Type: Connection Results Storm Phase: Phase	Company Address:		

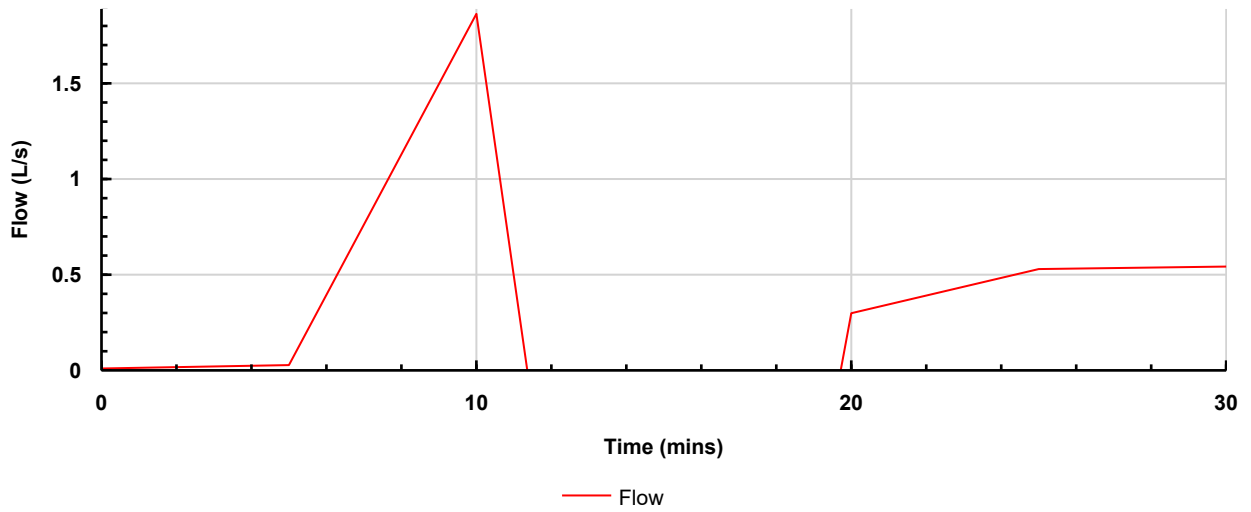


**Pipe (1)**  
**Critical by Return Period: FSR: 100 years: Increase Rainfall (%): +30: 15 mins: Winter**

Type : Pipe

**Graphs**

**Flow Graph**



**Tables**

Time (mins)	Depth (m)	Flow (L/s)
0	0.000	0.0
5	0.028	0.0
10	0.100	1.9
15	0.100	-5.0
20	0.100	0.3
25	0.100	0.5
30	0.100	0.5