

## Appendix 5 – SuDS Hierarchy Assessment

**The SuDS Hierarchy**

<b>Most Suitable</b>	<b>SuDS Technique</b>	<b>Flood Reduction</b>	<b>Pollution Reduction</b>	<b>Landscape and Wildlife Benefit</b>	<b>Included in the Scheme?</b>	<b>Comments</b>
	<b>Living Roofs</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>		The proposed roof lines do not lend themselves to living roofs.
	<b>Basins and Ponds</b> + Constructed + Wetlands + Detention Ponds + Retention ponds	<b>✓</b>	<b>✓</b>	<b>✓</b>		Site is not suitable for basins or ponds.
	<b>Filter strips and Swales</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>		Site is not suitable for filter strips and swales.
	<b>Infiltration Devices</b> + soakaway + infiltration trench + infiltration basin	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	Soakaways have been proposed for this development.
	<b>Permeable surfaces and filter drains</b> + gravelled areas + porous surfaces + engineered grass + solid paving blocks + resin bound + filter trenches	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	Type A permeable paving has been proposed for pollution and surface water control for this development.
	<b>Tanked System</b> + oversized pipes/ crated tanks / storage cells	<b>✓</b>	<b>✓</b>	<b>✓</b>		Not required as infiltration is proposed.
<b>Least Suitable</b>						

## Appendix 6 - CIRIA C573 Pollution Indices

# CIRIA C573 POLLUTION INDICES

Project No: **4613** Sheet No. **1**  
 Made By: **AEP** Revision: **P01**  
 Date: **02/11/2021** Project: **The Street, Barham**

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons	Applicable
Residential Roofs	Very Low	0.2	0.2	0.1	X
Other Roofs (typically commercial/industrial roofs)	Low	0.3	0.2	0.1	
Individual property driveways, residential car parks, low traffic roads, (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4	X
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways	Medium	0.7	0.6	0.7	
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored used or manufactured; industrial sites; trunk roads and motorways.	High	0.8	0.8	0.9	

Up to 0.8 where there is potential for metals to leach from the roof

These should only be used if considered appropriate as part of a detailed risk assessment. Refer to CIRIA C573

	Total Suspended Solids (TSS)	Metals	Hydrocarbons
<b>Total Pollution Hazard Indices</b>	0.7	0.6	0.45

# CIRIA C573 POLLUTION INDICES



Project No: **4613** Sheet No. **2**  
 Made By: **AEP** Revision: **P01**  
 Date: **02/11/2021** Project: **The Street, Barham**

Type of SuDS Component	Total Suspended Solids (TSS)	Metals	Hydrocarbons	Applicable
Filter Strip	0.4	0.4	0.5	
Filter Drain	0.4	0.4	0.4	
Swale	0.5	0.6	0.6	
Bioretention System	0.8	0.8	0.8	
Permeable Pavement	0.7	0.6	0.7	<b>X</b>
Detention Basin	0.5	0.5	0.6	
Pond	0.7	0.7	0.5	
Wetland	0.8	0.8	0.8	
Downstream Defender®	0.5	0.4	0.8	
Standard Catchpit	0.1	0.0	0.0	<b>X</b>

Select Primary Mitigation: **Permeable Pavement**


	Total Suspended Solids (TSS)	Metals	Hydrocarbons
<b>Total Mitigation Indices</b>	0.75	0.6	0.7
<b>Total Pollution Hazard Indices</b>	0.7	0.6	0.45
<b>Indices Balance</b>	-0.05	0	-0.25

**ACCEPTABLE**

**ACCEPTABLE**

**ACCEPTABLE**

## Appendix 7 – Preliminary Surface Water Network Calculations


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Date 12/11/2021 File 4613-PERMEABLE PAVING-10...	Designed by AEP Checked by JEM	
Innovyze	Source Control 2020.1	

Summary of Results for 2 year Return Period

Half Drain Time : 2 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	97.007	0.007	49.0	7.1	O K
30 min Summer	97.007	0.007	45.6	6.5	O K
60 min Summer	97.005	0.005	32.1	5.0	O K
120 min Summer	97.004	0.004	28.7	4.1	O K
180 min Summer	97.003	0.003	22.0	3.4	O K
240 min Summer	97.003	0.003	22.0	2.9	O K
360 min Summer	97.002	0.002	15.2	2.0	O K
480 min Summer	97.002	0.002	11.8	2.0	O K
600 min Summer	97.002	0.002	11.8	1.7	O K
720 min Summer	97.002	0.002	11.8	1.5	O K
960 min Summer	97.001	0.001	8.4	1.2	O K
1440 min Summer	97.001	0.001	8.4	1.1	O K
15 min Winter	97.007	0.007	49.0	7.3	O K
30 min Winter	97.006	0.006	42.2	6.0	O K
60 min Winter	97.004	0.004	28.7	4.0	O K
120 min Winter	97.003	0.003	22.0	3.2	O K
180 min Winter	97.003	0.003	18.6	2.5	O K
240 min Winter	97.002	0.002	15.2	2.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	33.241	0.0	11
30 min Summer	21.736	0.0	19
60 min Summer	13.625	0.0	34
120 min Summer	9.592	0.0	64
180 min Summer	7.629	0.0	94
240 min Summer	6.414	0.0	122
360 min Summer	4.935	0.0	186
480 min Summer	4.054	0.0	250
600 min Summer	3.465	0.0	304
720 min Summer	3.042	0.0	368
960 min Summer	2.470	0.0	480
1440 min Summer	1.836	0.0	752
15 min Winter	33.241	0.0	11
30 min Winter	21.736	0.0	19
60 min Winter	13.625	0.0	34
120 min Winter	9.592	0.0	62
180 min Winter	7.629	0.0	92
240 min Winter	6.414	0.0	128


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Innovyze	Source Control 2020.1	

Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
360 min Winter	97.002	0.002	11.8	1.7	O K
480 min Winter	97.002	0.002	11.8	1.5	O K
600 min Winter	97.001	0.001	8.4	1.2	O K
720 min Winter	97.001	0.001	8.4	1.1	O K
960 min Winter	97.001	0.001	8.4	1.1	O K
1440 min Winter	97.001	0.001	5.1	0.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
360 min Winter	4.935	0.0	184
480 min Winter	4.054	0.0	254
600 min Winter	3.465	0.0	292
720 min Winter	3.042	0.0	356
960 min Winter	2.470	0.0	518
1440 min Winter	1.836	0.0	700



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Innovyze	Source Control 2020.1	


Rainfall Details

Rainfall Model	FEH
Return Period (years)	2
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	1440
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.390

<b>Time (mins) Area</b>		
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.390


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Innovyze	Source Control 2020.1	

Model Details

Storage is Online Cover Level (m) 100.000

Infiltration Blanket Structure

Infiltration Coefficient Base (m/hr)	0.74880	Diameter/Width (m)	57.0
Safety Factor	2.0	Length (m)	57.0
Porosity	0.30	Cap Volume Depth (m)	0.300
Invert Level (m)	97.000		


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Innovyze	Source Control 2020.1	

Summary of Results for 30 year Return Period

Half Drain Time : 2 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	97.016	0.016	109.8	16.0	O K
30 min Summer	97.015	0.015	103.1	14.8	O K
60 min Summer	97.012	0.012	79.4	11.7	O K
120 min Summer	97.008	0.008	55.8	8.3	O K
180 min Summer	97.007	0.007	45.6	6.4	O K
240 min Summer	97.006	0.006	38.9	5.6	O K
360 min Summer	97.004	0.004	28.7	3.9	O K
480 min Summer	97.004	0.004	25.3	3.3	O K
600 min Summer	97.003	0.003	22.0	2.9	O K
720 min Summer	97.003	0.003	18.6	2.6	O K
960 min Summer	97.002	0.002	15.2	2.1	O K
1440 min Summer	97.002	0.002	11.8	1.6	O K
15 min Winter	97.017	0.017	116.6	16.6	O K
30 min Winter	97.014	0.014	96.3	13.8	O K
60 min Winter	97.010	0.010	65.9	9.7	O K
120 min Winter	97.007	0.007	45.6	6.4	O K
180 min Winter	97.005	0.005	35.5	5.0	O K
240 min Winter	97.004	0.004	28.7	4.1	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	75.477	0.0	11
30 min Summer	49.837	0.0	19
60 min Summer	31.472	0.0	34
120 min Summer	19.675	0.0	64
180 min Summer	14.883	0.0	94
240 min Summer	12.177	0.0	124
360 min Summer	9.130	0.0	184
480 min Summer	7.443	0.0	244
600 min Summer	6.355	0.0	300
720 min Summer	5.586	0.0	364
960 min Summer	4.561	0.0	476
1440 min Summer	3.430	0.0	714
15 min Winter	75.477	0.0	11
30 min Winter	49.837	0.0	19
60 min Winter	31.472	0.0	34
120 min Winter	19.675	0.0	64
180 min Winter	14.883	0.0	94
240 min Winter	12.177	0.0	124

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Innovyze	Source Control 2020.1	

Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
360 min Winter	97.003	0.003	22.0	3.0	O K
480 min Winter	97.003	0.003	18.6	2.5	O K
600 min Winter	97.002	0.002	15.2	2.1	O K
720 min Winter	97.002	0.002	15.2	2.0	O K
960 min Winter	97.002	0.002	11.8	1.6	O K
1440 min Winter	97.001	0.001	8.4	1.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
360 min Winter	9.130	0.0	194
480 min Winter	7.443	0.0	240
600 min Winter	6.355	0.0	304
720 min Winter	5.586	0.0	392
960 min Winter	4.561	0.0	468
1440 min Winter	3.430	0.0	748

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Innovyze	Source Control 2020.1	


Rainfall Details

Rainfall Model	FEH
Return Period (years)	30
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	1440
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.390

Time (mins)		Area
From:	To:	(ha)
0	4	0.390


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Innovyze	Source Control 2020.1	

Model Details

Storage is Online Cover Level (m) 100.000

Infiltration Blanket Structure

Infiltration Coefficient Base (m/hr)	0.74880	Diameter/Width (m)	57.0
Safety Factor	2.0	Length (m)	57.0
Porosity	0.30	Cap Volume Depth (m)	0.300
Invert Level (m)	97.000		


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Innovyze	Source Control 2020.1	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 2 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	97.029	0.029	197.7	28.6	O K
30 min Summer	97.027	0.027	184.2	26.7	O K
60 min Summer	97.022	0.022	147.0	21.0	O K
120 min Summer	97.015	0.015	99.7	14.7	O K
180 min Summer	97.012	0.012	79.4	11.4	O K
240 min Summer	97.010	0.010	65.9	9.6	O K
360 min Summer	97.008	0.008	52.4	7.4	O K
480 min Summer	97.007	0.007	45.6	6.3	O K
600 min Summer	97.006	0.006	38.9	5.5	O K
720 min Summer	97.005	0.005	35.5	4.9	O K
960 min Summer	97.004	0.004	28.7	4.1	O K
1440 min Summer	97.003	0.003	22.0	3.0	O K
15 min Winter	97.030	0.030	204.4	29.6	O K
30 min Winter	97.026	0.026	174.0	25.1	O K
60 min Winter	97.018	0.018	123.3	17.8	O K
120 min Winter	97.012	0.012	79.4	11.5	O K
180 min Winter	97.009	0.009	59.1	8.8	O K
240 min Winter	97.007	0.007	49.0	7.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	134.522	0.0	11
30 min Summer	89.941	0.0	19
60 min Summer	57.136	0.0	34
120 min Summer	35.021	0.0	64
180 min Summer	26.410	0.0	94
240 min Summer	21.686	0.0	124
360 min Summer	16.534	0.0	186
480 min Summer	13.785	0.0	242
600 min Summer	12.007	0.0	300
720 min Summer	10.737	0.0	364
960 min Summer	8.977	0.0	476
1440 min Summer	6.901	0.0	708
15 min Winter	134.522	0.0	11
30 min Winter	89.941	0.0	19
60 min Winter	57.136	0.0	34
120 min Winter	35.021	0.0	64
180 min Winter	26.410	0.0	96
240 min Winter	21.686	0.0	126


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Innovyze	Source Control 2020.1	

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
360 min Winter	97.006	0.006	38.9	5.5	O K
480 min Winter	97.005	0.005	32.1	4.6	O K
600 min Winter	97.004	0.004	28.7	4.0	O K
720 min Winter	97.004	0.004	25.3	3.6	O K
960 min Winter	97.003	0.003	22.0	3.1	O K
1440 min Winter	97.003	0.003	18.6	2.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
360 min Winter	16.534	0.0	184
480 min Winter	13.785	0.0	250
600 min Winter	12.007	0.0	294
720 min Winter	10.737	0.0	362
960 min Winter	8.977	0.0	480
1440 min Winter	6.901	0.0	704



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Innovyze	Source Control 2020.1	


Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	1440
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.390

Time (mins)		Area
From:	To:	(ha)
0	4	0.390


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Innovyze	Source Control 2020.1	

Model Details

Storage is Online Cover Level (m) 100.000

Infiltration Blanket Structure

Infiltration Coefficient Base (m/hr)	0.74880	Diameter/Width (m)	57.0
Safety Factor	2.0	Length (m)	57.0
Porosity	0.30	Cap Volume Depth (m)	0.300
Invert Level (m)	97.000		


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25 Hollingworth Court	4613	
Kent	THE STREET, BARHAM	
ME14 5PP	SA1-P02	
Date 20/09/2022	Designed by KC	
File 4613-SA1-100YR+40%CC-P02.SRCX	Checked by JEM	
Innovyze	Source Control 2020.1.3	

Summary of Results for 2 year Return Period

Half Drain Time : 71 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	97.292	0.292	0.8	4.6	O K
30 min Summer	97.357	0.357	0.9	5.6	O K
60 min Summer	97.397	0.397	1.0	6.2	O K
120 min Summer	97.483	0.483	1.3	7.6	O K
180 min Summer	97.515	0.515	1.3	8.1	O K
240 min Summer	97.525	0.525	1.4	8.2	O K
360 min Summer	97.515	0.515	1.3	8.1	O K
480 min Summer	97.492	0.492	1.3	7.7	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	33.241	0.0	17
30 min Summer	21.736	0.0	31
60 min Summer	13.625	0.0	50
120 min Summer	9.592	0.0	82
180 min Summer	7.629	0.0	118
240 min Summer	6.414	0.0	152
360 min Summer	4.935	0.0	218
480 min Summer	4.054	0.0	282

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Date 20/09/2022 File 4613-SA1-100YR+40%CC-P02.SRCX	Designed by KC Checked by JEM	
Innovyze	Source Control 2020.1.3	

Summary of Results for 2 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m³)</b>	<b>Status</b>
600 min Summer	97.467	0.467	1.2	7.3	O K
720 min Summer	97.443	0.443	1.2	6.9	O K
960 min Summer	97.402	0.402	1.0	6.3	O K
1440 min Summer	97.340	0.340	0.9	5.3	O K
2160 min Summer	97.281	0.281	0.7	4.4	O K
2880 min Summer	97.243	0.243	0.6	3.8	O K
15 min Winter	97.327	0.327	0.9	5.1	O K
30 min Winter	97.402	0.402	1.0	6.3	O K
60 min Winter	97.446	0.446	1.2	7.0	O K


<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m³)</b>	<b>Time-Peak (mins)</b>
600 min Summer	3.465	0.0	346
720 min Summer	3.042	0.0	410
960 min Summer	2.470	0.0	532
1440 min Summer	1.836	0.0	780
2160 min Summer	1.371	0.0	1144
2880 min Summer	1.122	0.0	1500
15 min Winter	33.241	0.0	17
30 min Winter	21.736	0.0	31
60 min Winter	13.625	0.0	52

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Kent	THE STREET, BARHAM	
ME14 5PP	SA1-P02	
Date 20/09/2022	Designed by KC	
File 4613-SA1-100YR+40%CC-P02.SRCX	Checked by JEM	
Innovyze	Source Control 2020.1.3	

Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
120 min Winter	97.533	0.533	1.4	8.3	O K
180 min Winter	97.557	0.557	1.4	8.7	O K
240 min Winter	97.556	0.556	1.4	8.7	O K
360 min Winter	97.527	0.527	1.4	8.3	O K
480 min Winter	97.490	0.490	1.3	7.7	O K
600 min Winter	97.454	0.454	1.2	7.1	O K
720 min Winter	97.423	0.423	1.1	6.6	O K
960 min Winter	97.370	0.370	1.0	5.8	O K
1440 min Winter	97.297	0.297	0.8	4.7	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
120 min Winter	9.592	0.0	88
180 min Winter	7.629	0.0	126
240 min Winter	6.414	0.0	162
360 min Winter	4.935	0.0	230
480 min Winter	4.054	0.0	298
600 min Winter	3.465	0.0	362
720 min Winter	3.042	0.0	426
960 min Winter	2.470	0.0	550
1440 min Winter	1.836	0.0	796

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Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
2160 min Winter	97.233	0.233	0.6	3.7	O K
2880 min Winter	97.195	0.195	0.5	3.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
2160 min Winter	1.371	0.0	1168
2880 min Winter	1.122	0.0	1528

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Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	2	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 620867 149952 TR 20867 49952	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	2880
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.080

Time (mins)	Area
From: To:	(ha)
0	4 0.080

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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	97.000	Cap Volume Depth (m)	2.000
Infiltration Coefficient Side (m/hr)	0.74880	Trench Width (m)	1.5	Cap Infiltration Depth (m)	2.000
Safety Factor	2.0	Trench Length (m)	11.0		
Porosity	0.95	Slope (1:X)	0.0		




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Summary of Results for 30 year Return Period

Half Drain Time : 67 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	97.662	0.662	1.7	10.4	O K
30 min Summer	97.819	0.819	2.1	12.8	O K
60 min Summer	97.917	0.917	2.4	14.4	O K
120 min Summer	97.990	0.990	2.6	15.5	O K
180 min Summer	98.005	1.005	2.6	15.8	O K
240 min Summer	97.996	0.996	2.6	15.6	O K
360 min Summer	97.953	0.953	2.5	14.9	O K
480 min Summer	97.903	0.903	2.3	14.2	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	75.477	0.0	17
30 min Summer	49.837	0.0	31
60 min Summer	31.472	0.0	50
120 min Summer	19.675	0.0	82
180 min Summer	14.883	0.0	118
240 min Summer	12.177	0.0	152
360 min Summer	9.130	0.0	218
480 min Summer	7.443	0.0	282

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
600 min Summer	97.856	0.856	2.2	13.4	O K
720 min Summer	97.814	0.814	2.1	12.8	O K
960 min Summer	97.742	0.742	1.9	11.6	O K
1440 min Summer	97.635	0.635	1.7	10.0	O K
2160 min Summer	97.525	0.525	1.4	8.2	O K
2880 min Summer	97.449	0.449	1.2	7.0	O K
15 min Winter	97.743	0.743	1.9	11.7	O K
30 min Winter	97.921	0.921	2.4	14.4	O K
60 min Winter	98.029	1.029	2.7	16.1	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
600 min Summer	6.355	0.0	346
720 min Summer	5.586	0.0	410
960 min Summer	4.561	0.0	532
1440 min Summer	3.430	0.0	780
2160 min Summer	2.564	0.0	1144
2880 min Summer	2.076	0.0	1500
15 min Winter	75.477	0.0	17
30 min Winter	49.837	0.0	31
60 min Winter	31.472	0.0	52

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
120 min Winter	98.093	1.093	2.8	17.1	O K
180 min Winter	98.086	1.086	2.8	17.0	O K
240 min Winter	98.056	1.056	2.7	16.6	O K
360 min Winter	97.976	0.976	2.5	15.3	O K
480 min Winter	97.900	0.900	2.3	14.1	O K
600 min Winter	97.833	0.833	2.2	13.1	O K
720 min Winter	97.776	0.776	2.0	12.2	O K
960 min Winter	97.683	0.683	1.8	10.7	O K
1440 min Winter	97.555	0.555	1.4	8.7	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
120 min Winter	19.675	0.0	88
180 min Winter	14.883	0.0	126
240 min Winter	12.177	0.0	162
360 min Winter	9.130	0.0	230
480 min Winter	7.443	0.0	298
600 min Winter	6.355	0.0	362
720 min Winter	5.586	0.0	426
960 min Winter	4.561	0.0	550
1440 min Winter	3.430	0.0	796

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
2160 min Winter	97.436	0.436	1.1	6.8	O K
2880 min Winter	97.361	0.361	0.9	5.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
2160 min Winter	2.564	0.0	1168
2880 min Winter	2.076	0.0	1528

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Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 620867 149952 TR 20867 49952	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	2880
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.080

Time (mins)	Area
From: To:	(ha)
0	4 0.080


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	97.000	Cap Volume Depth (m)	2.000
Infiltration Coefficient Side (m/hr)	0.74880	Trench Width (m)	1.5	Cap Infiltration Depth (m)	2.000
Safety Factor	2.0	Trench Length (m)	11.0		
Porosity	0.95	Slope (1:X)	0.0		


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Summary of Results for 100 year Return Period (+20%)

Half Drain Time : 67 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.012	1.012	2.6	15.9	O K
30 min Summer	98.267	1.267	3.3	19.9	O K
60 min Summer	98.427	1.427	3.7	22.4	O K
120 min Summer	98.510	1.510	3.9	23.7	O K
180 min Summer	98.529	1.529	4.0	24.0	O K
240 min Summer	98.521	1.521	4.0	23.8	O K
360 min Summer	98.479	1.479	3.8	23.2	O K
480 min Summer	98.434	1.434	3.7	22.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	115.305	0.0	17
30 min Summer	77.092	0.0	31
60 min Summer	48.974	0.0	50
120 min Summer	30.018	0.0	82
180 min Summer	22.637	0.0	118
240 min Summer	18.588	0.0	152
360 min Summer	14.172	0.0	218
480 min Summer	11.816	0.0	282


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Summary of Results for 100 year Return Period (+20%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
600 min Summer	98.387	1.387	3.6	21.7	O K
720 min Summer	98.341	1.341	3.5	21.0	O K
960 min Summer	98.252	1.252	3.3	19.6	O K
1440 min Summer	98.095	1.095	2.8	17.2	O K
2160 min Summer	97.909	0.909	2.4	14.3	O K
2880 min Summer	97.775	0.775	2.0	12.1	O K
15 min Winter	98.136	1.136	3.0	17.8	O K
30 min Winter	98.425	1.425	3.7	22.3	O K
60 min Winter	98.601	1.601	4.2	25.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
600 min Summer	10.292	0.0	346
720 min Summer	9.203	0.0	410
960 min Summer	7.695	0.0	532
1440 min Summer	5.915	0.0	780
2160 min Summer	4.442	0.0	1144
2880 min Summer	3.581	0.0	1500
15 min Winter	115.305	0.0	17
30 min Winter	77.092	0.0	31
60 min Winter	48.974	0.0	52




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Summary of Results for 100 year Return Period (+20%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
120 min Winter	98.667	1.667	4.3	26.1	O K
180 min Winter	98.652	1.652	4.3	25.9	O K
240 min Winter	98.612	1.612	4.2	25.3	O K
360 min Winter	98.515	1.515	3.9	23.7	O K
480 min Winter	98.429	1.429	3.7	22.4	O K
600 min Winter	98.350	1.350	3.5	21.2	O K
720 min Winter	98.278	1.278	3.3	20.0	O K
960 min Winter	98.152	1.152	3.0	18.1	O K
1440 min Winter	97.956	0.956	2.5	15.0	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
120 min Winter	30.018	0.0	88
180 min Winter	22.637	0.0	126
240 min Winter	18.588	0.0	162
360 min Winter	14.172	0.0	230
480 min Winter	11.816	0.0	298
600 min Winter	10.292	0.0	362
720 min Winter	9.203	0.0	426
960 min Winter	7.695	0.0	550
1440 min Winter	5.915	0.0	796

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Summary of Results for 100 year Return Period (+20%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
2160 min Winter	97.755	0.755	2.0	11.8	O K
2880 min Winter	97.623	0.623	1.6	9.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
2160 min Winter	4.442	0.0	1168
2880 min Winter	3.581	0.0	1528

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Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 620867 149952 TR 20867 49952	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	2880
Summer Storms	Yes	Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.080

Time (mins)	Area
From:	To: (ha)
0	4 0.080


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	97.000	Cap Volume Depth (m)	2.000
Infiltration Coefficient Side (m/hr)	0.74880	Trench Width (m)	1.5	Cap Infiltration Depth (m)	2.000
Safety Factor	2.0	Trench Length (m)	11.0		
Porosity	0.95	Slope (1:X)	0.0		


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Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 67 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.180	1.180	3.1	18.5	O K
30 min Summer	98.478	1.478	3.8	23.2	O K
60 min Summer	98.665	1.665	4.3	26.1	O K
120 min Summer	98.762	1.762	4.6	27.6	O K
180 min Summer	98.784	1.784	4.6	28.0	O K
240 min Summer	98.775	1.775	4.6	27.8	O K
360 min Summer	98.725	1.725	4.5	27.0	O K
480 min Summer	98.673	1.673	4.3	26.2	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	134.522	0.0	17
30 min Summer	89.941	0.0	31
60 min Summer	57.136	0.0	50
120 min Summer	35.021	0.0	82
180 min Summer	26.410	0.0	118
240 min Summer	21.686	0.0	152
360 min Summer	16.534	0.0	218
480 min Summer	13.785	0.0	282

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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
600 min Summer	98.618	1.618	4.2	25.4	O K
720 min Summer	98.564	1.564	4.1	24.5	O K
960 min Summer	98.460	1.460	3.8	22.9	O K
1440 min Summer	98.278	1.278	3.3	20.0	O K
2160 min Summer	98.061	1.061	2.8	16.6	O K
2880 min Summer	97.904	0.904	2.3	14.2	O K
15 min Winter	98.325	1.325	3.4	20.8	O K
30 min Winter	98.663	1.663	4.3	26.1	O K
60 min Winter	98.868	1.868	4.9	29.3	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
600 min Summer	12.007	0.0	346
720 min Summer	10.737	0.0	410
960 min Summer	8.977	0.0	532
1440 min Summer	6.901	0.0	780
2160 min Summer	5.183	0.0	1144
2880 min Summer	4.178	0.0	1500
15 min Winter	134.522	0.0	17
30 min Winter	89.941	0.0	31
60 min Winter	57.136	0.0	52

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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
120 min Winter	98.945	1.945	5.1	30.5	O K
180 min Winter	98.928	1.928	5.0	30.2	O K
240 min Winter	98.880	1.880	4.9	29.5	O K
360 min Winter	98.767	1.767	4.6	27.7	O K
480 min Winter	98.667	1.667	4.3	26.1	O K
600 min Winter	98.575	1.575	4.1	24.7	O K
720 min Winter	98.491	1.491	3.9	23.4	O K
960 min Winter	98.344	1.344	3.5	21.1	O K
1440 min Winter	98.116	1.116	2.9	17.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
120 min Winter	35.021	0.0	88
180 min Winter	26.410	0.0	126
240 min Winter	21.686	0.0	162
360 min Winter	16.534	0.0	230
480 min Winter	13.785	0.0	298
600 min Winter	12.007	0.0	362
720 min Winter	10.737	0.0	426
960 min Winter	8.977	0.0	550
1440 min Winter	6.901	0.0	796


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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
2160 min Winter	97.881	0.881	2.3	13.8	O K
2880 min Winter	97.727	0.727	1.9	11.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
2160 min Winter	5.183	0.0	1168
2880 min Winter	4.178	0.0	1528



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Innovyze	Source Control 2020.1.3	


Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 620867 149952 TR 20867 49952	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	2880
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.080

Time (mins)	Area
From: To:	(ha)
0	4 0.080


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Innovyze	Source Control 2020.1.3	

Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	97.000	Cap Volume Depth (m)	2.000
Infiltration Coefficient Side (m/hr)	0.74880	Trench Width (m)	1.5	Cap Infiltration Depth (m)	2.000
Safety Factor	2.0	Trench Length (m)	11.0		
Porosity	0.95	Slope (1:X)	0.0		


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Innovyze	Source Control 2020.1.3	

Summary of Results for 2 year Return Period

Half Drain Time : 48 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.647	0.247	0.5	1.9	O K
30 min Summer	98.694	0.294	0.5	2.2	O K
60 min Summer	98.721	0.321	0.6	2.4	O K
120 min Summer	98.779	0.379	0.7	2.9	O K
180 min Summer	98.794	0.394	0.7	3.0	O K
240 min Summer	98.793	0.393	0.7	3.0	O K
360 min Summer	98.772	0.372	0.7	2.8	O K
480 min Summer	98.747	0.347	0.7	2.6	O K
600 min Summer	98.724	0.324	0.6	2.5	O K
720 min Summer	98.703	0.303	0.6	2.3	O K
960 min Summer	98.669	0.269	0.5	2.0	O K
1440 min Summer	98.621	0.221	0.4	1.7	O K
2160 min Summer	98.578	0.178	0.3	1.4	O K
2880 min Summer	98.551	0.151	0.3	1.2	O K
15 min Winter	98.677	0.277	0.5	2.1	O K
30 min Winter	98.731	0.331	0.6	2.5	O K
60 min Winter	98.758	0.358	0.7	2.7	O K
120 min Winter	98.810	0.410	0.8	3.1	O K
180 min Winter	98.814	0.414	0.8	3.1	O K
240 min Winter	98.803	0.403	0.8	3.1	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	33.241	0.0	17
30 min Summer	21.736	0.0	30
60 min Summer	13.625	0.0	44
120 min Summer	9.592	0.0	80
180 min Summer	7.629	0.0	112
240 min Summer	6.414	0.0	146
360 min Summer	4.935	0.0	210
480 min Summer	4.054	0.0	274
600 min Summer	3.465	0.0	336
720 min Summer	3.042	0.0	398
960 min Summer	2.470	0.0	520
1440 min Summer	1.836	0.0	764
2160 min Summer	1.371	0.0	1124
2880 min Summer	1.122	0.0	1496
15 min Winter	33.241	0.0	17
30 min Winter	21.736	0.0	30
60 min Winter	13.625	0.0	48
120 min Winter	9.592	0.0	84
180 min Winter	7.629	0.0	120
240 min Winter	6.414	0.0	154

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Innovyze	Source Control 2020.1.3	

Summary of Results for 2 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	98.767	0.367	0.7	2.8	O K
480 min Winter	98.731	0.331	0.6	2.5	O K
600 min Winter	98.701	0.301	0.6	2.3	O K
720 min Winter	98.675	0.275	0.5	2.1	O K
960 min Winter	98.635	0.235	0.4	1.8	O K
1440 min Winter	98.584	0.184	0.3	1.4	O K
2160 min Winter	98.542	0.142	0.3	1.1	O K
2880 min Winter	98.518	0.118	0.2	0.9	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	4.935	0.0	220
480 min Winter	4.054	0.0	286
600 min Winter	3.465	0.0	348
720 min Winter	3.042	0.0	412
960 min Winter	2.470	0.0	532
1440 min Winter	1.836	0.0	778
2160 min Winter	1.371	0.0	1144
2880 min Winter	1.122	0.0	1500

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	2
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.034

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.034


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 8.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 30 year Return Period

Half Drain Time : 48 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.960	0.560	1.0	4.3	O K
30 min Summer	99.073	0.673	1.3	5.1	O K
60 min Summer	99.142	0.742	1.4	5.6	O K
120 min Summer	99.178	0.778	1.5	5.9	O K
180 min Summer	99.169	0.769	1.4	5.8	O K
240 min Summer	99.146	0.746	1.4	5.7	O K
360 min Summer	99.089	0.689	1.3	5.2	O K
480 min Summer	99.037	0.637	1.2	4.8	O K
600 min Summer	98.994	0.594	1.1	4.5	O K
720 min Summer	98.957	0.557	1.0	4.2	O K
960 min Summer	98.897	0.497	0.9	3.8	O K
1440 min Summer	98.813	0.413	0.8	3.1	O K
2160 min Summer	98.733	0.333	0.6	2.5	O K
2880 min Summer	98.680	0.280	0.5	2.1	O K
15 min Winter	99.029	0.629	1.2	4.8	O K
30 min Winter	99.158	0.758	1.4	5.8	O K
60 min Winter	99.227	0.827	1.5	6.3	O K
120 min Winter	99.242	0.842	1.6	6.4	O K
180 min Winter	99.208	0.808	1.5	6.1	O K
240 min Winter	99.165	0.765	1.4	5.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	75.477	0.0	17
30 min Summer	49.837	0.0	30
60 min Summer	31.472	0.0	44
120 min Summer	19.675	0.0	78
180 min Summer	14.883	0.0	112
240 min Summer	12.177	0.0	146
360 min Summer	9.130	0.0	210
480 min Summer	7.443	0.0	274
600 min Summer	6.355	0.0	336
720 min Summer	5.586	0.0	398
960 min Summer	4.561	0.0	520
1440 min Summer	3.430	0.0	764
2160 min Summer	2.564	0.0	1124
2880 min Summer	2.076	0.0	1496
15 min Winter	75.477	0.0	17
30 min Winter	49.837	0.0	30
60 min Winter	31.472	0.0	48
120 min Winter	19.675	0.0	84
180 min Winter	14.883	0.0	120
240 min Winter	12.177	0.0	154


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Summary of Results for 30 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.079	0.679	1.3	5.2	O K
480 min Winter	99.008	0.608	1.1	4.6	O K
600 min Winter	98.952	0.552	1.0	4.2	O K
720 min Winter	98.905	0.505	0.9	3.8	O K
960 min Winter	98.835	0.435	0.8	3.3	O K
1440 min Winter	98.744	0.344	0.6	2.6	O K
2160 min Winter	98.665	0.265	0.5	2.0	O K
2880 min Winter	98.618	0.218	0.4	1.7	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	9.130	0.0	220
480 min Winter	7.443	0.0	286
600 min Winter	6.355	0.0	348
720 min Winter	5.586	0.0	412
960 min Winter	4.561	0.0	532
1440 min Winter	3.430	0.0	778
2160 min Winter	2.564	0.0	1144
2880 min Winter	2.076	0.0	1500



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Rainfall Details

Rainfall Model	FEH
Return Period (years)	30
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.034

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.034


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 8.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 100 year Return Period (+20%)

Half Drain Time : 53 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.255	0.855	1.6	6.5	O K
30 min Summer	99.441	1.041	1.9	7.9	O K
60 min Summer	99.555	1.155	2.2	8.8	O K
120 min Summer	99.587	1.187	2.2	9.0	O K
180 min Summer	99.570	1.170	2.2	8.9	O K
240 min Summer	99.538	1.138	2.1	8.7	O K
360 min Summer	99.469	1.069	2.0	8.1	O K
480 min Summer	99.412	1.012	1.9	7.7	O K
600 min Summer	99.362	0.962	1.8	7.3	O K
720 min Summer	99.317	0.917	1.7	7.0	O K
960 min Summer	99.238	0.838	1.6	6.4	O K
1440 min Summer	99.113	0.713	1.3	5.4	O K
2160 min Summer	98.977	0.577	1.1	4.4	O K
2880 min Summer	98.883	0.483	0.9	3.7	O K
15 min Winter	99.360	0.960	1.8	7.3	O K
30 min Winter	99.573	1.173	2.2	8.9	O K
60 min Winter	99.687	1.287	2.4	9.8	O K
120 min Winter	99.684	1.284	2.4	9.8	O K
180 min Winter	99.629	1.229	2.3	9.3	O K
240 min Winter	99.567	1.167	2.2	8.9	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	115.305	0.0	17
30 min Summer	77.092	0.0	30
60 min Summer	48.974	0.0	44
120 min Summer	30.018	0.0	78
180 min Summer	22.637	0.0	112
240 min Summer	18.588	0.0	146
360 min Summer	14.172	0.0	210
480 min Summer	11.816	0.0	274
600 min Summer	10.292	0.0	336
720 min Summer	9.203	0.0	398
960 min Summer	7.695	0.0	520
1440 min Summer	5.915	0.0	764
2160 min Summer	4.442	0.0	1124
2880 min Summer	3.581	0.0	1496
15 min Winter	115.305	0.0	17
30 min Winter	77.092	0.0	30
60 min Winter	48.974	0.0	48
120 min Winter	30.018	0.0	84
180 min Winter	22.637	0.0	120
240 min Winter	18.588	0.0	154

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Summary of Results for 100 year Return Period (+20%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.453	1.053	2.0	8.0	O K
480 min Winter	99.366	0.966	1.8	7.3	O K
600 min Winter	99.293	0.893	1.7	6.8	O K
720 min Winter	99.232	0.832	1.6	6.3	O K
960 min Winter	99.133	0.733	1.4	5.6	O K
1440 min Winter	98.993	0.593	1.1	4.5	O K
2160 min Winter	98.859	0.459	0.9	3.5	O K
2880 min Winter	98.775	0.375	0.7	2.9	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	14.172	0.0	220
480 min Winter	11.816	0.0	286
600 min Winter	10.292	0.0	348
720 min Winter	9.203	0.0	412
960 min Winter	7.695	0.0	532
1440 min Winter	5.915	0.0	778
2160 min Winter	4.442	0.0	1144
2880 min Winter	3.581	0.0	1500

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.034

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.034


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 8.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 53 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.398	0.998	1.9	7.6	O K
30 min Summer	99.615	1.215	2.3	9.2	O K
60 min Summer	99.747	1.347	2.5	10.2	Flood Risk
120 min Summer	99.785	1.385	2.6	10.5	Flood Risk
180 min Summer	99.765	1.365	2.6	10.4	Flood Risk
240 min Summer	99.728	1.328	2.5	10.1	Flood Risk
360 min Summer	99.647	1.247	2.3	9.5	O K
480 min Summer	99.580	1.180	2.2	9.0	O K
600 min Summer	99.522	1.122	2.1	8.5	O K
720 min Summer	99.470	1.070	2.0	8.1	O K
960 min Summer	99.378	0.978	1.8	7.4	O K
1440 min Summer	99.232	0.832	1.6	6.3	O K
2160 min Summer	99.074	0.674	1.3	5.1	O K
2880 min Summer	98.964	0.564	1.1	4.3	O K
15 min Winter	99.520	1.120	2.1	8.5	O K
30 min Winter	99.769	1.369	2.6	10.4	Flood Risk
60 min Winter	99.902	1.502	2.8	11.4	Flood Risk
120 min Winter	99.898	1.498	2.8	11.4	Flood Risk
180 min Winter	99.834	1.434	2.7	10.9	Flood Risk
240 min Winter	99.762	1.362	2.5	10.3	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	134.522	0.0	17
30 min Summer	89.941	0.0	30
60 min Summer	57.136	0.0	44
120 min Summer	35.021	0.0	78
180 min Summer	26.410	0.0	112
240 min Summer	21.686	0.0	146
360 min Summer	16.534	0.0	210
480 min Summer	13.785	0.0	274
600 min Summer	12.007	0.0	336
720 min Summer	10.737	0.0	398
960 min Summer	8.977	0.0	520
1440 min Summer	6.901	0.0	764
2160 min Summer	5.183	0.0	1124
2880 min Summer	4.178	0.0	1496
15 min Winter	134.522	0.0	17
30 min Winter	89.941	0.0	30
60 min Winter	57.136	0.0	48
120 min Winter	35.021	0.0	84
180 min Winter	26.410	0.0	120
240 min Winter	21.686	0.0	154


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Summary of Results for 100 year Return Period (+40%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.629	1.229	2.3	9.3	O K
480 min Winter	99.526	1.126	2.1	8.6	O K
600 min Winter	99.442	1.042	2.0	7.9	O K
720 min Winter	99.371	0.971	1.8	7.4	O K
960 min Winter	99.255	0.855	1.6	6.5	O K
1440 min Winter	99.092	0.692	1.3	5.3	O K
2160 min Winter	98.936	0.536	1.0	4.1	O K
2880 min Winter	98.838	0.438	0.8	3.3	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	16.534	0.0	220
480 min Winter	13.785	0.0	286
600 min Winter	12.007	0.0	348
720 min Winter	10.737	0.0	412
960 min Winter	8.977	0.0	532
1440 min Winter	6.901	0.0	778
2160 min Winter	5.183	0.0	1144
2880 min Winter	4.178	0.0	1500



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Innovyze		Source Control 2020.1.3


Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.034

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.034


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Innovyze	Source Control 2020.1.3	

Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 8.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 2 year Return Period

Half Drain Time : 48 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.645	0.245	0.5	2.1	O K
30 min Summer	98.692	0.292	0.6	2.5	O K
60 min Summer	98.720	0.320	0.7	2.7	O K
120 min Summer	98.778	0.378	0.8	3.2	O K
180 min Summer	98.793	0.393	0.8	3.4	O K
240 min Summer	98.792	0.392	0.8	3.4	O K
360 min Summer	98.772	0.372	0.8	3.2	O K
480 min Summer	98.747	0.347	0.7	3.0	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	33.241	0.0	17
30 min Summer	21.736	0.0	30
60 min Summer	13.625	0.0	46
120 min Summer	9.592	0.0	80
180 min Summer	7.629	0.0	112
240 min Summer	6.414	0.0	146
360 min Summer	4.935	0.0	210
480 min Summer	4.054	0.0	274

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Summary of Results for 2 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
600 min Summer	98.724	0.324	0.7	2.8	O K
720 min Summer	98.704	0.304	0.6	2.6	O K
960 min Summer	98.670	0.270	0.6	2.3	O K
1440 min Summer	98.622	0.222	0.5	1.9	O K
2160 min Summer	98.579	0.179	0.4	1.5	O K
2880 min Summer	98.552	0.152	0.3	1.3	O K
15 min Winter	98.675	0.275	0.6	2.4	O K
30 min Winter	98.729	0.329	0.7	2.8	O K
60 min Winter	98.757	0.357	0.7	3.1	O K


<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
600 min Summer	3.465	0.0	336
720 min Summer	3.042	0.0	398
960 min Summer	2.470	0.0	520
1440 min Summer	1.836	0.0	764
2160 min Summer	1.371	0.0	1124
2880 min Summer	1.122	0.0	1496
15 min Winter	33.241	0.0	17
30 min Winter	21.736	0.0	30
60 min Winter	13.625	0.0	48

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Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
120 min Winter	98.809	0.409	0.9	3.5	O K
180 min Winter	98.814	0.414	0.9	3.5	O K
240 min Winter	98.803	0.403	0.8	3.4	O K
360 min Winter	98.767	0.367	0.8	3.1	O K
480 min Winter	98.732	0.332	0.7	2.8	O K
600 min Winter	98.702	0.302	0.6	2.6	O K
720 min Winter	98.676	0.276	0.6	2.4	O K
960 min Winter	98.636	0.236	0.5	2.0	O K
1440 min Winter	98.585	0.185	0.4	1.6	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
120 min Winter	9.592	0.0	84
180 min Winter	7.629	0.0	120
240 min Winter	6.414	0.0	154
360 min Winter	4.935	0.0	220
480 min Winter	4.054	0.0	286
600 min Winter	3.465	0.0	350
720 min Winter	3.042	0.0	412
960 min Winter	2.470	0.0	532
1440 min Winter	1.836	0.0	780

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Summary of Results for 2 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
2160 min Winter	98.542	0.142	0.3	1.2	O K
2880 min Winter	98.518	0.118	0.2	1.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
2160 min Winter	1.371	0.0	1144
2880 min Winter	1.122	0.0	1500

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Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	2	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 620867 149952 TR 20867 49952	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	2880
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.038

Time (mins)	Area
From:	To: (ha)
0	4 0.038

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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	98.400	Cap Volume Depth (m)	1.600
Infiltration Coefficient Side (m/hr)	0.74880	Trench Width (m)	1.0	Cap Infiltration Depth (m)	0.000
Safety Factor	2.0	Trench Length (m)	9.0		
Porosity	0.95	Slope (1:X)	0.0		




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Summary of Results for 30 year Return Period

Half Drain Time : 48 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.957	0.557	1.2	4.8	O K
30 min Summer	99.070	0.670	1.4	5.7	O K
60 min Summer	99.139	0.739	1.5	6.3	O K
120 min Summer	99.176	0.776	1.6	6.6	O K
180 min Summer	99.168	0.768	1.6	6.6	O K
240 min Summer	99.145	0.745	1.5	6.4	O K
360 min Summer	99.089	0.689	1.4	5.9	O K
480 min Summer	99.038	0.638	1.3	5.5	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	75.477	0.0	17
30 min Summer	49.837	0.0	30
60 min Summer	31.472	0.0	46
120 min Summer	19.675	0.0	80
180 min Summer	14.883	0.0	112
240 min Summer	12.177	0.0	146
360 min Summer	9.130	0.0	210
480 min Summer	7.443	0.0	274

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Summary of Results for 30 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
600 min Summer	98.995	0.595	1.2	5.1	O K
720 min Summer	98.958	0.558	1.2	4.8	O K
960 min Summer	98.898	0.498	1.0	4.3	O K
1440 min Summer	98.815	0.415	0.9	3.5	O K
2160 min Summer	98.735	0.335	0.7	2.9	O K
2880 min Summer	98.682	0.282	0.6	2.4	O K
15 min Winter	99.025	0.625	1.3	5.3	O K
30 min Winter	99.155	0.755	1.6	6.5	O K
60 min Winter	99.224	0.824	1.7	7.0	O K


<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
600 min Summer	6.355	0.0	336
720 min Summer	5.586	0.0	398
960 min Summer	4.561	0.0	520
1440 min Summer	3.430	0.0	764
2160 min Summer	2.564	0.0	1124
2880 min Summer	2.076	0.0	1496
15 min Winter	75.477	0.0	17
30 min Winter	49.837	0.0	30
60 min Winter	31.472	0.0	48

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
120 min Winter	99.240	0.840	1.7	7.2	O K
180 min Winter	99.208	0.808	1.7	6.9	O K
240 min Winter	99.165	0.765	1.6	6.5	O K
360 min Winter	99.079	0.679	1.4	5.8	O K
480 min Winter	99.010	0.610	1.3	5.2	O K
600 min Winter	98.953	0.553	1.2	4.7	O K
720 min Winter	98.907	0.507	1.1	4.3	O K
960 min Winter	98.836	0.436	0.9	3.7	O K
1440 min Winter	98.746	0.346	0.7	3.0	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
120 min Winter	19.675	0.0	84
180 min Winter	14.883	0.0	120
240 min Winter	12.177	0.0	154
360 min Winter	9.130	0.0	220
480 min Winter	7.443	0.0	286
600 min Winter	6.355	0.0	350
720 min Winter	5.586	0.0	412
960 min Winter	4.561	0.0	532
1440 min Winter	3.430	0.0	778

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Summary of Results for 30 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
2160 min Winter	98.666	0.266	0.6	2.3	O K
2880 min Winter	98.619	0.219	0.5	1.9	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
2160 min Winter	2.564	0.0	1144
2880 min Winter	2.076	0.0	1500

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Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 620867 149952 TR 20867 49952	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	2880
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.038

Time (mins)	Area
From:	To: (ha)
0	4 0.038


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	98.400	Cap Volume Depth (m)	1.600
Infiltration Coefficient Side (m/hr)	0.74880	Trench Width (m)	1.0	Cap Infiltration Depth (m)	0.000
Safety Factor	2.0	Trench Length (m)	9.0		
Porosity	0.95	Slope (1:X)	0.0		


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Summary of Results for 100 year Return Period (+20%)

Half Drain Time : 54 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.251	0.851	1.8	7.3	O K
30 min Summer	99.437	1.037	2.2	8.9	O K
60 min Summer	99.550	1.150	2.4	9.8	O K
120 min Summer	99.584	1.184	2.5	10.1	O K
180 min Summer	99.568	1.168	2.4	10.0	O K
240 min Summer	99.537	1.137	2.4	9.7	O K
360 min Summer	99.469	1.069	2.2	9.1	O K
480 min Summer	99.413	1.013	2.1	8.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	115.305	0.0	17
30 min Summer	77.092	0.0	30
60 min Summer	48.974	0.0	46
120 min Summer	30.018	0.0	80
180 min Summer	22.637	0.0	112
240 min Summer	18.588	0.0	146
360 min Summer	14.172	0.0	210
480 min Summer	11.816	0.0	274


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Summary of Results for 100 year Return Period (+20%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
600 min Summer	99.363	0.963	2.0	8.2	O K
720 min Summer	99.319	0.919	1.9	7.9	O K
960 min Summer	99.240	0.840	1.7	7.2	O K
1440 min Summer	99.115	0.715	1.5	6.1	O K
2160 min Summer	98.980	0.580	1.2	5.0	O K
2880 min Summer	98.886	0.486	1.0	4.2	O K
15 min Winter	99.355	0.955	2.0	8.2	O K
30 min Winter	99.568	1.168	2.4	10.0	O K
60 min Winter	99.683	1.283	2.7	11.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
600 min Summer	10.292	0.0	336
720 min Summer	9.203	0.0	398
960 min Summer	7.695	0.0	520
1440 min Summer	5.915	0.0	764
2160 min Summer	4.442	0.0	1124
2880 min Summer	3.581	0.0	1496
15 min Winter	115.305	0.0	17
30 min Winter	77.092	0.0	30
60 min Winter	48.974	0.0	48




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Summary of Results for 100 year Return Period (+20%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
120 min Winter	99.681	1.281	2.7	11.0	O K
180 min Winter	99.628	1.228	2.6	10.5	O K
240 min Winter	99.567	1.167	2.4	10.0	O K
360 min Winter	99.455	1.055	2.2	9.0	O K
480 min Winter	99.368	0.968	2.0	8.3	O K
600 min Winter	99.296	0.896	1.9	7.7	O K
720 min Winter	99.235	0.835	1.7	7.1	O K
960 min Winter	99.136	0.736	1.5	6.3	O K
1440 min Winter	98.996	0.596	1.2	5.1	O K


<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
120 min Winter	30.018	0.0	84
180 min Winter	22.637	0.0	120
240 min Winter	18.588	0.0	154
360 min Winter	14.172	0.0	220
480 min Winter	11.816	0.0	286
600 min Winter	10.292	0.0	350
720 min Winter	9.203	0.0	412
960 min Winter	7.695	0.0	532
1440 min Winter	5.915	0.0	780

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Summary of Results for 100 year Return Period (+20%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
2160 min Winter	98.862	0.462	1.0	3.9	O K
2880 min Winter	98.777	0.377	0.8	3.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
2160 min Winter	4.442	0.0	1144
2880 min Winter	3.581	0.0	1500

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Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 620867 149952 TR 20867 49952	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	2880
Summer Storms	Yes	Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.038

Time (mins)	Area
From: To:	(ha)
0	4 0.038


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	98.400	Cap Volume Depth (m)	1.600
Infiltration Coefficient Side (m/hr)	0.74880	Trench Width (m)	1.0	Cap Infiltration Depth (m)	0.000
Safety Factor	2.0	Trench Length (m)	9.0		
Porosity	0.95	Slope (1:X)	0.0		


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Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 54 minutes.

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
15 min Summer	99.393	0.993	2.1	8.5	O K
30 min Summer	99.610	1.210	2.5	10.3	O K
60 min Summer	99.742	1.342	2.8	11.5	Flood Risk
120 min Summer	99.781	1.381	2.9	11.8	Flood Risk
180 min Summer	99.762	1.362	2.8	11.6	Flood Risk
240 min Summer	99.727	1.327	2.8	11.3	Flood Risk
360 min Summer	99.647	1.247	2.6	10.7	O K
480 min Summer	99.581	1.181	2.5	10.1	O K


<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
15 min Summer	134.522	0.0	17
30 min Summer	89.941	0.0	30
60 min Summer	57.136	0.0	46
120 min Summer	35.021	0.0	80
180 min Summer	26.410	0.0	112
240 min Summer	21.686	0.0	146
360 min Summer	16.534	0.0	210
480 min Summer	13.785	0.0	274

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25 Hollingworth Court	4613	
Kent	THE STREET, BARHAM	
ME14 5PP	SA4-P02	
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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
600 min Summer	99.523	1.123	2.3	9.6	O K
720 min Summer	99.472	1.072	2.2	9.2	O K
960 min Summer	99.380	0.980	2.0	8.4	O K
1440 min Summer	99.235	0.835	1.7	7.1	O K
2160 min Summer	99.076	0.676	1.4	5.8	O K
2880 min Summer	98.967	0.567	1.2	4.8	O K
15 min Winter	99.514	1.114	2.3	9.5	O K
30 min Winter	99.763	1.363	2.8	11.7	Flood Risk
60 min Winter	99.897	1.497	3.1	12.8	Flood Risk


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
600 min Summer	12.007	0.0	336
720 min Summer	10.737	0.0	398
960 min Summer	8.977	0.0	520
1440 min Summer	6.901	0.0	764
2160 min Summer	5.183	0.0	1124
2880 min Summer	4.178	0.0	1496
15 min Winter	134.522	0.0	17
30 min Winter	89.941	0.0	30
60 min Winter	57.136	0.0	48

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25 Hollingworth Court Kent ME14 5PP	4613 THE STREET, BARHAM SA4-P02	
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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
120 min Winter	99.895	1.495	3.1	12.8	Flood Risk
180 min Winter	99.833	1.433	3.0	12.3	Flood Risk
240 min Winter	99.762	1.362	2.8	11.6	Flood Risk
360 min Winter	99.631	1.231	2.6	10.5	O K
480 min Winter	99.529	1.129	2.3	9.7	O K
600 min Winter	99.445	1.045	2.2	8.9	O K
720 min Winter	99.374	0.974	2.0	8.3	O K
960 min Winter	99.259	0.859	1.8	7.3	O K
1440 min Winter	99.095	0.695	1.4	5.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
120 min Winter	35.021	0.0	84
180 min Winter	26.410	0.0	120
240 min Winter	21.686	0.0	154
360 min Winter	16.534	0.0	220
480 min Winter	13.785	0.0	286
600 min Winter	12.007	0.0	350
720 min Winter	10.737	0.0	412
960 min Winter	8.977	0.0	532
1440 min Winter	6.901	0.0	780


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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
2160 min Winter	98.939	0.539	1.1	4.6	O K
2880 min Winter	98.840	0.440	0.9	3.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
2160 min Winter	5.183	0.0	1144
2880 min Winter	4.178	0.0	1500



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Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 620867 149952 TR 20867 49952	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	2880
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.038

Time (mins)	Area
From:	To: (ha)
0	4 0.038


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Kent	THE STREET, BARHAM	
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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	98.400	Cap Volume Depth (m)	1.600
Infiltration Coefficient Side (m/hr)	0.74880	Trench Width (m)	1.0	Cap Infiltration Depth (m)	0.000
Safety Factor	2.0	Trench Length (m)	9.0		
Porosity	0.95	Slope (1:X)	0.0		


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Summary of Results for 2 year Return Period

Half Drain Time : 49 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.644	0.244	0.6	2.3	O K
30 min Summer	98.691	0.291	0.7	2.8	O K
60 min Summer	98.719	0.319	0.7	3.0	O K
120 min Summer	98.778	0.378	0.9	3.6	O K
180 min Summer	98.793	0.393	0.9	3.7	O K
240 min Summer	98.792	0.392	0.9	3.7	O K
360 min Summer	98.772	0.372	0.9	3.5	O K
480 min Summer	98.748	0.348	0.8	3.3	O K
600 min Summer	98.725	0.325	0.7	3.1	O K
720 min Summer	98.704	0.304	0.7	2.9	O K
960 min Summer	98.670	0.270	0.6	2.6	O K
1440 min Summer	98.623	0.223	0.5	2.1	O K
2160 min Summer	98.579	0.179	0.4	1.7	O K
2880 min Summer	98.553	0.153	0.3	1.5	O K
15 min Winter	98.674	0.274	0.6	2.6	O K
30 min Winter	98.728	0.328	0.8	3.1	O K
60 min Winter	98.756	0.356	0.8	3.4	O K
120 min Winter	98.809	0.409	0.9	3.9	O K
180 min Winter	98.814	0.414	0.9	3.9	O K
240 min Winter	98.803	0.403	0.9	3.8	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	33.241	0.0	17
30 min Summer	21.736	0.0	30
60 min Summer	13.625	0.0	46
120 min Summer	9.592	0.0	80
180 min Summer	7.629	0.0	112
240 min Summer	6.414	0.0	146
360 min Summer	4.935	0.0	210
480 min Summer	4.054	0.0	274
600 min Summer	3.465	0.0	336
720 min Summer	3.042	0.0	398
960 min Summer	2.470	0.0	520
1440 min Summer	1.836	0.0	764
2160 min Summer	1.371	0.0	1124
2880 min Summer	1.122	0.0	1496
15 min Winter	33.241	0.0	17
30 min Winter	21.736	0.0	30
60 min Winter	13.625	0.0	48
120 min Winter	9.592	0.0	84
180 min Winter	7.629	0.0	120
240 min Winter	6.414	0.0	154

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Summary of Results for 2 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	98.768	0.368	0.8	3.5	O K
480 min Winter	98.733	0.333	0.8	3.2	O K
600 min Winter	98.702	0.302	0.7	2.9	O K
720 min Winter	98.677	0.277	0.6	2.6	O K
960 min Winter	98.637	0.237	0.5	2.3	O K
1440 min Winter	98.586	0.186	0.4	1.8	O K
2160 min Winter	98.543	0.143	0.3	1.4	O K
2880 min Winter	98.519	0.119	0.3	1.1	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	4.935	0.0	222
480 min Winter	4.054	0.0	286
600 min Winter	3.465	0.0	350
720 min Winter	3.042	0.0	412
960 min Winter	2.470	0.0	536
1440 min Winter	1.836	0.0	780
2160 min Winter	1.371	0.0	1144
2880 min Winter	1.122	0.0	1500

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	2
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.042

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.042


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 10.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Innovyze	Source Control 2020.1.3	

Summary of Results for 30 year Return Period

Half Drain Time : 49 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.955	0.555	1.3	5.3	O K
30 min Summer	99.068	0.668	1.5	6.3	O K
60 min Summer	99.137	0.737	1.7	7.0	O K
120 min Summer	99.174	0.774	1.8	7.4	O K
180 min Summer	99.166	0.766	1.8	7.3	O K
240 min Summer	99.144	0.744	1.7	7.1	O K
360 min Summer	99.088	0.688	1.6	6.5	O K
480 min Summer	99.038	0.638	1.5	6.1	O K
600 min Summer	98.995	0.595	1.4	5.7	O K
720 min Summer	98.958	0.558	1.3	5.3	O K
960 min Summer	98.899	0.499	1.1	4.7	O K
1440 min Summer	98.816	0.416	1.0	4.0	O K
2160 min Summer	98.736	0.336	0.8	3.2	O K
2880 min Summer	98.683	0.283	0.6	2.7	O K
15 min Winter	99.023	0.623	1.4	5.9	O K
30 min Winter	99.153	0.753	1.7	7.1	O K
60 min Winter	99.222	0.822	1.9	7.8	O K
120 min Winter	99.239	0.839	1.9	8.0	O K
180 min Winter	99.207	0.807	1.8	7.7	O K
240 min Winter	99.165	0.765	1.7	7.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	75.477	0.0	17
30 min Summer	49.837	0.0	30
60 min Summer	31.472	0.0	46
120 min Summer	19.675	0.0	80
180 min Summer	14.883	0.0	112
240 min Summer	12.177	0.0	146
360 min Summer	9.130	0.0	210
480 min Summer	7.443	0.0	274
600 min Summer	6.355	0.0	336
720 min Summer	5.586	0.0	398
960 min Summer	4.561	0.0	520
1440 min Summer	3.430	0.0	764
2160 min Summer	2.564	0.0	1124
2880 min Summer	2.076	0.0	1496
15 min Winter	75.477	0.0	17
30 min Winter	49.837	0.0	30
60 min Winter	31.472	0.0	48
120 min Winter	19.675	0.0	84
180 min Winter	14.883	0.0	120
240 min Winter	12.177	0.0	154


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Summary of Results for 30 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.080	0.680	1.6	6.5	O K
480 min Winter	99.011	0.611	1.4	5.8	O K
600 min Winter	98.954	0.554	1.3	5.3	O K
720 min Winter	98.908	0.508	1.2	4.8	O K
960 min Winter	98.838	0.438	1.0	4.2	O K
1440 min Winter	98.747	0.347	0.8	3.3	O K
2160 min Winter	98.668	0.268	0.6	2.5	O K
2880 min Winter	98.620	0.220	0.5	2.1	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	9.130	0.0	222
480 min Winter	7.443	0.0	286
600 min Winter	6.355	0.0	350
720 min Winter	5.586	0.0	412
960 min Winter	4.561	0.0	536
1440 min Winter	3.430	0.0	780
2160 min Winter	2.564	0.0	1144
2880 min Winter	2.076	0.0	1500



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Rainfall Details


Rainfall Model	FEH
Return Period (years)	30
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.042

**Time (mins) Area**  
**From: To: (ha)**

0 4 0.042


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 10.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 100 year Return Period (+20%)

Half Drain Time : 54 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.247	0.847	1.9	8.1	O K
30 min Summer	99.433	1.033	2.4	9.8	O K
60 min Summer	99.547	1.147	2.6	10.9	O K
120 min Summer	99.581	1.181	2.7	11.2	O K
180 min Summer	99.566	1.166	2.7	11.1	O K
240 min Summer	99.536	1.136	2.6	10.8	O K
360 min Summer	99.469	1.069	2.4	10.2	O K
480 min Summer	99.413	1.013	2.3	9.6	O K
600 min Summer	99.364	0.964	2.2	9.2	O K
720 min Summer	99.320	0.920	2.1	8.7	O K
960 min Summer	99.242	0.842	1.9	8.0	O K
1440 min Summer	99.117	0.717	1.6	6.8	O K
2160 min Summer	98.981	0.581	1.3	5.5	O K
2880 min Summer	98.887	0.487	1.1	4.6	O K
15 min Winter	99.351	0.951	2.2	9.0	O K
30 min Winter	99.564	1.164	2.7	11.1	O K
60 min Winter	99.679	1.279	2.9	12.2	O K
120 min Winter	99.679	1.279	2.9	12.2	O K
180 min Winter	99.628	1.228	2.8	11.7	O K
240 min Winter	99.567	1.167	2.7	11.1	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	115.305	0.0	17
30 min Summer	77.092	0.0	30
60 min Summer	48.974	0.0	46
120 min Summer	30.018	0.0	80
180 min Summer	22.637	0.0	112
240 min Summer	18.588	0.0	146
360 min Summer	14.172	0.0	210
480 min Summer	11.816	0.0	274
600 min Summer	10.292	0.0	336
720 min Summer	9.203	0.0	398
960 min Summer	7.695	0.0	520
1440 min Summer	5.915	0.0	764
2160 min Summer	4.442	0.0	1124
2880 min Summer	3.581	0.0	1496
15 min Winter	115.305	0.0	17
30 min Winter	77.092	0.0	30
60 min Winter	48.974	0.0	48
120 min Winter	30.018	0.0	84
180 min Winter	22.637	0.0	120
240 min Winter	18.588	0.0	154

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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+20%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.456	1.056	2.4	10.0	O K
480 min Winter	99.369	0.969	2.2	9.2	O K
600 min Winter	99.298	0.898	2.1	8.5	O K
720 min Winter	99.237	0.837	1.9	8.0	O K
960 min Winter	99.138	0.738	1.7	7.0	O K
1440 min Winter	98.998	0.598	1.4	5.7	O K
2160 min Winter	98.864	0.464	1.1	4.4	O K
2880 min Winter	98.779	0.379	0.9	3.6	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	14.172	0.0	222
480 min Winter	11.816	0.0	286
600 min Winter	10.292	0.0	350
720 min Winter	9.203	0.0	412
960 min Winter	7.695	0.0	536
1440 min Winter	5.915	0.0	780
2160 min Winter	4.442	0.0	1144
2880 min Winter	3.581	0.0	1500

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Rainfall Details


Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.042

**Time (mins) Area**  
**From: To: (ha)**

0 4 0.042


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Innovyze	Source Control 2020.1.3	

Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 10.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 49 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.389	0.989	2.3	9.4	O K
30 min Summer	99.605	1.205	2.8	11.5	O K
60 min Summer	99.738	1.338	3.1	12.7	Flood Risk
120 min Summer	99.778	1.378	3.2	13.1	Flood Risk
180 min Summer	99.760	1.360	3.1	12.9	Flood Risk
240 min Summer	99.725	1.325	3.0	12.6	Flood Risk
360 min Summer	99.647	1.247	2.9	11.8	O K
480 min Summer	99.582	1.182	2.7	11.2	O K
600 min Summer	99.525	1.125	2.6	10.7	O K
720 min Summer	99.474	1.074	2.5	10.2	O K
960 min Summer	99.382	0.982	2.2	9.3	O K
1440 min Summer	99.237	0.837	1.9	7.9	O K
2160 min Summer	99.078	0.678	1.6	6.4	O K
2880 min Summer	98.969	0.569	1.3	5.4	O K
15 min Winter	99.510	1.110	2.5	10.5	O K
30 min Winter	99.758	1.358	3.1	12.9	Flood Risk
60 min Winter	99.892	1.492	3.4	14.2	Flood Risk
120 min Winter	99.893	1.493	3.4	14.2	Flood Risk
180 min Winter	99.832	1.432	3.3	13.6	Flood Risk
240 min Winter	99.762	1.362	3.1	12.9	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	134.522	0.0	17
30 min Summer	89.941	0.0	30
60 min Summer	57.136	0.0	46
120 min Summer	35.021	0.0	80
180 min Summer	26.410	0.0	112
240 min Summer	21.686	0.0	146
360 min Summer	16.534	0.0	210
480 min Summer	13.785	0.0	274
600 min Summer	12.007	0.0	336
720 min Summer	10.737	0.0	398
960 min Summer	8.977	0.0	520
1440 min Summer	6.901	0.0	764
2160 min Summer	5.183	0.0	1124
2880 min Summer	4.178	0.0	1496
15 min Winter	134.522	0.0	17
30 min Winter	89.941	0.0	30
60 min Winter	57.136	0.0	48
120 min Winter	35.021	0.0	84
180 min Winter	26.410	0.0	120
240 min Winter	21.686	0.0	154


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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+40%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.632	1.232	2.8	11.7	O K
480 min Winter	99.531	1.131	2.6	10.7	O K
600 min Winter	99.448	1.048	2.4	10.0	O K
720 min Winter	99.377	0.977	2.2	9.3	O K
960 min Winter	99.261	0.861	2.0	8.2	O K
1440 min Winter	99.098	0.698	1.6	6.6	O K
2160 min Winter	98.941	0.541	1.2	5.1	O K
2880 min Winter	98.842	0.442	1.0	4.2	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	16.534	0.0	222
480 min Winter	13.785	0.0	286
600 min Winter	12.007	0.0	350
720 min Winter	10.737	0.0	412
960 min Winter	8.977	0.0	536
1440 min Winter	6.901	0.0	780
2160 min Winter	5.183	0.0	1144
2880 min Winter	4.178	0.0	1500



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Innovyze		Source Control 2020.1.3

Rainfall Details


Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.042

**Time (mins) Area**  
**From: To: (ha)**

0 4 0.042


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 10.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Innovyze	Source Control 2020.1.3	

Summary of Results for 2 year Return Period

Half Drain Time : 48 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.639	0.239	0.5	2.0	O K
30 min Summer	98.685	0.285	0.6	2.4	O K
60 min Summer	98.712	0.312	0.6	2.7	O K
120 min Summer	98.768	0.368	0.8	3.1	O K
180 min Summer	98.783	0.383	0.8	3.3	O K
240 min Summer	98.782	0.382	0.8	3.3	O K
360 min Summer	98.762	0.362	0.8	3.1	O K
480 min Summer	98.738	0.338	0.7	2.9	O K
600 min Summer	98.716	0.316	0.7	2.7	O K
720 min Summer	98.696	0.296	0.6	2.5	O K
960 min Summer	98.663	0.263	0.5	2.2	O K
1440 min Summer	98.616	0.216	0.4	1.8	O K
2160 min Summer	98.574	0.174	0.4	1.5	O K
2880 min Summer	98.548	0.148	0.3	1.3	O K
15 min Winter	98.668	0.268	0.6	2.3	O K
30 min Winter	98.721	0.321	0.7	2.7	O K
60 min Winter	98.748	0.348	0.7	3.0	O K
120 min Winter	98.799	0.399	0.8	3.4	O K
180 min Winter	98.803	0.403	0.8	3.4	O K
240 min Winter	98.792	0.392	0.8	3.4	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	33.241	0.0	17
30 min Summer	21.736	0.0	30
60 min Summer	13.625	0.0	46
120 min Summer	9.592	0.0	80
180 min Summer	7.629	0.0	112
240 min Summer	6.414	0.0	146
360 min Summer	4.935	0.0	210
480 min Summer	4.054	0.0	274
600 min Summer	3.465	0.0	336
720 min Summer	3.042	0.0	398
960 min Summer	2.470	0.0	520
1440 min Summer	1.836	0.0	764
2160 min Summer	1.371	0.0	1124
2880 min Summer	1.122	0.0	1496
15 min Winter	33.241	0.0	17
30 min Winter	21.736	0.0	30
60 min Winter	13.625	0.0	48
120 min Winter	9.592	0.0	84
180 min Winter	7.629	0.0	120
240 min Winter	6.414	0.0	154

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Summary of Results for 2 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	98.758	0.358	0.7	3.1	O K
480 min Winter	98.723	0.323	0.7	2.8	O K
600 min Winter	98.694	0.294	0.6	2.5	O K
720 min Winter	98.669	0.269	0.6	2.3	O K
960 min Winter	98.630	0.230	0.5	2.0	O K
1440 min Winter	98.580	0.180	0.4	1.5	O K
2160 min Winter	98.539	0.139	0.3	1.2	O K
2880 min Winter	98.515	0.115	0.2	1.0	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	4.935	0.0	220
480 min Winter	4.054	0.0	286
600 min Winter	3.465	0.0	350
720 min Winter	3.042	0.0	412
960 min Winter	2.470	0.0	532
1440 min Winter	1.836	0.0	778
2160 min Winter	1.371	0.0	1144
2880 min Winter	1.122	0.0	1500

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Rainfall Details


Rainfall Model	FEH
Return Period (years)	2
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.037

**Time (mins) Area**  
**From: To: (ha)**

0 4 0.037


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 9.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 30 year Return Period

Half Drain Time : 48 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.942	0.542	1.1	4.6	O K
30 min Summer	99.053	0.653	1.4	5.6	O K
60 min Summer	99.120	0.720	1.5	6.2	O K
120 min Summer	99.156	0.756	1.6	6.5	O K
180 min Summer	99.147	0.747	1.6	6.4	O K
240 min Summer	99.125	0.725	1.5	6.2	O K
360 min Summer	99.070	0.670	1.4	5.7	O K
480 min Summer	99.021	0.621	1.3	5.3	O K
600 min Summer	98.979	0.579	1.2	4.9	O K
720 min Summer	98.943	0.543	1.1	4.6	O K
960 min Summer	98.885	0.485	1.0	4.1	O K
1440 min Summer	98.804	0.404	0.8	3.5	O K
2160 min Summer	98.726	0.326	0.7	2.8	O K
2880 min Summer	98.674	0.274	0.6	2.3	O K
15 min Winter	99.009	0.609	1.3	5.2	O K
30 min Winter	99.135	0.735	1.5	6.3	O K
60 min Winter	99.203	0.803	1.7	6.9	O K
120 min Winter	99.218	0.818	1.7	7.0	O K
180 min Winter	99.186	0.786	1.6	6.7	O K
240 min Winter	99.144	0.744	1.5	6.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	75.477	0.0	17
30 min Summer	49.837	0.0	30
60 min Summer	31.472	0.0	46
120 min Summer	19.675	0.0	80
180 min Summer	14.883	0.0	112
240 min Summer	12.177	0.0	146
360 min Summer	9.130	0.0	210
480 min Summer	7.443	0.0	274
600 min Summer	6.355	0.0	336
720 min Summer	5.586	0.0	398
960 min Summer	4.561	0.0	520
1440 min Summer	3.430	0.0	764
2160 min Summer	2.564	0.0	1124
2880 min Summer	2.076	0.0	1496
15 min Winter	75.477	0.0	17
30 min Winter	49.837	0.0	30
60 min Winter	31.472	0.0	48
120 min Winter	19.675	0.0	84
180 min Winter	14.883	0.0	120
240 min Winter	12.177	0.0	154


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Summary of Results for 30 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.062	0.662	1.4	5.7	O K
480 min Winter	98.994	0.594	1.2	5.1	O K
600 min Winter	98.939	0.539	1.1	4.6	O K
720 min Winter	98.894	0.494	1.0	4.2	O K
960 min Winter	98.825	0.425	0.9	3.6	O K
1440 min Winter	98.736	0.336	0.7	2.9	O K
2160 min Winter	98.659	0.259	0.5	2.2	O K
2880 min Winter	98.613	0.213	0.4	1.8	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	9.130	0.0	220
480 min Winter	7.443	0.0	286
600 min Winter	6.355	0.0	350
720 min Winter	5.586	0.0	412
960 min Winter	4.561	0.0	532
1440 min Winter	3.430	0.0	780
2160 min Winter	2.564	0.0	1144
2880 min Winter	2.076	0.0	1500



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Rainfall Details

Rainfall Model	FEH
Return Period (years)	30
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.037

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.037


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Trench Width (m)	1.0
Infiltration Coefficient Side (m/hr)	0.74880	Trench Length (m)	9.0
Safety Factor	2.0	Slope (1:X)	0.0
Porosity	0.95	Cap Volume Depth (m)	1.600
Invert Level (m)	98.400	Cap Infiltration Depth (m)	0.000


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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+20%)

Half Drain Time : 54 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.229	0.829	1.7	7.1	O K
30 min Summer	99.409	1.009	2.1	8.6	O K
60 min Summer	99.520	1.120	2.3	9.6	O K
120 min Summer	99.553	1.153	2.4	9.9	O K
180 min Summer	99.537	1.137	2.4	9.7	O K
240 min Summer	99.507	1.107	2.3	9.5	O K
360 min Summer	99.441	1.041	2.2	8.9	O K
480 min Summer	99.386	0.986	2.1	8.4	O K
600 min Summer	99.338	0.938	2.0	8.0	O K
720 min Summer	99.295	0.895	1.9	7.6	O K
960 min Summer	99.218	0.818	1.7	7.0	O K
1440 min Summer	99.096	0.696	1.4	6.0	O K
2160 min Summer	98.964	0.564	1.2	4.8	O K
2880 min Summer	98.873	0.473	1.0	4.0	O K
15 min Winter	99.330	0.930	1.9	8.0	O K
30 min Winter	99.537	1.137	2.4	9.7	O K
60 min Winter	99.649	1.249	2.6	10.7	O K
120 min Winter	99.648	1.248	2.6	10.7	O K
180 min Winter	99.596	1.196	2.5	10.2	O K
240 min Winter	99.536	1.136	2.4	9.7	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	115.305	0.0	17
30 min Summer	77.092	0.0	30
60 min Summer	48.974	0.0	46
120 min Summer	30.018	0.0	80
180 min Summer	22.637	0.0	112
240 min Summer	18.588	0.0	146
360 min Summer	14.172	0.0	210
480 min Summer	11.816	0.0	274
600 min Summer	10.292	0.0	336
720 min Summer	9.203	0.0	398
960 min Summer	7.695	0.0	520
1440 min Summer	5.915	0.0	764
2160 min Summer	4.442	0.0	1124
2880 min Summer	3.581	0.0	1496
15 min Winter	115.305	0.0	17
30 min Winter	77.092	0.0	30
60 min Winter	48.974	0.0	48
120 min Winter	30.018	0.0	84
180 min Winter	22.637	0.0	120
240 min Winter	18.588	0.0	154

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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+20%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.427	1.027	2.1	8.8	O K
480 min Winter	99.342	0.942	2.0	8.1	O K
600 min Winter	99.272	0.872	1.8	7.5	O K
720 min Winter	99.213	0.813	1.7	7.0	O K
960 min Winter	99.117	0.717	1.5	6.1	O K
1440 min Winter	98.980	0.580	1.2	5.0	O K
2160 min Winter	98.849	0.449	0.9	3.8	O K
2880 min Winter	98.767	0.367	0.8	3.1	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	14.172	0.0	220
480 min Winter	11.816	0.0	286
600 min Winter	10.292	0.0	350
720 min Winter	9.203	0.0	412
960 min Winter	7.695	0.0	532
1440 min Winter	5.915	0.0	780
2160 min Winter	4.442	0.0	1144
2880 min Winter	3.581	0.0	1500

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Innovyze		Source Control 2020.1.3


Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.037

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.037


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Innovyze	Source Control 2020.1.3	

Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 9.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 54 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.367	0.967	2.0	8.3	O K
30 min Summer	99.578	1.178	2.4	10.1	O K
60 min Summer	99.707	1.307	2.7	11.2	Flood Risk
120 min Summer	99.745	1.345	2.8	11.5	Flood Risk
180 min Summer	99.726	1.326	2.8	11.3	Flood Risk
240 min Summer	99.692	1.292	2.7	11.0	O K
360 min Summer	99.614	1.214	2.5	10.4	O K
480 min Summer	99.550	1.150	2.4	9.8	O K
600 min Summer	99.494	1.094	2.3	9.4	O K
720 min Summer	99.444	1.044	2.2	8.9	O K
960 min Summer	99.355	0.955	2.0	8.2	O K
1440 min Summer	99.213	0.813	1.7	6.9	O K
2160 min Summer	99.059	0.659	1.4	5.6	O K
2880 min Summer	98.952	0.552	1.1	4.7	O K
15 min Winter	99.485	1.085	2.3	9.3	O K
30 min Winter	99.727	1.327	2.8	11.3	Flood Risk
60 min Winter	99.857	1.457	3.0	12.5	Flood Risk
120 min Winter	99.856	1.456	3.0	12.4	Flood Risk
180 min Winter	99.795	1.395	2.9	11.9	Flood Risk
240 min Winter	99.726	1.326	2.8	11.3	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	134.522	0.0	17
30 min Summer	89.941	0.0	30
60 min Summer	57.136	0.0	46
120 min Summer	35.021	0.0	80
180 min Summer	26.410	0.0	112
240 min Summer	21.686	0.0	146
360 min Summer	16.534	0.0	210
480 min Summer	13.785	0.0	274
600 min Summer	12.007	0.0	336
720 min Summer	10.737	0.0	398
960 min Summer	8.977	0.0	520
1440 min Summer	6.901	0.0	764
2160 min Summer	5.183	0.0	1124
2880 min Summer	4.178	0.0	1496
15 min Winter	134.522	0.0	17
30 min Winter	89.941	0.0	30
60 min Winter	57.136	0.0	48
120 min Winter	35.021	0.0	84
180 min Winter	26.410	0.0	120
240 min Winter	21.686	0.0	154


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Innovyze		Source Control 2020.1.3

Summary of Results for 100 year Return Period (+40%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.598	1.198	2.5	10.2	O K
480 min Winter	99.499	1.099	2.3	9.4	O K
600 min Winter	99.418	1.018	2.1	8.7	O K
720 min Winter	99.349	0.949	2.0	8.1	O K
960 min Winter	99.236	0.836	1.7	7.1	O K
1440 min Winter	99.077	0.677	1.4	5.8	O K
2160 min Winter	98.924	0.524	1.1	4.5	O K
2880 min Winter	98.829	0.429	0.9	3.7	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	16.534	0.0	220
480 min Winter	13.785	0.0	286
600 min Winter	12.007	0.0	350
720 min Winter	10.737	0.0	412
960 min Winter	8.977	0.0	532
1440 min Winter	6.901	0.0	780
2160 min Winter	5.183	0.0	1144
2880 min Winter	4.178	0.0	1500



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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.037

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.037


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Trench Width (m)	1.0
Infiltration Coefficient Side (m/hr)	0.74880	Trench Length (m)	9.0
Safety Factor	2.0	Slope (1:X)	0.0
Porosity	0.95	Cap Volume Depth (m)	1.600
Invert Level (m)	98.400	Cap Infiltration Depth (m)	0.000


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Innovyze	Source Control 2020.1.3	

Summary of Results for 2 year Return Period

Half Drain Time : 119 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.610	0.210	0.5	5.4	O K
30 min Summer	98.663	0.263	0.7	6.8	O K
60 min Summer	98.705	0.305	0.8	7.8	O K
120 min Summer	98.777	0.377	0.9	9.7	O K
180 min Summer	98.813	0.413	1.0	10.6	O K
240 min Summer	98.831	0.431	1.1	11.1	O K
360 min Summer	98.840	0.440	1.1	11.3	O K
480 min Summer	98.834	0.434	1.1	11.1	O K
600 min Summer	98.823	0.423	1.1	10.9	O K
720 min Summer	98.810	0.410	1.0	10.5	O K
960 min Summer	98.783	0.383	1.0	9.8	O K
1440 min Summer	98.738	0.338	0.8	8.7	O K
2160 min Summer	98.690	0.290	0.7	7.4	O K
2880 min Summer	98.657	0.257	0.6	6.6	O K
15 min Winter	98.635	0.235	0.6	6.0	O K
30 min Winter	98.696	0.296	0.7	7.6	O K
60 min Winter	98.743	0.343	0.9	8.8	O K
120 min Winter	98.822	0.422	1.1	10.8	O K
180 min Winter	98.858	0.458	1.1	11.7	O K
240 min Winter	98.872	0.472	1.2	12.1	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	33.241	0.0	18
30 min Summer	21.736	0.0	32
60 min Summer	13.625	0.0	60
120 min Summer	9.592	0.0	94
180 min Summer	7.629	0.0	126
240 min Summer	6.414	0.0	160
360 min Summer	4.935	0.0	228
480 min Summer	4.054	0.0	296
600 min Summer	3.465	0.0	362
720 min Summer	3.042	0.0	428
960 min Summer	2.470	0.0	558
1440 min Summer	1.836	0.0	808
2160 min Summer	1.371	0.0	1172
2880 min Summer	1.122	0.0	1532
15 min Winter	33.241	0.0	18
30 min Winter	21.736	0.0	32
60 min Winter	13.625	0.0	60
120 min Winter	9.592	0.0	96
180 min Winter	7.629	0.0	134
240 min Winter	6.414	0.0	172

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Summary of Results for 2 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	98.871	0.471	1.2	12.1	O K
480 min Winter	98.855	0.455	1.1	11.7	O K
600 min Winter	98.834	0.434	1.1	11.1	O K
720 min Winter	98.814	0.414	1.0	10.6	O K
960 min Winter	98.775	0.375	0.9	9.6	O K
1440 min Winter	98.716	0.316	0.8	8.1	O K
2160 min Winter	98.657	0.257	0.6	6.6	O K
2880 min Winter	98.620	0.220	0.5	5.6	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	4.935	0.0	244
480 min Winter	4.054	0.0	314
600 min Winter	3.465	0.0	384
720 min Winter	3.042	0.0	450
960 min Winter	2.470	0.0	580
1440 min Winter	1.836	0.0	838
2160 min Winter	1.371	0.0	1212
2880 min Winter	1.122	0.0	1584

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Innovyze		Source Control 2020.1.3


Rainfall Details

Rainfall Model	FEH
Return Period (years)	2
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.091

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.091


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 3.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 9.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 30 year Return Period

Half Drain Time : 119 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.876	0.476	1.2	12.2	O K
30 min Summer	99.004	0.604	1.5	15.5	O K
60 min Summer	99.103	0.703	1.8	18.0	O K
120 min Summer	99.173	0.773	1.9	19.8	O K
180 min Summer	99.205	0.805	2.0	20.7	O K
240 min Summer	99.218	0.818	2.0	21.0	O K
360 min Summer	99.215	0.815	2.0	20.9	O K
480 min Summer	99.198	0.798	2.0	20.5	O K
600 min Summer	99.176	0.776	1.9	19.9	O K
720 min Summer	99.153	0.753	1.9	19.3	O K
960 min Summer	99.108	0.708	1.8	18.2	O K
1440 min Summer	99.031	0.631	1.6	16.2	O K
2160 min Summer	98.941	0.541	1.4	13.9	O K
2880 min Summer	98.875	0.475	1.2	12.2	O K
15 min Winter	98.934	0.534	1.3	13.7	O K
30 min Winter	99.078	0.678	1.7	17.4	O K
60 min Winter	99.192	0.792	2.0	20.3	O K
120 min Winter	99.266	0.866	2.2	22.2	O K
180 min Winter	99.293	0.893	2.2	22.9	O K
240 min Winter	99.296	0.896	2.2	23.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	75.477	0.0	18
30 min Summer	49.837	0.0	32
60 min Summer	31.472	0.0	60
120 min Summer	19.675	0.0	94
180 min Summer	14.883	0.0	126
240 min Summer	12.177	0.0	160
360 min Summer	9.130	0.0	228
480 min Summer	7.443	0.0	296
600 min Summer	6.355	0.0	362
720 min Summer	5.586	0.0	428
960 min Summer	4.561	0.0	558
1440 min Summer	3.430	0.0	808
2160 min Summer	2.564	0.0	1172
2880 min Summer	2.076	0.0	1532
15 min Winter	75.477	0.0	18
30 min Winter	49.837	0.0	32
60 min Winter	31.472	0.0	60
120 min Winter	19.675	0.0	96
180 min Winter	14.883	0.0	134
240 min Winter	12.177	0.0	172


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Summary of Results for 30 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.271	0.871	2.2	22.3	O K
480 min Winter	99.235	0.835	2.1	21.4	O K
600 min Winter	99.197	0.797	2.0	20.4	O K
720 min Winter	99.160	0.760	1.9	19.5	O K
960 min Winter	99.094	0.694	1.7	17.8	O K
1440 min Winter	98.990	0.590	1.5	15.1	O K
2160 min Winter	98.881	0.481	1.2	12.3	O K
2880 min Winter	98.807	0.407	1.0	10.4	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	9.130	0.0	244
480 min Winter	7.443	0.0	314
600 min Winter	6.355	0.0	384
720 min Winter	5.586	0.0	450
960 min Winter	4.561	0.0	580
1440 min Winter	3.430	0.0	838
2160 min Winter	2.564	0.0	1212
2880 min Winter	2.076	0.0	1584



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Rainfall Details

Rainfall Model	FEH
Return Period (years)	30
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.091

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.091


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Innovyze	Source Control 2020.1.3	

Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Trench Width (m)	3.0
Infiltration Coefficient Side (m/hr)	0.74880	Trench Length (m)	9.0
Safety Factor	2.0	Slope (1:X)	0.0
Porosity	0.95	Cap Volume Depth (m)	1.600
Invert Level (m)	98.400	Cap Infiltration Depth (m)	0.000


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Summary of Results for 100 year Return Period (+20%)

Half Drain Time : 119 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.128	0.728	1.8	18.7	O K
30 min Summer	99.334	0.934	2.3	24.0	O K
60 min Summer	99.495	1.095	2.7	28.1	O K
120 min Summer	99.580	1.180	2.9	30.3	O K
180 min Summer	99.625	1.225	3.1	31.4	O K
240 min Summer	99.649	1.249	3.1	32.0	O K
360 min Summer	99.665	1.265	3.2	32.4	O K
480 min Summer	99.666	1.266	3.2	32.5	O K
600 min Summer	99.657	1.257	3.1	32.2	O K
720 min Summer	99.640	1.240	3.1	31.8	O K
960 min Summer	99.594	1.194	3.0	30.6	O K
1440 min Summer	99.488	1.088	2.7	27.9	O K
2160 min Summer	99.338	0.938	2.3	24.1	O K
2880 min Summer	99.219	0.819	2.0	21.0	O K
15 min Winter	99.216	0.816	2.0	20.9	O K
30 min Winter	99.449	1.049	2.6	26.9	O K
60 min Winter	99.633	1.233	3.1	31.6	O K
120 min Winter	99.721	1.321	3.3	33.9	Flood Risk
180 min Winter	99.759	1.359	3.4	34.8	Flood Risk
240 min Winter	99.768	1.368	3.4	35.1	Flood Risk


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	115.305	0.0	18
30 min Summer	77.092	0.0	32
60 min Summer	48.974	0.0	60
120 min Summer	30.018	0.0	94
180 min Summer	22.637	0.0	126
240 min Summer	18.588	0.0	160
360 min Summer	14.172	0.0	228
480 min Summer	11.816	0.0	296
600 min Summer	10.292	0.0	362
720 min Summer	9.203	0.0	428
960 min Summer	7.695	0.0	558
1440 min Summer	5.915	0.0	808
2160 min Summer	4.442	0.0	1172
2880 min Summer	3.581	0.0	1532
15 min Winter	115.305	0.0	18
30 min Winter	77.092	0.0	32
60 min Winter	48.974	0.0	60
120 min Winter	30.018	0.0	96
180 min Winter	22.637	0.0	134
240 min Winter	18.588	0.0	172

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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+20%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.752	1.352	3.4	34.7	Flood Risk
480 min Winter	99.725	1.325	3.3	34.0	Flood Risk
600 min Winter	99.690	1.290	3.2	33.1	O K
720 min Winter	99.652	1.252	3.1	32.1	O K
960 min Winter	99.570	1.170	2.9	30.0	O K
1440 min Winter	99.417	1.017	2.5	26.1	O K
2160 min Winter	99.233	0.833	2.1	21.4	O K
2880 min Winter	99.102	0.702	1.8	18.0	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	14.172	0.0	244
480 min Winter	11.816	0.0	314
600 min Winter	10.292	0.0	384
720 min Winter	9.203	0.0	450
960 min Winter	7.695	0.0	580
1440 min Winter	5.915	0.0	838
2160 min Winter	4.442	0.0	1212
2880 min Winter	3.581	0.0	1584

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Innovyze		Source Control 2020.1.3


Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.091

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.091


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Innovyze	Source Control 2020.1.3	

Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 3.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 9.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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25 Hollingworth Court Kent ME14 5PP	4613 THE STREET, BARHAM SA7-P02	
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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 119 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.249	0.849	2.1	21.8	O K
30 min Summer	99.490	1.090	2.7	28.0	O K
60 min Summer	99.677	1.277	3.2	32.8	O K
120 min Summer	99.776	1.376	3.4	35.3	Flood Risk
180 min Summer	99.829	1.429	3.6	36.7	Flood Risk
240 min Summer	99.857	1.457	3.6	37.4	Flood Risk
360 min Summer	99.876	1.476	3.7	37.9	Flood Risk
480 min Summer	99.878	1.478	3.7	37.9	Flood Risk
600 min Summer	99.866	1.466	3.7	37.6	Flood Risk
720 min Summer	99.847	1.447	3.6	37.1	Flood Risk
960 min Summer	99.793	1.393	3.5	35.7	Flood Risk
1440 min Summer	99.670	1.270	3.2	32.6	O K
2160 min Summer	99.495	1.095	2.7	28.1	O K
2880 min Summer	99.356	0.956	2.4	24.5	O K
15 min Winter	99.352	0.952	2.4	24.4	O K
30 min Winter	99.624	1.224	3.1	31.4	O K
60 min Winter	99.839	1.439	3.6	36.9	Flood Risk
120 min Winter	99.942	1.542	3.8	39.5	Flood Risk
180 min Winter	99.985	1.585	4.0	40.7	Flood Risk
240 min Winter	99.996	1.596	4.0	40.9	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	134.522	0.0	18
30 min Summer	89.941	0.0	32
60 min Summer	57.136	0.0	60
120 min Summer	35.021	0.0	94
180 min Summer	26.410	0.0	126
240 min Summer	21.686	0.0	160
360 min Summer	16.534	0.0	228
480 min Summer	13.785	0.0	296
600 min Summer	12.007	0.0	362
720 min Summer	10.737	0.0	428
960 min Summer	8.977	0.0	558
1440 min Summer	6.901	0.0	808
2160 min Summer	5.183	0.0	1172
2880 min Summer	4.178	0.0	1532
15 min Winter	134.522	0.0	18
30 min Winter	89.941	0.0	32
60 min Winter	57.136	0.0	60
120 min Winter	35.021	0.0	96
180 min Winter	26.410	0.0	134
240 min Winter	21.686	0.0	172


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Summary of Results for 100 year Return Period (+40%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.978	1.578	3.9	40.5	Flood Risk
480 min Winter	99.946	1.546	3.9	39.7	Flood Risk
600 min Winter	99.905	1.505	3.8	38.6	Flood Risk
720 min Winter	99.860	1.460	3.6	37.5	Flood Risk
960 min Winter	99.765	1.365	3.4	35.0	Flood Risk
1440 min Winter	99.587	1.187	3.0	30.4	O K
2160 min Winter	99.372	0.972	2.4	24.9	O K
2880 min Winter	99.219	0.819	2.0	21.0	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	16.534	0.0	244
480 min Winter	13.785	0.0	314
600 min Winter	12.007	0.0	384
720 min Winter	10.737	0.0	450
960 min Winter	8.977	0.0	580
1440 min Winter	6.901	0.0	838
2160 min Winter	5.183	0.0	1212
2880 min Winter	4.178	0.0	1584



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Innovyze		Source Control 2020.1.3


Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.091

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.091


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.00000	Trench Width (m)	3.0
Infiltration Coefficient Side (m/hr)	0.74880	Trench Length (m)	9.0
Safety Factor	2.0	Slope (1:X)	0.0
Porosity	0.95	Cap Volume Depth (m)	1.600
Invert Level (m)	98.400	Cap Infiltration Depth (m)	0.000


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25 Hollingworth Court Kent ME14 5PP	4613 THE STREET, BARHAM SA9-P02	
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Summary of Results for 2 year Return Period

Half Drain Time : 42 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.629	0.229	0.2	0.9	O K
30 min Summer	98.671	0.271	0.3	1.0	O K
60 min Summer	98.696	0.296	0.3	1.1	O K
120 min Summer	98.746	0.346	0.4	1.3	O K
180 min Summer	98.756	0.356	0.4	1.4	O K
240 min Summer	98.752	0.352	0.4	1.3	O K
360 min Summer	98.731	0.331	0.3	1.3	O K
480 min Summer	98.707	0.307	0.3	1.2	O K
600 min Summer	98.685	0.285	0.3	1.1	O K
720 min Summer	98.666	0.266	0.3	1.0	O K
960 min Summer	98.634	0.234	0.2	0.9	O K
1440 min Summer	98.591	0.191	0.2	0.7	O K
2160 min Summer	98.553	0.153	0.2	0.6	O K
2880 min Summer	98.530	0.130	0.1	0.5	O K
15 min Winter	98.657	0.257	0.3	1.0	O K
30 min Winter	98.705	0.305	0.3	1.2	O K
60 min Winter	98.728	0.328	0.3	1.2	O K
120 min Winter	98.771	0.371	0.4	1.4	O K
180 min Winter	98.771	0.371	0.4	1.4	O K
240 min Winter	98.758	0.358	0.4	1.4	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	33.241	0.0	17
30 min Summer	21.736	0.0	28
60 min Summer	13.625	0.0	44
120 min Summer	9.592	0.0	78
180 min Summer	7.629	0.0	112
240 min Summer	6.414	0.0	144
360 min Summer	4.935	0.0	208
480 min Summer	4.054	0.0	272
600 min Summer	3.465	0.0	332
720 min Summer	3.042	0.0	396
960 min Summer	2.470	0.0	518
1440 min Summer	1.836	0.0	764
2160 min Summer	1.371	0.0	1124
2880 min Summer	1.122	0.0	1476
15 min Winter	33.241	0.0	17
30 min Winter	21.736	0.0	29
60 min Winter	13.625	0.0	46
120 min Winter	9.592	0.0	84
180 min Winter	7.629	0.0	118
240 min Winter	6.414	0.0	152

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Summary of Results for 2 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	98.722	0.322	0.3	1.2	O K
480 min Winter	98.689	0.289	0.3	1.1	O K
600 min Winter	98.661	0.261	0.3	1.0	O K
720 min Winter	98.638	0.238	0.2	0.9	O K
960 min Winter	98.602	0.202	0.2	0.8	O K
1440 min Winter	98.557	0.157	0.2	0.6	O K
2160 min Winter	98.521	0.121	0.1	0.5	O K
2880 min Winter	98.500	0.100	0.1	0.4	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	4.935	0.0	218
480 min Winter	4.054	0.0	282
600 min Winter	3.465	0.0	344
720 min Winter	3.042	0.0	406
960 min Winter	2.470	0.0	530
1440 min Winter	1.836	0.0	776
2160 min Winter	1.371	0.0	1128
2880 min Winter	1.122	0.0	1496

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	2
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.016

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.016


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Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 4.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 30 year Return Period

Half Drain Time : 42 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.921	0.521	0.5	2.0	O K
30 min Summer	99.021	0.621	0.6	2.4	O K
60 min Summer	99.083	0.683	0.7	2.6	O K
120 min Summer	99.109	0.709	0.7	2.7	O K
180 min Summer	99.095	0.695	0.7	2.6	O K
240 min Summer	99.069	0.669	0.7	2.5	O K
360 min Summer	99.012	0.612	0.6	2.3	O K
480 min Summer	98.963	0.563	0.6	2.1	O K
600 min Summer	98.922	0.522	0.5	2.0	O K
720 min Summer	98.888	0.488	0.5	1.9	O K
960 min Summer	98.833	0.433	0.5	1.6	O K
1440 min Summer	98.758	0.358	0.4	1.4	O K
2160 min Summer	98.687	0.287	0.3	1.1	O K
2880 min Summer	98.640	0.240	0.2	0.9	O K
15 min Winter	98.984	0.584	0.6	2.2	O K
30 min Winter	99.099	0.699	0.7	2.7	O K
60 min Winter	99.158	0.758	0.8	2.9	O K
120 min Winter	99.161	0.761	0.8	2.9	O K
180 min Winter	99.124	0.724	0.8	2.7	O K
240 min Winter	99.079	0.679	0.7	2.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	75.477	0.0	17
30 min Summer	49.837	0.0	28
60 min Summer	31.472	0.0	44
120 min Summer	19.675	0.0	78
180 min Summer	14.883	0.0	112
240 min Summer	12.177	0.0	144
360 min Summer	9.130	0.0	208
480 min Summer	7.443	0.0	272
600 min Summer	6.355	0.0	332
720 min Summer	5.586	0.0	396
960 min Summer	4.561	0.0	518
1440 min Summer	3.430	0.0	762
2160 min Summer	2.564	0.0	1124
2880 min Summer	2.076	0.0	1476
15 min Winter	75.477	0.0	17
30 min Winter	49.837	0.0	29
60 min Winter	31.472	0.0	46
120 min Winter	19.675	0.0	84
180 min Winter	14.883	0.0	118
240 min Winter	12.177	0.0	152


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Summary of Results for 30 year Return Period

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	98.997	0.597	0.6	2.3	O K
480 min Winter	98.931	0.531	0.6	2.0	O K
600 min Winter	98.879	0.479	0.5	1.8	O K
720 min Winter	98.837	0.437	0.5	1.7	O K
960 min Winter	98.774	0.374	0.4	1.4	O K
1440 min Winter	98.694	0.294	0.3	1.1	O K
2160 min Winter	98.626	0.226	0.2	0.9	O K
2880 min Winter	98.585	0.185	0.2	0.7	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	9.130	0.0	218
480 min Winter	7.443	0.0	282
600 min Winter	6.355	0.0	344
720 min Winter	5.586	0.0	406
960 min Winter	4.561	0.0	530
1440 min Winter	3.430	0.0	776
2160 min Winter	2.564	0.0	1128
2880 min Winter	2.076	0.0	1500



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Rainfall Details

Rainfall Model	FEH
Return Period (years)	30
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.016

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.016


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Innovyze	Source Control 2020.1.3	

Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 4.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Summary of Results for 100 year Return Period (+20%)

Half Drain Time : 47 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.195	0.795	0.8	3.0	O K
30 min Summer	99.361	0.961	1.0	3.7	O K
60 min Summer	99.462	1.062	1.1	4.0	O K
120 min Summer	99.481	1.081	1.1	4.1	O K
180 min Summer	99.456	1.056	1.1	4.0	O K
240 min Summer	99.421	1.021	1.1	3.9	O K
360 min Summer	99.350	0.950	1.0	3.6	O K
480 min Summer	99.294	0.894	0.9	3.4	O K
600 min Summer	99.246	0.846	0.9	3.2	O K
720 min Summer	99.204	0.804	0.8	3.1	O K
960 min Summer	99.131	0.731	0.8	2.8	O K
1440 min Summer	99.017	0.617	0.6	2.3	O K
2160 min Summer	98.897	0.497	0.5	1.9	O K
2880 min Summer	98.815	0.415	0.4	1.6	O K
15 min Winter	99.293	0.893	0.9	3.4	O K
30 min Winter	99.482	1.082	1.1	4.1	O K
60 min Winter	99.580	1.180	1.2	4.5	O K
120 min Winter	99.561	1.161	1.2	4.4	O K
180 min Winter	99.501	1.101	1.1	4.2	O K
240 min Winter	99.437	1.037	1.1	3.9	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	115.305	0.0	17
30 min Summer	77.092	0.0	28
60 min Summer	48.974	0.0	44
120 min Summer	30.018	0.0	78
180 min Summer	22.637	0.0	112
240 min Summer	18.588	0.0	144
360 min Summer	14.172	0.0	208
480 min Summer	11.816	0.0	272
600 min Summer	10.292	0.0	332
720 min Summer	9.203	0.0	396
960 min Summer	7.695	0.0	518
1440 min Summer	5.915	0.0	762
2160 min Summer	4.442	0.0	1124
2880 min Summer	3.581	0.0	1476
15 min Winter	115.305	0.0	17
30 min Winter	77.092	0.0	29
60 min Winter	48.974	0.0	46
120 min Winter	30.018	0.0	84
180 min Winter	22.637	0.0	118
240 min Winter	18.588	0.0	152

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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+20%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.326	0.926	1.0	3.5	O K
480 min Winter	99.243	0.843	0.9	3.2	O K
600 min Winter	99.176	0.776	0.8	2.9	O K
720 min Winter	99.120	0.720	0.7	2.7	O K
960 min Winter	99.031	0.631	0.7	2.4	O K
1440 min Winter	98.907	0.507	0.5	1.9	O K
2160 min Winter	98.791	0.391	0.4	1.5	O K
2880 min Winter	98.719	0.319	0.3	1.2	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	14.172	0.0	218
480 min Winter	11.816	0.0	282
600 min Winter	10.292	0.0	344
720 min Winter	9.203	0.0	406
960 min Winter	7.695	0.0	530
1440 min Winter	5.915	0.0	768
2160 min Winter	4.442	0.0	1128
2880 min Winter	3.581	0.0	1496

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Innovyze		Source Control 2020.1.3


Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.016

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.016


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Innovyze	Source Control 2020.1.3	

Model Details

Storage is Online Cover Level (m) 100.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.00000	Trench Width (m) 1.0
Infiltration Coefficient Side (m/hr) 0.74880	Trench Length (m) 4.0
Safety Factor 2.0	Slope (1:X) 0.0
Porosity 0.95	Cap Volume Depth (m) 1.600
Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000


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Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 47 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	99.328	0.928	1.0	3.5	O K
30 min Summer	99.521	1.121	1.2	4.3	O K
60 min Summer	99.640	1.240	1.3	4.7	O K
120 min Summer	99.662	1.262	1.3	4.8	O K
180 min Summer	99.633	1.233	1.3	4.7	O K
240 min Summer	99.591	1.191	1.2	4.5	O K
360 min Summer	99.509	1.109	1.2	4.2	O K
480 min Summer	99.443	1.043	1.1	4.0	O K
600 min Summer	99.387	0.987	1.0	3.8	O K
720 min Summer	99.338	0.938	1.0	3.6	O K
960 min Summer	99.252	0.852	0.9	3.2	O K
1440 min Summer	99.119	0.719	0.7	2.7	O K
2160 min Summer	98.980	0.580	0.6	2.2	O K
2880 min Summer	98.884	0.484	0.5	1.8	O K
15 min Winter	99.442	1.042	1.1	4.0	O K
30 min Winter	99.662	1.262	1.3	4.8	O K
60 min Winter	99.777	1.377	1.4	5.2	Flood Risk
120 min Winter	99.755	1.355	1.4	5.1	Flood Risk
180 min Winter	99.684	1.284	1.3	4.9	O K
240 min Winter	99.610	1.210	1.3	4.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	134.522	0.0	17
30 min Summer	89.941	0.0	28
60 min Summer	57.136	0.0	44
120 min Summer	35.021	0.0	78
180 min Summer	26.410	0.0	112
240 min Summer	21.686	0.0	144
360 min Summer	16.534	0.0	208
480 min Summer	13.785	0.0	272
600 min Summer	12.007	0.0	332
720 min Summer	10.737	0.0	396
960 min Summer	8.977	0.0	518
1440 min Summer	6.901	0.0	764
2160 min Summer	5.183	0.0	1124
2880 min Summer	4.178	0.0	1476
15 min Winter	134.522	0.0	17
30 min Winter	89.941	0.0	29
60 min Winter	57.136	0.0	46
120 min Winter	35.021	0.0	84
180 min Winter	26.410	0.0	118
240 min Winter	21.686	0.0	152


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Summary of Results for 100 year Return Period (+40%)

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
360 min Winter	99.480	1.080	1.1	4.1	O K
480 min Winter	99.383	0.983	1.0	3.7	O K
600 min Winter	99.305	0.905	0.9	3.4	O K
720 min Winter	99.240	0.840	0.9	3.2	O K
960 min Winter	99.136	0.736	0.8	2.8	O K
1440 min Winter	98.992	0.592	0.6	2.2	O K
2160 min Winter	98.856	0.456	0.5	1.7	O K
2880 min Winter	98.772	0.372	0.4	1.4	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
360 min Winter	16.534	0.0	218
480 min Winter	13.785	0.0	282
600 min Winter	12.007	0.0	344
720 min Winter	10.737	0.0	406
960 min Winter	8.977	0.0	530
1440 min Winter	6.901	0.0	772
2160 min Winter	5.183	0.0	1128
2880 min Winter	4.178	0.0	1496



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Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 620867 149952 TR 20867 49952
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	2880
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.016

<b>Time (mins)</b>		<b>Area</b>
<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.016

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Model Details

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Safety Factor 2.0	Slope (1:X) 0.0
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Invert Level (m) 98.400	Cap Infiltration Depth (m) 0.000