

Appendix F 1-10 Year

Paul Basham Associates		Page 1
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Complex SA Central Rd East	
Date 15/04/2020	Designed by SH	
File 020.5360 Complex@Road	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 182 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.588	0.548	2.2	23.0	O K
30 min Summer	15.762	0.722	2.3	30.3	O K
60 min Summer	15.921	0.881	2.4	37.0	O K
120 min Summer	16.029	0.989	2.5	41.5	O K
180 min Summer	16.052	1.012	2.5	42.5	O K
240 min Summer	16.053	1.013	2.5	42.6	O K
360 min Summer	16.037	0.997	2.5	41.9	O K
480 min Summer	16.009	0.969	2.5	40.7	O K
600 min Summer	15.978	0.938	2.5	39.4	O K
720 min Summer	15.944	0.904	2.5	38.0	O K
960 min Summer	15.873	0.833	2.4	35.0	O K
1440 min Summer	15.733	0.693	2.3	29.1	O K
2160 min Summer	15.548	0.508	2.2	21.3	O K
2880 min Summer	15.399	0.359	2.1	15.1	O K
4320 min Summer	15.198	0.158	2.0	6.6	O K
5760 min Summer	15.100	0.060	1.9	2.5	O K
7200 min Summer	15.084	0.044	1.7	1.9	O K
8640 min Summer	15.079	0.039	1.5	1.6	O K
10080 min Summer	15.075	0.035	1.3	1.5	O K
15 min Winter	15.662	0.622	2.3	26.1	O K
30 min Winter	15.861	0.821	2.4	34.5	O K
60 min Winter	16.048	1.008	2.5	42.3	O K
120 min Winter	16.187	1.147	2.6	48.2	O K
180 min Winter	16.220	1.180	2.6	49.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	76.566	0.0	21
30 min Summer	51.183	0.0	35
60 min Summer	32.926	0.0	64
120 min Summer	20.664	0.0	120
180 min Summer	15.602	0.0	154
240 min Summer	12.744	0.0	186
360 min Summer	9.573	0.0	254
480 min Summer	7.806	0.0	324
600 min Summer	6.660	0.0	392
720 min Summer	5.849	0.0	462
960 min Summer	4.762	0.0	598
1440 min Summer	3.561	0.0	858
2160 min Summer	2.660	0.0	1236
2880 min Summer	2.162	0.0	1592
4320 min Summer	1.613	0.0	2292
5760 min Summer	1.311	0.0	2944
7200 min Summer	1.116	0.0	3672
8640 min Summer	0.978	0.0	4368
10080 min Summer	0.875	0.0	5064
15 min Winter	76.566	0.0	21
30 min Winter	51.183	0.0	35
60 min Winter	32.926	0.0	62
120 min Winter	20.664	0.0	118
180 min Winter	15.602	0.0	172

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Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Complex SA Central Rd East	
Date 15/04/2020	Designed by SH	
File 020.5360 Complex@Road	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.218	1.178	2.6	49.5	O K
360 min Winter	16.192	1.152	2.6	48.4	O K
480 min Winter	16.146	1.106	2.6	46.5	O K
600 min Winter	16.093	1.053	2.6	44.2	O K
720 min Winter	16.036	0.996	2.5	41.8	O K
960 min Winter	15.920	0.880	2.4	37.0	O K
1440 min Winter	15.703	0.663	2.3	27.8	O K
2160 min Winter	15.435	0.395	2.1	16.6	O K
2880 min Winter	15.237	0.197	2.0	8.3	O K
4320 min Winter	15.086	0.046	1.7	1.9	O K
5760 min Winter	15.078	0.038	1.4	1.6	O K
7200 min Winter	15.072	0.032	1.2	1.3	O K
8640 min Winter	15.068	0.028	1.1	1.2	O K
10080 min Winter	15.065	0.025	0.9	1.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	196
360 min Winter	9.573	0.0	272
480 min Winter	7.806	0.0	350
600 min Winter	6.660	0.0	426
720 min Winter	5.849	0.0	500
960 min Winter	4.762	0.0	642
1440 min Winter	3.561	0.0	914
2160 min Winter	2.660	0.0	1296
2880 min Winter	2.162	0.0	1644
4320 min Winter	1.613	0.0	2204
5760 min Winter	1.311	0.0	2904
7200 min Winter	1.116	0.0	3624
8640 min Winter	0.978	0.0	4352
10080 min Winter	0.875	0.0	5136

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Central Rd East	
Date 15/04/2020 File 020.5360 Complex@Road	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.184

Time (mins)	Area (ha)	Time (mins)	Area (ha)
From: 0	To: 4 0.092	From: 4	To: 8 0.092

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Central Rd East	
Date 15/04/2020 File 020.5360 Complex@Road	Designed by SH Checked by RW	
XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 17.040

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	8.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	17.5
Safety Factor	6.5	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	15.040	Cap Infiltration Depth (m)	0.000

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	6.0
Membrane Percolation (mm/hr)	1000	Length (m)	48.5
Max Percolation (l/s)	80.8	Slope (1:X)	0.0
Safety Factor	6.5	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	16.540	Cap Volume Depth (m)	0.000

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Rd South	
Date 15/04/2020	Designed by SH	
File 020.5360 Complex@Road south.SRCX	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 74 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.198	0.438	1.6	7.9	O K
30 min Summer	15.314	0.554	1.7	10.0	O K
60 min Summer	15.386	0.626	1.7	11.3	O K
120 min Summer	15.406	0.646	1.8	11.6	O K
180 min Summer	15.392	0.632	1.7	11.4	O K
240 min Summer	15.368	0.608	1.7	11.0	O K
360 min Summer	15.315	0.555	1.7	10.0	O K
480 min Summer	15.259	0.499	1.6	9.0	O K
600 min Summer	15.205	0.445	1.6	8.0	O K
720 min Summer	15.154	0.394	1.6	7.1	O K
960 min Summer	15.064	0.304	1.5	5.5	O K
1440 min Summer	14.930	0.170	1.4	3.1	O K
2160 min Summer	14.824	0.064	1.3	1.1	O K
2880 min Summer	14.804	0.044	1.2	0.8	O K
4320 min Summer	14.793	0.033	0.9	0.6	O K
5760 min Summer	14.787	0.027	0.7	0.5	O K
7200 min Summer	14.783	0.023	0.6	0.4	O K
8640 min Summer	14.780	0.020	0.5	0.4	O K
10080 min Summer	14.778	0.018	0.5	0.3	O K
15 min Winter	15.258	0.498	1.6	9.0	O K
30 min Winter	15.394	0.634	1.7	11.4	O K
60 min Winter	15.488	0.728	1.8	13.1	O K
120 min Winter	15.507	0.747	1.8	13.4	O K
180 min Winter	15.481	0.721	1.8	13.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	76.566	0.0	20
30 min Summer	51.183	0.0	33
60 min Summer	32.926	0.0	56
120 min Summer	20.664	0.0	90
180 min Summer	15.602	0.0	124
240 min Summer	12.744	0.0	160
360 min Summer	9.573	0.0	228
480 min Summer	7.806	0.0	294
600 min Summer	6.660	0.0	360
720 min Summer	5.849	0.0	422
960 min Summer	4.762	0.0	544
1440 min Summer	3.561	0.0	782
2160 min Summer	2.660	0.0	1108
2880 min Summer	2.162	0.0	1468
4320 min Summer	1.613	0.0	2200
5760 min Summer	1.311	0.0	2936
7200 min Summer	1.116	0.0	3624
8640 min Summer	0.978	0.0	4368
10080 min Summer	0.875	0.0	5112
15 min Winter	76.566	0.0	20
30 min Winter	51.183	0.0	33
60 min Winter	32.926	0.0	60
120 min Winter	20.664	0.0	96
180 min Winter	15.602	0.0	134

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Rd South	
Date 15/04/2020 File 020.5360 Complex@Road south.SRCX	Designed by SH Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.440	0.680	1.8	12.2	O K
360 min Winter	15.350	0.590	1.7	10.6	O K
480 min Winter	15.261	0.501	1.7	9.0	O K
600 min Winter	15.178	0.418	1.6	7.5	O K
720 min Winter	15.104	0.344	1.5	6.2	O K
960 min Winter	14.977	0.217	1.4	3.9	O K
1440 min Winter	14.820	0.060	1.3	1.1	O K
2160 min Winter	14.799	0.039	1.0	0.7	O K
2880 min Winter	14.792	0.032	0.8	0.6	O K
4320 min Winter	14.784	0.024	0.6	0.4	O K
5760 min Winter	14.779	0.019	0.5	0.3	O K
7200 min Winter	14.777	0.017	0.4	0.3	O K
8640 min Winter	14.775	0.015	0.4	0.3	O K
10080 min Winter	14.773	0.013	0.4	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	172
360 min Winter	9.573	0.0	244
480 min Winter	7.806	0.0	314
600 min Winter	6.660	0.0	380
720 min Winter	5.849	0.0	446
960 min Winter	4.762	0.0	566
1440 min Winter	3.561	0.0	766
2160 min Winter	2.660	0.0	1092
2880 min Winter	2.162	0.0	1468
4320 min Winter	1.613	0.0	2168
5760 min Winter	1.311	0.0	2832
7200 min Winter	1.116	0.0	3680
8640 min Winter	0.978	0.0	4408
10080 min Winter	0.875	0.0	5104

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Rd South	
Date 15/04/2020 File 020.5360 Complex@Road south.SRCX	Designed by SH Checked by RW	
XP Solutions	Source Control 2014.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.066

Time (mins)	Area (ha)	Time (mins)	Area (ha)		
From:	To:	From:	To:		
0	4	0.033	4	8	0.033

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Rd South	
Date 15/04/2020 File 020.5360 Complex@Road south.SRCX	Designed by SH Checked by RW	
XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 16.760

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	5.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	12.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.760	Cap Infiltration Depth (m)	0.000

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	5.0
Membrane Percolation (mm/hr)	1000	Length (m)	9.2
Max Percolation (l/s)	12.8	Slope (1:X)	0.0
Safety Factor	4.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	16.260	Cap Volume Depth (m)	0.000

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU																																																																																																																																																																																																																							
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<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 117 minutes. <table><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr><tr><td>15 min Summer</td><td>15.882</td><td>0.632</td><td>0.7</td><td>5.8</td><td>O K</td></tr><tr><td>30 min Summer</td><td>15.976</td><td>0.726</td><td>0.8</td><td>7.5</td><td>O K</td></tr><tr><td>60 min Summer</td><td>16.048</td><td>0.798</td><td>0.9</td><td>8.9</td><td>O K</td></tr><tr><td>120 min Summer</td><td>16.088</td><td>0.838</td><td>0.9</td><td>9.7</td><td>O K</td></tr><tr><td>180 min Summer</td><td>16.101</td><td>0.851</td><td>0.9</td><td>10.0</td><td>O K</td></tr><tr><td>240 min Summer</td><td>16.104</td><td>0.854</td><td>1.0</td><td>10.1</td><td>O K</td></tr><tr><td>360 min Summer</td><td>16.097</td><td>0.847</td><td>0.9</td><td>9.9</td><td>O K</td></tr><tr><td>480 min Summer</td><td>16.082</td><td>0.832</td><td>0.9</td><td>9.6</td><td>O K</td></tr><tr><td>600 min Summer</td><td>16.065</td><td>0.815</td><td>0.9</td><td>9.3</td><td>O K</td></tr><tr><td>720 min Summer</td><td>16.047</td><td>0.797</td><td>0.9</td><td>8.9</td><td>O K</td></tr><tr><td>960 min Summer</td><td>16.012</td><td>0.762</td><td>0.8</td><td>8.2</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>15.948</td><td>0.698</td><td>0.7</td><td>7.0</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>15.871</td><td>0.621</td><td>0.7</td><td>5.6</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>15.812</td><td>0.562</td><td>0.6</td><td>4.7</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>15.724</td><td>0.474</td><td>0.5</td><td>3.5</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>15.660</td><td>0.410</td><td>0.4</td><td>2.8</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>15.606</td><td>0.356</td><td>0.4</td><td>2.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>15.566</td><td>0.316</td><td>0.3</td><td>1.9</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>15.533</td><td>0.283</td><td>0.3</td><td>1.6</td><td>O K</td></tr><tr><td>15 min Winter</td><td>15.925</td><td>0.675</td><td>0.7</td><td>6.5</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>15 min Summer</td><td>76.566</td><td>0.0</td><td>21</td></tr><tr><td>30 min Summer</td><td>51.183</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>32.926</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>20.664</td><td>0.0</td><td>98</td></tr><tr><td>180 min Summer</td><td>15.602</td><td>0.0</td><td>130</td></tr><tr><td>240 min Summer</td><td>12.744</td><td>0.0</td><td>164</td></tr><tr><td>360 min Summer</td><td>9.573</td><td>0.0</td><td>234</td></tr><tr><td>480 min Summer</td><td>7.806</td><td>0.0</td><td>302</td></tr><tr><td>600 min Summer</td><td>6.660</td><td>0.0</td><td>368</td></tr><tr><td>720 min Summer</td><td>5.849</td><td>0.0</td><td>436</td></tr><tr><td>960 min Summer</td><td>4.762</td><td>0.0</td><td>566</td></tr><tr><td>1440 min Summer</td><td>3.561</td><td>0.0</td><td>814</td></tr><tr><td>2160 min Summer</td><td>2.660</td><td>0.0</td><td>1188</td></tr><tr><td>2880 min Summer</td><td>2.162</td><td>0.0</td><td>1556</td></tr><tr><td>4320 min Summer</td><td>1.613</td><td>0.0</td><td>2256</td></tr><tr><td>5760 min Summer</td><td>1.311</td><td>0.0</td><td>3000</td></tr><tr><td>7200 min Summer</td><td>1.116</td><td>0.0</td><td>3744</td></tr><tr><td>8640 min Summer</td><td>0.978</td><td>0.0</td><td>4416</td></tr><tr><td>10080 min Summer</td><td>0.875</td><td>0.0</td><td>5144</td></tr><tr><td>15 min Winter</td><td>76.566</td><td>0.0</td><td>21</td></tr></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	15.882	0.632	0.7	5.8	O K	30 min Summer	15.976	0.726	0.8	7.5	O K	60 min Summer	16.048	0.798	0.9	8.9	O K	120 min Summer	16.088	0.838	0.9	9.7	O K	180 min Summer	16.101	0.851	0.9	10.0	O K	240 min Summer	16.104	0.854	1.0	10.1	O K	360 min Summer	16.097	0.847	0.9	9.9	O K	480 min Summer	16.082	0.832	0.9	9.6	O K	600 min Summer	16.065	0.815	0.9	9.3	O K	720 min Summer	16.047	0.797	0.9	8.9	O K	960 min Summer	16.012	0.762	0.8	8.2	O K	1440 min Summer	15.948	0.698	0.7	7.0	O K	2160 min Summer	15.871	0.621	0.7	5.6	O K	2880 min Summer	15.812	0.562	0.6	4.7	O K	4320 min Summer	15.724	0.474	0.5	3.5	O K	5760 min Summer	15.660	0.410	0.4	2.8	O K	7200 min Summer	15.606	0.356	0.4	2.2	O K	8640 min Summer	15.566	0.316	0.3	1.9	O K	10080 min Summer	15.533	0.283	0.3	1.6	O K	15 min Winter	15.925	0.675	0.7	6.5	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	76.566	0.0	21	30 min Summer	51.183	0.0	34	60 min Summer	32.926	0.0	62	120 min Summer	20.664	0.0	98	180 min Summer	15.602	0.0	130	240 min Summer	12.744	0.0	164	360 min Summer	9.573	0.0	234	480 min Summer	7.806	0.0	302	600 min Summer	6.660	0.0	368	720 min Summer	5.849	0.0	436	960 min Summer	4.762	0.0	566	1440 min Summer	3.561	0.0	814	2160 min Summer	2.660	0.0	1188	2880 min Summer	2.162	0.0	1556	4320 min Summer	1.613	0.0	2256	5760 min Summer	1.311	0.0	3000	7200 min Summer	1.116	0.0	3744	8640 min Summer	0.978	0.0	4416	10080 min Summer	0.875	0.0	5144	15 min Winter	76.566	0.0	21
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	15.882	0.632	0.7	5.8	O K																																																																																																																																																																																																																		
30 min Summer	15.976	0.726	0.8	7.5	O K																																																																																																																																																																																																																		
60 min Summer	16.048	0.798	0.9	8.9	O K																																																																																																																																																																																																																		
120 min Summer	16.088	0.838	0.9	9.7	O K																																																																																																																																																																																																																		
180 min Summer	16.101	0.851	0.9	10.0	O K																																																																																																																																																																																																																		
240 min Summer	16.104	0.854	1.0	10.1	O K																																																																																																																																																																																																																		
360 min Summer	16.097	0.847	0.9	9.9	O K																																																																																																																																																																																																																		
480 min Summer	16.082	0.832	0.9	9.6	O K																																																																																																																																																																																																																		
600 min Summer	16.065	0.815	0.9	9.3	O K																																																																																																																																																																																																																		
720 min Summer	16.047	0.797	0.9	8.9	O K																																																																																																																																																																																																																		
960 min Summer	16.012	0.762	0.8	8.2	O K																																																																																																																																																																																																																		
1440 min Summer	15.948	0.698	0.7	7.0	O K																																																																																																																																																																																																																		
2160 min Summer	15.871	0.621	0.7	5.6	O K																																																																																																																																																																																																																		
2880 min Summer	15.812	0.562	0.6	4.7	O K																																																																																																																																																																																																																		
4320 min Summer	15.724	0.474	0.5	3.5	O K																																																																																																																																																																																																																		
5760 min Summer	15.660	0.410	0.4	2.8	O K																																																																																																																																																																																																																		
7200 min Summer	15.606	0.356	0.4	2.2	O K																																																																																																																																																																																																																		
8640 min Summer	15.566	0.316	0.3	1.9	O K																																																																																																																																																																																																																		
10080 min Summer	15.533	0.283	0.3	1.6	O K																																																																																																																																																																																																																		
15 min Winter	15.925	0.675	0.7	6.5	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	76.566	0.0	21																																																																																																																																																																																																																				
30 min Summer	51.183	0.0	34																																																																																																																																																																																																																				
60 min Summer	32.926	0.0	62																																																																																																																																																																																																																				
120 min Summer	20.664	0.0	98																																																																																																																																																																																																																				
180 min Summer	15.602	0.0	130																																																																																																																																																																																																																				
240 min Summer	12.744	0.0	164																																																																																																																																																																																																																				
360 min Summer	9.573	0.0	234																																																																																																																																																																																																																				
480 min Summer	7.806	0.0	302																																																																																																																																																																																																																				
600 min Summer	6.660	0.0	368																																																																																																																																																																																																																				
720 min Summer	5.849	0.0	436																																																																																																																																																																																																																				
960 min Summer	4.762	0.0	566																																																																																																																																																																																																																				
1440 min Summer	3.561	0.0	814																																																																																																																																																																																																																				
2160 min Summer	2.660	0.0	1188																																																																																																																																																																																																																				
2880 min Summer	2.162	0.0	1556																																																																																																																																																																																																																				
4320 min Summer	1.613	0.0	2256																																																																																																																																																																																																																				
5760 min Summer	1.311	0.0	3000																																																																																																																																																																																																																				
7200 min Summer	1.116	0.0	3744																																																																																																																																																																																																																				
8640 min Summer	0.978	0.0	4416																																																																																																																																																																																																																				
10080 min Summer	0.875	0.0	5144																																																																																																																																																																																																																				
15 min Winter	76.566	0.0	21																																																																																																																																																																																																																				
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Paul Basham Associates				Page 2	
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU					
Date 16/04/2020 06:53		Designed by r.wilson			
File 020.5360 Infiltration B...		Checked by			
XP Solutions		Source Control 2014.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	16.026	0.776	0.8	8.4	O K
60 min Winter	16.103	0.853	0.9	10.1	O K
120 min Winter	16.144	0.894	1.0	11.0	O K
180 min Winter	16.154	0.904	1.0	11.3	Flood Risk
240 min Winter	16.153	0.903	1.0	11.2	Flood Risk
360 min Winter	16.136	0.886	1.0	10.8	O K
480 min Winter	16.111	0.861	1.0	10.3	O K
600 min Winter	16.085	0.835	0.9	9.7	O K
720 min Winter	16.058	0.808	0.9	9.1	O K
960 min Winter	16.006	0.756	0.8	8.0	O K
1440 min Winter	15.916	0.666	0.7	6.4	O K
2160 min Winter	15.816	0.566	0.6	4.8	O K
2880 min Winter	15.743	0.493	0.5	3.8	O K
4320 min Winter	15.641	0.391	0.4	2.6	O K
5760 min Winter	15.566	0.316	0.3	1.9	O K
7200 min Winter	15.513	0.263	0.3	1.4	O K
8640 min Winter	15.473	0.223	0.3	1.1	O K
10080 min Winter	15.444	0.194	0.2	0.9	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	51.183	0.0	34		
60 min Winter	32.926	0.0	60		
120 min Winter	20.664	0.0	100		
180 min Winter	15.602	0.0	138		
240 min Winter	12.744	0.0	176		
360 min Winter	9.573	0.0	252		
480 min Winter	7.806	0.0	324		
600 min Winter	6.660	0.0	394		
720 min Winter	5.849	0.0	462		
960 min Winter	4.762	0.0	596		
1440 min Winter	3.561	0.0	852		
2160 min Winter	2.660	0.0	1216		
2880 min Winter	2.162	0.0	1584		
4320 min Winter	1.613	0.0	2296		
5760 min Winter	1.311	0.0	3008		
7200 min Winter	1.116	0.0	3744		
8640 min Winter	0.978	0.0	4416		
10080 min Winter	0.875	0.0	5144		
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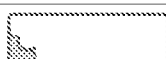
Paul Basham Associates		Page 1
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infiltration Basin Central	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 72 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.769	0.519	1.1	6.5	O K
30 min Summer	15.825	0.575	1.3	8.1	O K
60 min Summer	15.860	0.610	1.5	9.3	O K
120 min Summer	15.880	0.630	1.6	10.1	O K
180 min Summer	15.883	0.633	1.6	10.2	O K
240 min Summer	15.880	0.630	1.6	10.1	O K
360 min Summer	15.868	0.618	1.5	9.6	O K
480 min Summer	15.854	0.604	1.5	9.1	O K
600 min Summer	15.839	0.589	1.4	8.6	O K
720 min Summer	15.825	0.575	1.3	8.1	O K
960 min Summer	15.801	0.551	1.2	7.3	O K
1440 min Summer	15.760	0.510	1.1	6.2	O K
2160 min Summer	15.716	0.466	0.9	5.1	O K
2880 min Summer	15.681	0.431	0.7	4.4	O K
4320 min Summer	15.619	0.369	0.6	3.4	O K
5760 min Summer	15.567	0.317	0.5	2.6	O K
7200 min Summer	15.529	0.279	0.4	2.2	O K
8640 min Summer	15.499	0.249	0.4	1.8	O K
10080 min Summer	15.475	0.225	0.3	1.6	O K
15 min Winter	15.797	0.547	1.2	7.2	O K
30 min Winter	15.855	0.605	1.5	9.2	O K
60 min Winter	15.891	0.641	1.7	10.5	O K
120 min Winter	15.908	0.658	1.7	11.2	O K
180 min Winter	15.906	0.656	1.7	11.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	76.566	0.0	20
30 min Summer	51.183	0.0	33
60 min Summer	32.926	0.0	54
120 min Summer	20.664	0.0	86
180 min Summer	15.602	0.0	120
240 min Summer	12.744	0.0	154
360 min Summer	9.573	0.0	222
480 min Summer	7.806	0.0	286
600 min Summer	6.660	0.0	350
720 min Summer	5.849	0.0	414
960 min Summer	4.762	0.0	538
1440 min Summer	3.561	0.0	782
2160 min Summer	2.660	0.0	1148
2880 min Summer	2.162	0.0	1504
4320 min Summer	1.613	0.0	2252
5760 min Summer	1.311	0.0	2952
7200 min Summer	1.116	0.0	3680
8640 min Summer	0.978	0.0	4408
10080 min Summer	0.875	0.0	5144
15 min Winter	76.566	0.0	20
30 min Winter	51.183	0.0	33
60 min Winter	32.926	0.0	56
120 min Winter	20.664	0.0	92
180 min Winter	15.602	0.0	130

Paul Basham Associates		Page 2
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infiltration Basin Central	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.898	0.648	1.7	10.8	O K
360 min Winter	15.877	0.627	1.6	10.0	O K
480 min Winter	15.855	0.605	1.5	9.1	O K
600 min Winter	15.834	0.584	1.4	8.4	O K
720 min Winter	15.815	0.565	1.3	7.8	O K
960 min Winter	15.781	0.531	1.1	6.8	O K
1440 min Winter	15.730	0.480	0.9	5.5	O K
2160 min Winter	15.677	0.427	0.7	4.4	O K
2880 min Winter	15.630	0.380	0.6	3.6	O K
4320 min Winter	15.548	0.298	0.5	2.4	O K
5760 min Winter	15.496	0.246	0.4	1.8	O K
7200 min Winter	15.460	0.210	0.3	1.4	O K
8640 min Winter	15.429	0.179	0.3	1.1	O K
10080 min Winter	15.403	0.153	0.3	0.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	166
360 min Winter	9.573	0.0	236
480 min Winter	7.806	0.0	302
600 min Winter	6.660	0.0	368
720 min Winter	5.849	0.0	432
960 min Winter	4.762	0.0	556
1440 min Winter	3.561	0.0	798
2160 min Winter	2.660	0.0	1168
2880 min Winter	2.162	0.0	1560
4320 min Winter	1.613	0.0	2256
5760 min Winter	1.311	0.0	2992
7200 min Winter	1.116	0.0	3680
8640 min Winter	0.978	0.0	4416
10080 min Winter	0.875	0.0	5144

Paul Basham Associates		Page 3
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infiltration Basin Central	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.050

Time (mins)	Area	Time (mins)	Area
From: To: (ha)		From: To: (ha)	
0 4 0.025		4 8 0.025	

Paul Basham Associates		Page 4
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infiltration Basin Central	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

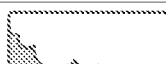
Model Details

Storage is Online Cover Level (m) 16.450

Infiltration Basin Structure

Invert Level (m) 15.250 Safety Factor 4.0
Infiltration Coefficient Base (m/hr) 0.30852 Porosity 1.00
Infiltration Coefficient Side (m/hr) 0.30852

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	4.4	1.200	111.5	2.400	0.0	3.600	0.0	4.800	0.0
0.200	9.3	1.201	0.0	2.600	0.0	3.800	0.0	5.000	0.0
0.400	16.5	1.600	0.0	2.800	0.0	4.000	0.0		
0.600	35.5	1.800	0.0	3.000	0.0	4.200	0.0		
0.800	59.5	2.000	0.0	3.200	0.0	4.400	0.0		
1.000	85.0	2.200	0.0	3.400	0.0	4.600	0.0		

Paul Basham Associates		Page 1
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infiltration Crates Car Park N	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 114 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	17.099	0.099	2.0	13.5	O K
30 min Summer	17.127	0.127	2.0	17.4	O K
60 min Summer	17.152	0.152	2.0	20.7	O K
120 min Summer	17.165	0.165	2.0	22.6	O K
180 min Summer	17.168	0.168	2.0	22.9	O K
240 min Summer	17.167	0.167	2.0	22.8	O K
360 min Summer	17.160	0.160	2.0	21.9	O K
480 min Summer	17.151	0.151	2.0	20.6	O K
600 min Summer	17.141	0.141	2.0	19.3	O K
720 min Summer	17.131	0.131	2.0	18.0	O K
960 min Summer	17.113	0.113	2.0	15.4	O K
1440 min Summer	17.082	0.082	2.0	11.2	O K
2160 min Summer	17.054	0.054	1.9	7.4	O K
2880 min Summer	17.044	0.044	1.7	6.1	O K
4320 min Summer	17.034	0.034	1.3	4.7	O K
5760 min Summer	17.028	0.028	1.1	3.9	O K
7200 min Summer	17.025	0.025	1.0	3.3	O K
8640 min Summer	17.022	0.022	0.8	2.9	O K
10080 min Summer	17.019	0.019	0.7	2.6	O K
15 min Winter	17.112	0.112	2.0	15.3	O K
30 min Winter	17.145	0.145	2.0	19.8	O K
60 min Winter	17.173	0.173	2.0	23.7	O K
120 min Winter	17.190	0.190	2.0	25.9	O K
180 min Winter	17.191	0.191	2.0	26.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	76.566	0.0	20
30 min Summer	51.183	0.0	34
60 min Summer	32.926	0.0	62
120 min Summer	20.664	0.0	102
180 min Summer	15.602	0.0	134
240 min Summer	12.744	0.0	168
360 min Summer	9.573	0.0	238
480 min Summer	7.806	0.0	306
600 min Summer	6.660	0.0	372
720 min Summer	5.849	0.0	438
960 min Summer	4.762	0.0	564
1440 min Summer	3.561	0.0	800
2160 min Summer	2.660	0.0	1132
2880 min Summer	2.162	0.0	1476
4320 min Summer	1.613	0.0	2208
5760 min Summer	1.311	0.0	2936
7200 min Summer	1.116	0.0	3672
8640 min Summer	0.978	0.0	4384
10080 min Summer	0.875	0.0	5136
15 min Winter	76.566	0.0	21
30 min Winter	51.183	0.0	34
60 min Winter	32.926	0.0	62
120 min Winter	20.664	0.0	114
180 min Winter	15.602	0.0	144

Paul Basham Associates		Page 2
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infiltration Crates Car Park N	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	17.189	0.189	2.0	25.8	O K
360 min Winter	17.177	0.177	2.0	24.2	O K
480 min Winter	17.161	0.161	2.0	22.1	O K
600 min Winter	17.145	0.145	2.0	19.9	O K
720 min Winter	17.129	0.129	2.0	17.7	O K
960 min Winter	17.100	0.100	2.0	13.7	O K
1440 min Winter	17.058	0.058	1.9	8.0	O K
2160 min Winter	17.041	0.041	1.6	5.7	O K
2880 min Winter	17.034	0.034	1.3	4.7	O K
4320 min Winter	17.026	0.026	1.0	3.5	O K
5760 min Winter	17.021	0.021	0.8	2.9	O K
7200 min Winter	17.018	0.018	0.7	2.4	O K
8640 min Winter	17.016	0.016	0.6	2.1	O K
10080 min Winter	17.014	0.014	0.6	1.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	182
360 min Winter	9.573	0.0	258
480 min Winter	7.806	0.0	332
600 min Winter	6.660	0.0	402
720 min Winter	5.849	0.0	468
960 min Winter	4.762	0.0	594
1440 min Winter	3.561	0.0	808
2160 min Winter	2.660	0.0	1144
2880 min Winter	2.162	0.0	1492
4320 min Winter	1.613	0.0	2204
5760 min Winter	1.311	0.0	2944
7200 min Winter	1.116	0.0	3680
8640 min Winter	0.978	0.0	4400
10080 min Winter	0.875	0.0	5072

Paul Basham Associates		Page 3
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infiltration Crates Car Park N	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.105

Time (mins)	Area	Time (mins)	Area
From: To: (ha)		From: To: (ha)	
0 4	0.053	4 8	0.052

Paul Basham Associates		Page 4
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infiltration Crates Car Park N	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

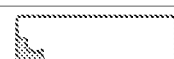
Model Details

Storage is Online Cover Level (m) 17.900

Cellular Storage Structure

Invert Level (m) 17.000 Safety Factor 6.5
Infiltration Coefficient Base (m/hr) 0.30852 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.30852

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	144.0	144.0	0.400	144.0	164.8	0.500	0.0	164.8

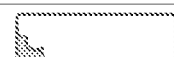
Paul Basham Associates		Page 1
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infil. Trench Front Garden	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 49 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	15.357	0.477	0.5	2.1	O K
30 min Summer	15.458	0.578	0.6	2.5	O K
60 min Summer	15.514	0.634	0.6	2.7	O K
120 min Summer	15.521	0.641	0.6	2.8	O K
180 min Summer	15.496	0.616	0.6	2.7	O K
240 min Summer	15.465	0.585	0.6	2.5	O K
360 min Summer	15.401	0.521	0.6	2.3	O K
480 min Summer	15.341	0.461	0.5	2.0	O K
600 min Summer	15.288	0.408	0.5	1.8	O K
720 min Summer	15.240	0.360	0.5	1.6	O K
960 min Summer	15.160	0.280	0.4	1.2	O K
1440 min Summer	15.045	0.165	0.4	0.7	O K
2160 min Summer	14.949	0.069	0.3	0.3	O K
2880 min Summer	14.925	0.045	0.3	0.2	O K
4320 min Summer	14.914	0.034	0.2	0.1	O K
5760 min Summer	14.908	0.028	0.2	0.1	O K
7200 min Summer	14.904	0.024	0.2	0.1	O K
8640 min Summer	14.901	0.021	0.1	0.1	O K
10080 min Summer	14.899	0.019	0.1	0.1	O K
15 min Winter	15.421	0.541	0.6	2.3	O K
30 min Winter	15.543	0.663	0.6	2.9	O K
60 min Winter	15.607	0.727	0.7	3.1	O K
120 min Winter	15.605	0.725	0.7	3.1	O K
180 min Winter	15.559	0.679	0.6	2.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	76.566	0.0	17
30 min Summer	51.183	0.0	30
60 min Summer	32.926	0.0	48
120 min Summer	20.664	0.0	82
180 min Summer	15.602	0.0	116
240 min Summer	12.744	0.0	150
360 min Summer	9.573	0.0	218
480 min Summer	7.806	0.0	282
600 min Summer	6.660	0.0	344
720 min Summer	5.849	0.0	406
960 min Summer	4.762	0.0	530
1440 min Summer	3.561	0.0	766
2160 min Summer	2.660	0.0	1108
2880 min Summer	2.162	0.0	1448
4320 min Summer	1.613	0.0	2200
5760 min Summer	1.311	0.0	2920
7200 min Summer	1.116	0.0	3664
8640 min Summer	0.978	0.0	4344
10080 min Summer	0.875	0.0	5064
15 min Winter	76.566	0.0	17
30 min Winter	51.183	0.0	30
60 min Winter	32.926	0.0	50
120 min Winter	20.664	0.0	88
180 min Winter	15.602	0.0	126

Paul Basham Associates		Page 2
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infil. Trench Front Garden	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.506	0.626	0.6	2.7	OK
360 min Winter	15.406	0.526	0.6	2.3	OK
480 min Winter	15.319	0.439	0.5	1.9	OK
600 min Winter	15.244	0.364	0.5	1.6	OK
720 min Winter	15.180	0.300	0.5	1.3	OK
960 min Winter	15.077	0.197	0.4	0.9	OK
1440 min Winter	14.948	0.068	0.3	0.3	OK
2160 min Winter	14.920	0.040	0.3	0.2	OK
2880 min Winter	14.913	0.033	0.2	0.1	OK
4320 min Winter	14.905	0.025	0.2	0.1	OK
5760 min Winter	14.900	0.020	0.1	0.1	OK
7200 min Winter	14.897	0.017	0.1	0.1	OK
8640 min Winter	14.895	0.015	0.1	0.1	OK
10080 min Winter	14.893	0.013	0.1	0.1	OK

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	162
360 min Winter	9.573	0.0	232
480 min Winter	7.806	0.0	298
600 min Winter	6.660	0.0	362
720 min Winter	5.849	0.0	426
960 min Winter	4.762	0.0	548
1440 min Winter	3.561	0.0	766
2160 min Winter	2.660	0.0	1096
2880 min Winter	2.162	0.0	1468
4320 min Winter	1.613	0.0	2196
5760 min Winter	1.311	0.0	2936
7200 min Winter	1.116	0.0	3672
8640 min Winter	0.978	0.0	4400
10080 min Winter	0.875	0.0	4976

Paul Basham Associates		Page 3
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Front Garden	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

Rainfall Details

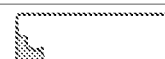
Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.017

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

0	4	0.017
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Paul Basham Associates		Page 4
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infil. Trench Front Garden	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 16.880

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	1.5
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	9.6
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.880	Cap Infiltration Depth (m)	0.000

Paul Basham Associates				Page 1	
Lancaster Court		020.5360			
8 Barnes Wallis Road		Fontwell Avenue, Eastergate			
Fareham PO15 5TU		Infil. Trench Garden West			
Date 15/04/2020		Designed by SH			
File 020.5360 Infiltration T...		Checked by RW			
XP Solutions		Source Control 2014.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Half Drain Time : 36 minutes.					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	16.668	0.498	0.4	1.0	○ K
30 min Summer	16.758	0.588	0.4	1.2	○ K
60 min Summer	16.803	0.633	0.4	1.3	○ K
120 min Summer	16.790	0.620	0.4	1.3	○ K
180 min Summer	16.752	0.582	0.4	1.2	○ K
240 min Summer	16.710	0.540	0.4	1.1	○ K
360 min Summer	16.630	0.460	0.3	1.0	○ K
480 min Summer	16.560	0.390	0.3	0.8	○ K
600 min Summer	16.501	0.331	0.3	0.7	○ K
720 min Summer	16.450	0.280	0.3	0.6	○ K
960 min Summer	16.368	0.198	0.3	0.4	○ K
1440 min Summer	16.264	0.094	0.2	0.2	○ K
2160 min Summer	16.215	0.045	0.2	0.1	○ K
2880 min Summer	16.207	0.037	0.2	0.1	○ K
4320 min Summer	16.198	0.028	0.1	0.1	○ K
5760 min Summer	16.193	0.023	0.1	0.0	○ K
7200 min Summer	16.189	0.019	0.1	0.0	○ K
8640 min Summer	16.187	0.017	0.1	0.0	○ K
10080 min Summer	16.185	0.015	0.1	0.0	○ K
15 min Winter	16.736	0.566	0.4	1.2	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
15 min Summer	76.566	0.0	16		
30 min Summer	51.183	0.0	28		
60 min Summer	32.926	0.0	44		
120 min Summer	20.664	0.0	80		
180 min Summer	15.602	0.0	114		
240 min Summer	12.744	0.0	146		
360 min Summer	9.573	0.0	212		
480 min Summer	7.806	0.0	276		
600 min Summer	6.660	0.0	338		
720 min Summer	5.849	0.0	398		
960 min Summer	4.762	0.0	520		
1440 min Summer	3.561	0.0	750		
2160 min Summer	2.660	0.0	1100		
2880 min Summer	2.162	0.0	1468		
4320 min Summer	1.613	0.0	2152		
5760 min Summer	1.311	0.0	2888		
7200 min Summer	1.116	0.0	3672		
8640 min Summer	0.978	0.0	4280		
10080 min Summer	0.875	0.0	5064		
15 min Winter	76.566	0.0	16		
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Lancaster Court		020.5360			
8 Barnes Wallis Road		Fontwell Avenue, Eastergate			
Fareham PO15 5TU		Infil. Trench Garden West			
Date 15/04/2020		Designed by SH			
File 020.5360 Infiltration T...		Checked by RW			
XP Solutions		Source Control 2014.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	16.846	0.676	0.4	1.4	O K
60 min Winter	16.893	0.723	0.4	1.5	O K
120 min Winter	16.859	0.689	0.4	1.4	O K
180 min Winter	16.793	0.623	0.4	1.3	O K
240 min Winter	16.725	0.555	0.4	1.2	O K
360 min Winter	16.607	0.437	0.3	0.9	O K
480 min Winter	16.510	0.340	0.3	0.7	O K
600 min Winter	16.432	0.262	0.3	0.5	O K
720 min Winter	16.367	0.197	0.3	0.4	O K
960 min Winter	16.272	0.102	0.2	0.2	O K
1440 min Winter	16.214	0.044	0.2	0.1	O K
2160 min Winter	16.203	0.033	0.1	0.1	O K
2880 min Winter	16.197	0.027	0.1	0.1	O K
4320 min Winter	16.190	0.020	0.1	0.0	O K
5760 min Winter	16.186	0.016	0.1	0.0	O K
7200 min Winter	16.184	0.014	0.1	0.0	O K
8640 min Winter	16.182	0.012	0.1	0.0	O K
10080 min Winter	16.181	0.011	0.0	0.0	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	51.183	0.0	29		
60 min Winter	32.926	0.0	48		
120 min Winter	20.664	0.0	86		
180 min Winter	15.602	0.0	122		
240 min Winter	12.744	0.0	156		
360 min Winter	9.573	0.0	224		
480 min Winter	7.806	0.0	288		
600 min Winter	6.660	0.0	350		
720 min Winter	5.849	0.0	412		
960 min Winter	4.762	0.0	528		
1440 min Winter	3.561	0.0	734		
2160 min Winter	2.660	0.0	1100		
2880 min Winter	2.162	0.0	1436		
4320 min Winter	1.613	0.0	2176		
5760 min Winter	1.311	0.0	2936		
7200 min Winter	1.116	0.0	3544		
8640 min Winter	0.978	0.0	4352		
10080 min Winter	0.875	0.0	5136		
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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Garden West	
Date 15/04/2020 File 020.5360 Infiltration T...	Designed by SH Checked by RW	
XP Solutions Source Control 2014.1		

Model Details

Storage is Online Cover Level (m) 18.170

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr) 0.30852	Trench Width (m) 2.0
Infiltration Coefficient Side (m/hr) 0.30852	Trench Length (m) 3.5
Safety Factor 3.0	Slope (1:X) 0.0
Porosity 0.30	Cap Volume Depth (m) 0.000
Invert Level (m) 16.170	Cap Infiltration Depth (m) 0.000

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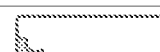
Paul Basham Associates		Page 1
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infil. Trench Garden West	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 49 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	15.193	0.443	0.3	1.3	O K
30 min Summer	15.288	0.538	0.4	1.6	O K
60 min Summer	15.338	0.588	0.4	1.8	O K
120 min Summer	15.343	0.593	0.4	1.8	O K
180 min Summer	15.320	0.570	0.4	1.7	O K
240 min Summer	15.290	0.540	0.4	1.6	O K
360 min Summer	15.229	0.479	0.4	1.4	O K
480 min Summer	15.171	0.421	0.3	1.3	O K
600 min Summer	15.119	0.369	0.3	1.1	O K
720 min Summer	15.073	0.323	0.3	1.0	O K
960 min Summer	14.996	0.246	0.3	0.7	O K
1440 min Summer	14.887	0.137	0.3	0.4	O K
2160 min Summer	14.806	0.056	0.2	0.2	O K
2880 min Summer	14.792	0.042	0.2	0.1	O K
4320 min Summer	14.782	0.032	0.1	0.1	O K
5760 min Summer	14.776	0.026	0.1	0.1	O K
7200 min Summer	14.772	0.022	0.1	0.1	O K
8640 min Summer	14.769	0.019	0.1	0.1	O K
10080 min Summer	14.767	0.017	0.1	0.1	O K
15 min Winter	15.254	0.504	0.4	1.5	O K
30 min Winter	15.367	0.617	0.4	1.9	O K
60 min Winter	15.425	0.675	0.4	2.0	O K
120 min Winter	15.422	0.672	0.4	2.0	O K
180 min Winter	15.379	0.629	0.4	1.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	76.566	0.0	17
30 min Summer	51.183	0.0	30
60 min Summer	32.926	0.0	48
120 min Summer	20.664	0.0	82
180 min Summer	15.602	0.0	116
240 min Summer	12.744	0.0	150
360 min Summer	9.573	0.0	218
480 min Summer	7.806	0.0	282
600 min Summer	6.660	0.0	346
720 min Summer	5.849	0.0	406
960 min Summer	4.762	0.0	530
1440 min Summer	3.561	0.0	766
2160 min Summer	2.660	0.0	1104
2880 min Summer	2.162	0.0	1468
4320 min Summer	1.613	0.0	2172
5760 min Summer	1.311	0.0	2904
7200 min Summer	1.116	0.0	3616
8640 min Summer	0.978	0.0	4280
10080 min Summer	0.875	0.0	4984
15 min Winter	76.566	0.0	17
30 min Winter	51.183	0.0	30
60 min Winter	32.926	0.0	50
120 min Winter	20.664	0.0	88
180 min Winter	15.602	0.0	126

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Garden West	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.328	0.578	0.4	1.7	○ K
360 min Winter	15.232	0.482	0.4	1.4	○ K
480 min Winter	15.147	0.397	0.3	1.2	○ K
600 min Winter	15.074	0.324	0.3	1.0	○ K
720 min Winter	15.012	0.262	0.3	0.8	○ K
960 min Winter	14.913	0.163	0.3	0.5	○ K
1440 min Winter	14.801	0.051	0.2	0.2	○ K
2160 min Winter	14.788	0.038	0.2	0.1	○ K
2880 min Winter	14.781	0.031	0.1	0.1	○ K
4320 min Winter	14.773	0.023	0.1	0.1	○ K
5760 min Winter	14.769	0.019	0.1	0.1	○ K
7200 min Winter	14.766	0.016	0.1	0.0	○ K
8640 min Winter	14.764	0.014	0.1	0.0	○ K
10080 min Winter	14.763	0.013	0.1	0.0	○ K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	162
360 min Winter	9.573	0.0	232
480 min Winter	7.806	0.0	298
600 min Winter	6.660	0.0	362
720 min Winter	5.849	0.0	426
960 min Winter	4.762	0.0	546
1440 min Winter	3.561	0.0	736
2160 min Winter	2.660	0.0	1096
2880 min Winter	2.162	0.0	1436
4320 min Winter	1.613	0.0	2204
5760 min Winter	1.311	0.0	2920
7200 min Winter	1.116	0.0	3672
8640 min Winter	0.978	0.0	4280
10080 min Winter	0.875	0.0	4968

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Garden West	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

Rainfall Details

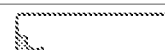
Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.011

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

0	4	0.011
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Paul Basham Associates		Page 4
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Garden West	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 16.750

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	2.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	5.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.750	Cap Infiltration Depth (m)	0.000

Paul Basham Associates				Page 1																																																																																																																																																																																																																			
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU		REAR GARDEN IRREGULAR SHAPE 0.0125Ha INFILTRATION TRENCH																																																																																																																																																																																																																					
Date 15/04/2020 File 020.5360 Infiltration T...		Designed by RW Checked by AS																																																																																																																																																																																																																					
XP Solutions		Source Control 2014.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 110 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>15.452</td><td>0.202</td><td>0.3</td><td>1.8</td><td>O K</td></tr><tr><td>30 min Summer</td><td>15.507</td><td>0.257</td><td>0.3</td><td>2.3</td><td>O K</td></tr><tr><td>60 min Summer</td><td>15.551</td><td>0.301</td><td>0.3</td><td>2.7</td><td>O K</td></tr><tr><td>120 min Summer</td><td>15.572</td><td>0.322</td><td>0.3</td><td>2.9</td><td>O K</td></tr><tr><td>180 min Summer</td><td>15.575</td><td>0.325</td><td>0.3</td><td>2.9</td><td>O K</td></tr><tr><td>240 min Summer</td><td>15.571</td><td>0.321</td><td>0.3</td><td>2.9</td><td>O K</td></tr><tr><td>360 min Summer</td><td>15.556</td><td>0.306</td><td>0.3</td><td>2.8</td><td>O K</td></tr><tr><td>480 min Summer</td><td>15.539</td><td>0.289</td><td>0.3</td><td>2.6</td><td>O K</td></tr><tr><td>600 min Summer</td><td>15.521</td><td>0.271</td><td>0.3</td><td>2.4</td><td>O K</td></tr><tr><td>720 min Summer</td><td>15.503</td><td>0.253</td><td>0.3</td><td>2.3</td><td>O K</td></tr><tr><td>960 min Summer</td><td>15.469</td><td>0.219</td><td>0.3</td><td>2.0</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>15.411</td><td>0.161</td><td>0.2</td><td>1.4</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>15.348</td><td>0.098</td><td>0.2</td><td>0.9</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>15.312</td><td>0.062</td><td>0.2</td><td>0.6</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>15.292</td><td>0.042</td><td>0.2</td><td>0.4</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>15.285</td><td>0.035</td><td>0.2</td><td>0.3</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>15.280</td><td>0.030</td><td>0.1</td><td>0.3</td><td>O K</td></tr><tr><td>8640 min 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Summer</td><td>6.660</td><td>0.0</td><td>370</td></tr><tr><td>720 min Summer</td><td>5.849</td><td>0.0</td><td>436</td></tr><tr><td>960 min Summer</td><td>4.762</td><td>0.0</td><td>566</td></tr><tr><td>1440 min Summer</td><td>3.561</td><td>0.0</td><td>810</td></tr><tr><td>2160 min Summer</td><td>2.660</td><td>0.0</td><td>1168</td></tr><tr><td>2880 min Summer</td><td>2.162</td><td>0.0</td><td>1500</td></tr><tr><td>4320 min Summer</td><td>1.613</td><td>0.0</td><td>2204</td></tr><tr><td>5760 min Summer</td><td>1.311</td><td>0.0</td><td>2928</td></tr><tr><td>7200 min Summer</td><td>1.116</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>0.978</td><td>0.0</td><td>4400</td></tr><tr><td>10080 min Summer</td><td>0.875</td><td>0.0</td><td>5064</td></tr><tr><td>15 min Winter</td><td>76.566</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	15.452	0.202	0.3	1.8	O K	30 min Summer	15.507	0.257	0.3	2.3	O K	60 min Summer	15.551	0.301	0.3	2.7	O K	120 min Summer	15.572	0.322	0.3	2.9	O K	180 min Summer	15.575	0.325	0.3	2.9	O K	240 min Summer	15.571	0.321	0.3	2.9	O K	360 min Summer	15.556	0.306	0.3	2.8	O K	480 min Summer	15.539	0.289	0.3	2.6	O K	600 min Summer	15.521	0.271	0.3	2.4	O K	720 min Summer	15.503	0.253	0.3	2.3	O K	960 min Summer	15.469	0.219	0.3	2.0	O K	1440 min Summer	15.411	0.161	0.2	1.4	O K	2160 min Summer	15.348	0.098	0.2	0.9	O K	2880 min Summer	15.312	0.062	0.2	0.6	O K	4320 min Summer	15.292	0.042	0.2	0.4	O K	5760 min Summer	15.285	0.035	0.2	0.3	O K	7200 min Summer	15.280	0.030	0.1	0.3	O K	8640 min Summer	15.276	0.026	0.1	0.2	O K	10080 min Summer	15.273	0.023	0.1	0.2	O K	15 min Winter	15.478	0.228	0.3	2.1	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	76.566	0.0	18	30 min Summer	51.183	0.0	32	60 min Summer	32.926	0.0	60	120 min Summer	20.664	0.0	96	180 min Summer	15.602	0.0	130	240 min Summer	12.744	0.0	164	360 min Summer	9.573	0.0	234	480 min Summer	7.806	0.0	302	600 min Summer	6.660	0.0	370	720 min Summer	5.849	0.0	436	960 min Summer	4.762	0.0	566	1440 min Summer	3.561	0.0	810	2160 min Summer	2.660	0.0	1168	2880 min Summer	2.162	0.0	1500	4320 min Summer	1.613	0.0	2204	5760 min Summer	1.311	0.0	2928	7200 min Summer	1.116	0.0	3672	8640 min Summer	0.978	0.0	4400	10080 min Summer	0.875	0.0	5064	15 min Winter	76.566	0.0	18
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Paul Basham Associates				Page 2	
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU		REAR GARDEN IRREGULAR SHAPE 0.0125Ha INFILTRATION TRENCH			
Date 15/04/2020 File 020.5360 Infiltration T...		Designed by RW Checked by AS			
XP Solutions		Source Control 2014.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	15.542	0.292	0.3	2.6	O K
60 min Winter	15.595	0.345	0.3	3.1	O K
120 min Winter	15.620	0.370	0.3	3.3	O K
180 min Winter	15.622	0.372	0.3	3.4	O K
240 min Winter	15.614	0.364	0.3	3.3	O K
360 min Winter	15.589	0.339	0.3	3.1	O K
480 min Winter	15.560	0.310	0.3	2.8	O K
600 min Winter	15.531	0.281	0.3	2.5	O K
720 min Winter	15.503	0.253	0.3	2.3	O K
960 min Winter	15.451	0.201	0.3	1.8	O K
1440 min Winter	15.369	0.119	0.2	1.1	O K
2160 min Winter	15.300	0.050	0.2	0.5	O K
2880 min Winter	15.291	0.041	0.2	0.4	O K
4320 min Winter	15.281	0.031	0.1	0.3	O K
5760 min Winter	15.275	0.025	0.1	0.2	O K
7200 min Winter	15.271	0.021	0.1	0.2	O K
8640 min Winter	15.269	0.019	0.1	0.2	O K
10080 min Winter	15.267	0.017	0.1	0.1	O K
Storm Event	Rain (mm/hr)		Flooded Volume (m³)	Time-Peak (mins)	
30 min Winter	51.183		0.0	32	
60 min Winter	32.926		0.0	60	
120 min Winter	20.664		0.0	110	
180 min Winter	15.602		0.0	140	
240 min Winter	12.744		0.0	178	
360 min Winter	9.573		0.0	254	
480 min Winter	7.806		0.0	326	
600 min Winter	6.660		0.0	398	
720 min Winter	5.849		0.0	466	
960 min Winter	4.762		0.0	598	
1440 min Winter	3.561		0.0	838	
2160 min Winter	2.660		0.0	1124	
2880 min Winter	2.162		0.0	1468	
4320 min Winter	1.613		0.0	2204	
5760 min Winter	1.311		0.0	2896	
7200 min Winter	1.116		0.0	3672	
8640 min Winter	0.978		0.0	4360	
10080 min Winter	0.875		0.0	5152	
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Paul Basham Associates		Page 4
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	REAR GARDEN IRREGULAR SHAPE 0.0125Ha INFILTRATION TRENCH	
Date 15/04/2020	Designed by RW	
File 020.5360 Infiltration T...	Checked by AS	
XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 17.250

Cellular Storage Structure

Invert Level (m) 15.250 Safety Factor 4.0

Infiltration Coefficient Base (m/hr) 0.30852 Porosity 0.95

Infiltration Coefficient Side (m/hr) 0.30852

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	9.5	9.5	1.000	9.5	21.2
0.500	9.5	15.3	1.500	9.5	27.0

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Paul Basham Associates		Page 1
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infil. Trench Rear Garden	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 52 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.724	0.474	0.4	1.7	O K
30 min Summer	15.827	0.577	0.5	2.1	O K
60 min Summer	15.884	0.634	0.5	2.3	O K
120 min Summer	15.894	0.644	0.5	2.3	O K
180 min Summer	15.871	0.621	0.5	2.2	O K
240 min Summer	15.841	0.591	0.5	2.1	O K
360 min Summer	15.780	0.530	0.4	1.9	O K
480 min Summer	15.721	0.471	0.4	1.7	O K
600 min Summer	15.667	0.417	0.4	1.5	O K
720 min Summer	15.618	0.368	0.4	1.3	O K
960 min Summer	15.536	0.286	0.4	1.0	O K
1440 min Summer	15.418	0.168	0.3	0.6	O K
2160 min Summer	15.319	0.069	0.3	0.2	O K
2880 min Summer	15.295	0.045	0.2	0.2	O K
4320 min Summer	15.284	0.034	0.2	0.1	O K
5760 min Summer	15.278	0.028	0.2	0.1	O K
7200 min Summer	15.273	0.023	0.1	0.1	O K
8640 min Summer	15.271	0.021	0.1	0.1	O K
10080 min Summer	15.268	0.018	0.1	0.1	O K
15 min Winter	15.788	0.538	0.4	1.9	O K
30 min Winter	15.912	0.662	0.5	2.4	O K
60 min Winter	15.979	0.729	0.5	2.6	O K
120 min Winter	15.982	0.732	0.5	2.6	O K
180 min Winter	15.940	0.690	0.5	2.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	76.566	0.0	17
30 min Summer	51.183	0.0	31
60 min Summer	32.926	0.0	48
120 min Summer	20.664	0.0	82
180 min Summer	15.602	0.0	118
240 min Summer	12.744	0.0	152
360 min Summer	9.573	0.0	218
480 min Summer	7.806	0.0	284
600 min Summer	6.660	0.0	348
720 min Summer	5.849	0.0	410
960 min Summer	4.762	0.0	532
1440 min Summer	3.561	0.0	768
2160 min Summer	2.660	0.0	1108
2880 min Summer	2.162	0.0	1460
4320 min Summer	1.613	0.0	2192
5760 min Summer	1.311	0.0	2912
7200 min Summer	1.116	0.0	3672
8640 min Summer	0.978	0.0	4304
10080 min Summer	0.875	0.0	4968
15 min Winter	76.566	0.0	17
30 min Winter	51.183	0.0	30
60 min Winter	32.926	0.0	50
120 min Winter	20.664	0.0	90
180 min Winter	15.602	0.0	126

Paul Basham Associates		Page 2
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infil. Trench Rear Garden	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.889	0.639	0.5	2.3	OK
360 min Winter	15.791	0.541	0.4	1.9	OK
480 min Winter	15.703	0.453	0.4	1.6	OK
600 min Winter	15.626	0.376	0.4	1.4	OK
720 min Winter	15.560	0.310	0.4	1.1	OK
960 min Winter	15.453	0.203	0.3	0.7	OK
1440 min Winter	15.317	0.067	0.3	0.2	OK
2160 min Winter	15.290	0.040	0.2	0.1	OK
2880 min Winter	15.283	0.033	0.2	0.1	OK
4320 min Winter	15.274	0.024	0.1	0.1	OK
5760 min Winter	15.270	0.020	0.1	0.1	OK
7200 min Winter	15.267	0.017	0.1	0.1	OK
8640 min Winter	15.265	0.015	0.1	0.1	OK
10080 min Winter	15.263	0.013	0.1	0.0	OK

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	164
360 min Winter	9.573	0.0	234
480 min Winter	7.806	0.0	300
600 min Winter	6.660	0.0	366
720 min Winter	5.849	0.0	428
960 min Winter	4.762	0.0	550
1440 min Winter	3.561	0.0	766
2160 min Winter	2.660	0.0	1088
2880 min Winter	2.162	0.0	1456
4320 min Winter	1.613	0.0	2204
5760 min Winter	1.311	0.0	2880
7200 min Winter	1.116	0.0	3656
8640 min Winter	0.978	0.0	4296
10080 min Winter	0.875	0.0	5056

Paul Basham Associates		Page 3
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

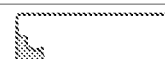
Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.014

Time (mins)	Area
From:	To: (ha)
0	4 0.014

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Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
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File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 17.250

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	2.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	6.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	15.250	Cap Infiltration Depth (m)	0.000

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File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 57 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.636	0.448	0.6	2.7	O K
30 min Summer	15.737	0.549	0.7	3.3	O K
60 min Summer	15.792	0.604	0.7	3.6	O K
120 min Summer	15.802	0.614	0.7	3.7	O K
180 min Summer	15.782	0.594	0.7	3.6	O K
240 min Summer	15.754	0.566	0.7	3.4	O K
360 min Summer	15.696	0.508	0.7	3.0	O K
480 min Summer	15.638	0.450	0.6	2.7	O K
600 min Summer	15.586	0.398	0.6	2.4	O K
720 min Summer	15.537	0.349	0.6	2.1	O K
960 min Summer	15.455	0.267	0.5	1.6	O K
1440 min Summer	15.337	0.149	0.5	0.9	O K
2160 min Summer	15.247	0.059	0.5	0.4	O K
2880 min Summer	15.231	0.043	0.4	0.3	O K
4320 min Summer	15.220	0.032	0.3	0.2	O K
5760 min Summer	15.214	0.026	0.2	0.2	O K
7200 min Summer	15.210	0.022	0.2	0.1	O K
8640 min Summer	15.208	0.020	0.2	0.1	O K
10080 min Summer	15.206	0.018	0.2	0.1	O K
15 min Winter	15.697	0.509	0.7	3.1	O K
30 min Winter	15.817	0.629	0.7	3.8	O K
60 min Winter	15.884	0.696	0.7	4.2	O K
120 min Winter	15.890	0.702	0.7	4.2	O K
180 min Winter	15.852	0.664	0.7	4.0	O K

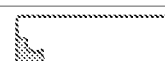
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	76.566	0.0	17
30 min Summer	51.183	0.0	31
60 min Summer	32.926	0.0	50
120 min Summer	20.664	0.0	84
180 min Summer	15.602	0.0	118
240 min Summer	12.744	0.0	154
360 min Summer	9.573	0.0	220
480 min Summer	7.806	0.0	286
600 min Summer	6.660	0.0	350
720 min Summer	5.849	0.0	412
960 min Summer	4.762	0.0	532
1440 min Summer	3.561	0.0	768
2160 min Summer	2.660	0.0	1104
2880 min Summer	2.162	0.0	1456
4320 min Summer	1.613	0.0	2192
5760 min Summer	1.311	0.0	2896
7200 min Summer	1.116	0.0	3560
8640 min Summer	0.978	0.0	4376
10080 min Summer	0.875	0.0	5016
15 min Winter	76.566	0.0	17
30 min Winter	51.183	0.0	31
60 min Winter	32.926	0.0	56
120 min Winter	20.664	0.0	90
180 min Winter	15.602	0.0	128

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XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.805	0.617	0.7	3.7	O K
360 min Winter	15.710	0.522	0.7	3.1	O K
480 min Winter	15.623	0.435	0.6	2.6	O K
600 min Winter	15.547	0.359	0.6	2.2	O K
720 min Winter	15.479	0.291	0.6	1.7	O K
960 min Winter	15.370	0.182	0.5	1.1	O K
1440 min Winter	15.242	0.054	0.5	0.3	O K
2160 min Winter	15.226	0.038	0.3	0.2	O K
2880 min Winter	15.219	0.031	0.3	0.2	O K
4320 min Winter	15.211	0.023	0.2	0.1	O K
5760 min Winter	15.207	0.019	0.2	0.1	O K
7200 min Winter	15.204	0.016	0.1	0.1	O K
8640 min Winter	15.202	0.014	0.1	0.1	O K
10080 min Winter	15.201	0.013	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	166
360 min Winter	9.573	0.0	236
480 min Winter	7.806	0.0	304
600 min Winter	6.660	0.0	368
720 min Winter	5.849	0.0	432
960 min Winter	4.762	0.0	550
1440 min Winter	3.561	0.0	750
2160 min Winter	2.660	0.0	1100
2880 min Winter	2.162	0.0	1456
4320 min Winter	1.613	0.0	2148
5760 min Winter	1.311	0.0	2904
7200 min Winter	1.116	0.0	3576
8640 min Winter	0.978	0.0	4360
10080 min Winter	0.875	0.0	5056

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File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

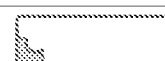
Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.022

Time (mins)	Area
From:	To: (ha)
0	4 0.022

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Lancaster Court	020.5360	
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XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 17.188

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	2.5
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	8.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	15.188	Cap Infiltration Depth (m)	0.000

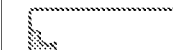
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Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
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File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 41 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	16.015	0.485	1.0	3.3	O K
30 min Summer	16.111	0.581	1.1	4.0	O K
60 min Summer	16.163	0.633	1.1	4.4	O K
120 min Summer	16.164	0.634	1.1	4.4	O K
180 min Summer	16.134	0.604	1.1	4.2	O K
240 min Summer	16.099	0.569	1.1	3.9	O K
360 min Summer	16.032	0.502	1.0	3.5	O K
480 min Summer	15.971	0.441	0.9	3.0	O K
600 min Summer	15.918	0.388	0.9	2.7	O K
720 min Summer	15.872	0.342	0.8	2.4	O K
960 min Summer	15.796	0.266	0.8	1.8	O K
1440 min Summer	15.690	0.160	0.7	1.1	O K
2160 min Summer	15.600	0.070	0.6	0.5	O K
2880 min Summer	15.575	0.045	0.5	0.3	O K
4320 min Summer	15.564	0.034	0.4	0.2	O K
5760 min Summer	15.558	0.028	0.3	0.2	O K
7200 min Summer	15.554	0.024	0.3	0.2	O K
8640 min Summer	15.551	0.021	0.2	0.1	O K
10080 min Summer	15.549	0.019	0.2	0.1	O K
15 min Winter	16.080	0.550	1.1	3.8	O K
30 min Winter	16.196	0.666	1.2	4.6	O K
60 min Winter	16.253	0.723	1.2	5.0	O K
120 min Winter	16.238	0.708	1.2	4.9	O K
180 min Winter	16.184	0.654	1.2	4.5	O K

Storm Event	Rain (mm/hr)	Flooded Time-Peak Volume (m ³)	(mins)
15 min Summer	76.566	0.0	17
30 min Summer	51.183	0.0	29
60 min Summer	32.926	0.0	46
120 min Summer	20.664	0.0	80
180 min Summer	15.602	0.0	114
240 min Summer	12.744	0.0	148
360 min Summer	9.573	0.0	214
480 min Summer	7.806	0.0	278
600 min Summer	6.660	0.0	340
720 min Summer	5.849	0.0	404
960 min Summer	4.762	0.0	522
1440 min Summer	3.561	0.0	764
2160 min Summer	2.660	0.0	1108
2880 min Summer	2.162	0.0	1468
4320 min Summer	1.613	0.0	2196
5760 min Summer	1.311	0.0	2912
7200 min Summer	1.116	0.0	3616
8640 min Summer	0.978	0.0	4400
10080 min Summer	0.875	0.0	5136
15 min Winter	76.566	0.0	17
30 min Winter	51.183	0.0	30
60 min Winter	32.926	0.0	48
120 min Winter	20.664	0.0	86
180 min Winter	15.602	0.0	122

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File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.128	0.598	1.1	4.1	○ K
360 min Winter	16.025	0.495	1.0	3.4	○ K
480 min Winter	15.939	0.409	0.9	2.8	○ K
600 min Winter	15.868	0.338	0.8	2.3	○ K
720 min Winter	15.808	0.278	0.8	1.9	○ K
960 min Winter	15.715	0.185	0.7	1.3	○ K
1440 min Winter	15.599	0.069	0.6	0.5	○ K
2160 min Winter	15.570	0.040	0.4	0.3	○ K
2880 min Winter	15.563	0.033	0.4	0.2	○ K
4320 min Winter	15.555	0.025	0.3	0.2	○ K
5760 min Winter	15.550	0.020	0.2	0.1	○ K
7200 min Winter	15.547	0.017	0.2	0.1	○ K
8640 min Winter	15.545	0.015	0.2	0.1	○ K
10080 min Winter	15.544	0.014	0.1	0.1	○ K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	158
360 min Winter	9.573	0.0	226
480 min Winter	7.806	0.0	292
600 min Winter	6.660	0.0	356
720 min Winter	5.849	0.0	418
960 min Winter	4.762	0.0	540
1440 min Winter	3.561	0.0	764
2160 min Winter	2.660	0.0	1100
2880 min Winter	2.162	0.0	1468
4320 min Winter	1.613	0.0	2160
5760 min Winter	1.311	0.0	2904
7200 min Winter	1.116	0.0	3648
8640 min Winter	0.978	0.0	4328
10080 min Winter	0.875	0.0	5136

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden N	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.028

Time (mins)		Area
From:	To:	(ha)
0	4	0.028

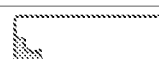
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Lancaster Court	020.5360	
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XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 17.530

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	1.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	23.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	15.530	Cap Infiltration Depth (m)	0.000

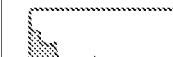
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File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 21 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.283	0.533	0.5	1.0	O K
30 min Summer	15.360	0.610	0.5	1.1	O K
60 min Summer	15.381	0.631	0.6	1.1	O K
120 min Summer	15.335	0.585	0.5	1.1	O K
180 min Summer	15.273	0.523	0.5	0.9	O K
240 min Summer	15.214	0.464	0.5	0.8	O K
360 min Summer	15.115	0.365	0.4	0.7	O K
480 min Summer	15.036	0.286	0.4	0.5	O K
600 min Summer	14.974	0.224	0.4	0.4	O K
720 min Summer	14.924	0.174	0.3	0.3	O K
960 min Summer	14.852	0.102	0.3	0.2	O K
1440 min Summer	14.797	0.047	0.3	0.1	O K
2160 min Summer	14.785	0.035	0.2	0.1	O K
2880 min Summer	14.779	0.029	0.2	0.1	O K
4320 min Summer	14.771	0.021	0.1	0.0	O K
5760 min Summer	14.767	0.017	0.1	0.0	O K
7200 min Summer	14.765	0.015	0.1	0.0	O K
8640 min Summer	14.763	0.013	0.1	0.0	O K
10080 min Summer	14.762	0.012	0.1	0.0	O K
15 min Winter	15.359	0.609	0.5	1.1	O K
30 min Winter	15.447	0.697	0.6	1.3	O K
60 min Winter	15.459	0.709	0.6	1.3	O K
120 min Winter	15.371	0.621	0.5	1.1	O K
180 min Winter	15.273	0.523	0.5	0.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	76.566	0.0	15
30 min Summer	51.183	0.0	24
60 min Summer	32.926	0.0	42
120 min Summer	20.664	0.0	76
180 min Summer	15.602	0.0	108
240 min Summer	12.744	0.0	142
360 min Summer	9.573	0.0	204
480 min Summer	7.806	0.0	266
600 min Summer	6.660	0.0	326
720 min Summer	5.849	0.0	384
960 min Summer	4.762	0.0	502
1440 min Summer	3.561	0.0	728
2160 min Summer	2.660	0.0	1092
2880 min Summer	2.162	0.0	1464
4320 min Summer	1.613	0.0	2144
5760 min Summer	1.311	0.0	2872
7200 min Summer	1.116	0.0	3640
8640 min Summer	0.978	0.0	4376
10080 min Summer	0.875	0.0	5040
15 min Winter	76.566	0.0	16
30 min Winter	51.183	0.0	26
60 min Winter	32.926	0.0	44
120 min Winter	20.664	0.0	80
180 min Winter	15.602	0.0	116

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File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.187	0.437	0.5	0.8	○ K
360 min Winter	15.053	0.303	0.4	0.5	○ K
480 min Winter	14.954	0.204	0.4	0.4	○ K
600 min Winter	14.881	0.131	0.3	0.2	○ K
720 min Winter	14.828	0.078	0.3	0.1	○ K
960 min Winter	14.795	0.045	0.3	0.1	○ K
1440 min Winter	14.784	0.034	0.2	0.1	○ K
2160 min Winter	14.775	0.025	0.1	0.0	○ K
2880 min Winter	14.771	0.021	0.1	0.0	○ K
4320 min Winter	14.765	0.015	0.1	0.0	○ K
5760 min Winter	14.763	0.013	0.1	0.0	○ K
7200 min Winter	14.761	0.011	0.1	0.0	○ K
8640 min Winter	14.759	0.009	0.1	0.0	○ K
10080 min Winter	14.759	0.009	0.0	0.0	○ K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	148
360 min Winter	9.573	0.0	212
480 min Winter	7.806	0.0	274
600 min Winter	6.660	0.0	332
720 min Winter	5.849	0.0	386
960 min Winter	4.762	0.0	490
1440 min Winter	3.561	0.0	732
2160 min Winter	2.660	0.0	1100
2880 min Winter	2.162	0.0	1464
4320 min Winter	1.613	0.0	2200
5760 min Winter	1.311	0.0	2872
7200 min Winter	1.116	0.0	3608
8640 min Winter	0.978	0.0	4216
10080 min Winter	0.875	0.0	5072

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden S	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.009

Time (mins)	Area
From:	To: (ha)
0	4 0.009

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden S	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 16.750

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	1.5
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	4.0
Safety Factor	2.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.750	Cap Infiltration Depth (m)	0.000

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Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
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File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 66 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	14.946	0.446	0.8	3.7	O K
30 min Summer	15.057	0.557	0.9	4.7	O K
60 min Summer	15.122	0.622	0.9	5.2	O K
120 min Summer	15.136	0.636	0.9	5.3	O K
180 min Summer	15.119	0.619	0.9	5.2	O K
240 min Summer	15.094	0.594	0.9	5.0	O K
360 min Summer	15.038	0.538	0.9	4.5	O K
480 min Summer	14.981	0.481	0.8	4.0	O K
600 min Summer	14.927	0.427	0.8	3.6	O K
720 min Summer	14.877	0.377	0.8	3.2	O K
960 min Summer	14.791	0.291	0.7	2.4	O K
1440 min Summer	14.664	0.164	0.7	1.4	O K
2160 min Summer	14.563	0.063	0.6	0.5	O K
2880 min Summer	14.544	0.044	0.5	0.4	O K
4320 min Summer	14.533	0.033	0.4	0.3	O K
5760 min Summer	14.527	0.027	0.3	0.2	O K
7200 min Summer	14.523	0.023	0.3	0.2	O K
8640 min Summer	14.520	0.020	0.3	0.2	O K
10080 min Summer	14.518	0.018	0.2	0.2	O K
15 min Winter	15.006	0.506	0.8	4.3	O K
30 min Winter	15.137	0.637	0.9	5.4	O K
60 min Winter	15.220	0.720	0.9	6.1	O K
120 min Winter	15.232	0.732	0.9	6.2	O K
180 min Winter	15.200	0.700	0.9	5.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	76.566	0.0	20
30 min Summer	51.183	0.0	32
60 min Summer	32.926	0.0	54
120 min Summer	20.664	0.0	88
180 min Summer	15.602	0.0	122
240 min Summer	12.744	0.0	158
360 min Summer	9.573	0.0	226
480 min Summer	7.806	0.0	292
600 min Summer	6.660	0.0	356
720 min Summer	5.849	0.0	418
960 min Summer	4.762	0.0	542
1440 min Summer	3.561	0.0	780
2160 min Summer	2.660	0.0	1108
2880 min Summer	2.162	0.0	1468
4320 min Summer	1.613	0.0	2200
5760 min Summer	1.311	0.0	2928
7200 min Summer	1.116	0.0	3648
8640 min Summer	0.978	0.0	4344
10080 min Summer	0.875	0.0	5136
15 min Winter	76.566	0.0	20
30 min Winter	51.183	0.0	33
60 min Winter	32.926	0.0	58
120 min Winter	20.664	0.0	94
180 min Winter	15.602	0.0	132

Paul Basham Associates		Page 2
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Infil. Trench Rear Garden S	
Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.156	0.656	0.9	5.5	O K
360 min Winter	15.064	0.564	0.9	4.7	O K
480 min Winter	14.975	0.475	0.8	4.0	O K
600 min Winter	14.895	0.395	0.8	3.3	O K
720 min Winter	14.824	0.324	0.8	2.7	O K
960 min Winter	14.705	0.205	0.7	1.7	O K
1440 min Winter	14.559	0.059	0.6	0.5	O K
2160 min Winter	14.539	0.039	0.5	0.3	O K
2880 min Winter	14.532	0.032	0.4	0.3	O K
4320 min Winter	14.524	0.024	0.3	0.2	O K
5760 min Winter	14.519	0.019	0.2	0.2	O K
7200 min Winter	14.517	0.017	0.2	0.1	O K
8640 min Winter	14.515	0.015	0.2	0.1	O K
10080 min Winter	14.513	0.013	0.2	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	170
360 min Winter	9.573	0.0	242
480 min Winter	7.806	0.0	310
600 min Winter	6.660	0.0	376
720 min Winter	5.849	0.0	440
960 min Winter	4.762	0.0	560
1440 min Winter	3.561	0.0	764
2160 min Winter	2.660	0.0	1096
2880 min Winter	2.162	0.0	1440
4320 min Winter	1.613	0.0	2200
5760 min Winter	1.311	0.0	2848
7200 min Winter	1.116	0.0	3640
8640 min Winter	0.978	0.0	4336
10080 min Winter	0.875	0.0	5096

Paul Basham Associates		Page 3
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden S	
Date 15/04/2020 File 020.5360 Infiltration	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

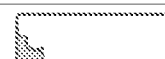
Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.031

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.015	4 8	0.016

Paul Basham Associates		Page 4
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
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Date 15/04/2020	Designed by SH	
File 020.5360 Infiltration	Checked by RW	
XP Solutions	Source Control 2014.1	

Model Details

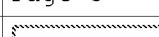
Storage is Online Cover Level (m) 16.500

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	4.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	7.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.500	Cap Infiltration Depth (m)	0.000

Paul Basham Associates				Page 1	
Lancaster Court		020.5360			
8 Barnes Wallis Road		Fontwell Avenue, Eastergate			
Fareham PO15 5TU		Permeable Paving Rd Central			
Date 15/04/2020		Designed by SH			
File 020.5360 Permeable Pavi...		Checked by RW			
XP Solutions		Source Control 2014.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Half Drain Time : 9 minutes.					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	16.689	0.024	1.6	1.1	○ K
30 min Summer	16.694	0.029	1.9	1.4	○ K
60 min Summer	16.696	0.031	2.1	1.4	○ K
120 min Summer	16.693	0.028	1.9	1.3	○ K
180 min Summer	16.689	0.024	1.6	1.1	○ K
240 min Summer	16.686	0.021	1.4	1.0	○ K
360 min Summer	16.682	0.017	1.1	0.8	○ K
480 min Summer	16.680	0.015	1.0	0.7	○ K
600 min Summer	16.678	0.013	0.8	0.6	○ K
720 min Summer	16.677	0.012	0.8	0.5	○ K
960 min Summer	16.675	0.010	0.6	0.4	○ K
1440 min Summer	16.672	0.007	0.5	0.3	○ K
2160 min Summer	16.671	0.006	0.4	0.3	○ K
2880 min Summer	16.670	0.005	0.3	0.2	○ K
4320 min Summer	16.669	0.004	0.2	0.2	○ K
5760 min Summer	16.668	0.003	0.2	0.1	○ K
7200 min Summer	16.667	0.002	0.1	0.1	○ K
8640 min Summer	16.667	0.002	0.1	0.1	○ K
10080 min Summer	16.667	0.002	0.1	0.1	○ K
15 min Winter	16.693	0.028	1.8	1.3	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
15 min Summer	76.566	0.0	14		
30 min Summer	51.183	0.0	22		
60 min Summer	32.926	0.0	38		
120 min Summer	20.664	0.0	68		
180 min Summer	15.602	0.0	98		
240 min Summer	12.744	0.0	130		
360 min Summer	9.573	0.0	190		
480 min Summer	7.806	0.0	250		
600 min Summer	6.660	0.0	310		
720 min Summer	5.849	0.0	370		
960 min Summer	4.762	0.0	490		
1440 min Summer	3.561	0.0	736		
2160 min Summer	2.660	0.0	1100		
2880 min Summer	2.162	0.0	1464		
4320 min Summer	1.613	0.0	2200		
5760 min Summer	1.311	0.0	2856		
7200 min Summer	1.116	0.0	3672		
8640 min Summer	0.978	0.0	4448		
10080 min Summer	0.875	0.0	5136		
15 min Winter	76.566	0.0	14		
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Lancaster Court		020.5360			
8 Barnes Wallis Road		Fontwell Avenue, Eastergate			
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Date 15/04/2020		Designed by SH			
File 020.5360 Permeable Pavi...		Checked by RW			
XP Solutions		Source Control 2014.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	16.698	0.033	2.2	1.5	O K
60 min Winter	16.697	0.032	2.1	1.5	O K
120 min Winter	16.691	0.026	1.7	1.2	O K
180 min Winter	16.686	0.021	1.4	1.0	O K
240 min Winter	16.683	0.018	1.2	0.8	O K
360 min Winter	16.679	0.014	0.9	0.6	O K
480 min Winter	16.677	0.012	0.8	0.5	O K
600 min Winter	16.675	0.010	0.6	0.5	O K
720 min Winter	16.674	0.009	0.6	0.4	O K
960 min Winter	16.672	0.007	0.5	0.3	O K
1440 min Winter	16.670	0.005	0.3	0.2	O K
2160 min Winter	16.669	0.004	0.3	0.2	O K
2880 min Winter	16.668	0.003	0.2	0.1	O K
4320 min Winter	16.668	0.003	0.2	0.1	O K
5760 min Winter	16.667	0.002	0.1	0.1	O K
7200 min Winter	16.667	0.002	0.1	0.1	O K
8640 min Winter	16.667	0.002	0.1	0.1	O K
10080 min Winter	16.666	0.001	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	51.183	0.0	20		
60 min Winter	32.926	0.0	40		
120 min Winter	20.664	0.0	70		
180 min Winter	15.602	0.0	102		
240 min Winter	12.744	0.0	132		
360 min Winter	9.573	0.0	194		
480 min Winter	7.806	0.0	252		
600 min Winter	6.660	0.0	316		
720 min Winter	5.849	0.0	370		
960 min Winter	4.762	0.0	484		
1440 min Winter	3.561	0.0	748		
2160 min Winter	2.660	0.0	1140		
2880 min Winter	2.162	0.0	1428		
4320 min Winter	1.613	0.0	2164		
5760 min Winter	1.311	0.0	2944		
7200 min Winter	1.116	0.0	3560		
8640 min Winter	0.978	0.0	4688		
10080 min Winter	0.875	0.0	5248		
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Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
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Date 15/04/2020	Designed by SH	
File 020.5360 Permeable Pavi...	Checked by RW	
XP Solutions	Source Control 2014.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

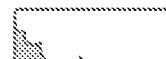
Time Area Diagram

Total Area (ha) 0.017

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

0 4 0.017

Paul Basham Associates		Page 4																								
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Permeable Paving Rd Central																									
Date 15/04/2020	Designed by SH																									
File 020.5360 Permeable Pavi...	Checked by RW																									
XP Solutions		Source Control 2014.1																								
<u>Model Details</u> Storage is Online Cover Level (m) 17.165 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.30852</td> <td>Width (m)</td> <td>11.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>14.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>42.8</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>4.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>16.665</td> <td>Cap Volume Depth (m)</td> <td>0.000</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	11.0	Membrane Percolation (mm/hr)	1000	Length (m)	14.0	Max Percolation (l/s)	42.8	Slope (1:X)	0.0	Safety Factor	4.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	16.665	Cap Volume Depth (m)	0.000
Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	11.0																							
Membrane Percolation (mm/hr)	1000	Length (m)	14.0																							
Max Percolation (l/s)	42.8	Slope (1:X)	0.0																							
Safety Factor	4.0	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	16.665	Cap Volume Depth (m)	0.000																							
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8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
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Date 15/04/2020	Designed by SH	
File 020.5360 Permeable	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 9 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	16.063	0.023	3.5	2.5	O K
30 min Summer	16.069	0.029	4.5	3.1	O K
60 min Summer	16.071	0.031	4.8	3.3	O K
120 min Summer	16.068	0.028	4.2	3.0	O K
180 min Summer	16.064	0.024	3.7	2.6	O K
240 min Summer	16.061	0.021	3.2	2.3	O K
360 min Summer	16.057	0.017	2.6	1.8	O K
480 min Summer	16.055	0.015	2.2	1.6	O K
600 min Summer	16.053	0.013	1.9	1.4	O K
720 min Summer	16.052	0.012	1.8	1.2	O K
960 min Summer	16.050	0.010	1.5	1.0	O K
1440 min Summer	16.047	0.007	1.1	0.8	O K
2160 min Summer	16.046	0.006	0.9	0.6	O K
2880 min Summer	16.045	0.005	0.7	0.5	O K
4320 min Summer	16.043	0.003	0.5	0.3	O K
5760 min Summer	16.043	0.003	0.4	0.3	O K
7200 min Summer	16.042	0.002	0.3	0.2	O K
8640 min Summer	16.042	0.002	0.3	0.2	O K
10080 min Summer	16.042	0.002	0.3	0.2	O K
15 min Winter	16.068	0.028	4.2	2.9	O K
30 min Winter	16.072	0.032	4.9	3.5	O K
60 min Winter	16.072	0.032	4.8	3.4	O K
120 min Winter	16.066	0.026	3.9	2.7	O K
180 min Winter	16.061	0.021	3.2	2.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	76.566	0.0	14
30 min Summer	51.183	0.0	22
60 min Summer	32.926	0.0	38
120 min Summer	20.664	0.0	68
180 min Summer	15.602	0.0	98
240 min Summer	12.744	0.0	130
360 min Summer	9.573	0.0	190
480 min Summer	7.806	0.0	250
600 min Summer	6.660	0.0	310
720 min Summer	5.849	0.0	370
960 min Summer	4.762	0.0	492
1440 min Summer	3.561	0.0	734
2160 min Summer	2.660	0.0	1104
2880 min Summer	2.162	0.0	1444
4320 min Summer	1.613	0.0	2204
5760 min Summer	1.311	0.0	2880
7200 min Summer	1.116	0.0	3712
8640 min Summer	0.978	0.0	4448
10080 min Summer	0.875	0.0	4952
15 min Winter	76.566	0.0	14
30 min Winter	51.183	0.0	22
60 min Winter	32.926	0.0	40
120 min Winter	20.664	0.0	70
180 min Winter	15.602	0.0	102

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Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Permeable Paving Road South	
Date 15/04/2020	Designed by SH	
File 020.5360 Permeable	Checked by RW	
XP Solutions	Source Control 2014.1	

Summary of Results for 10 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.058	0.018	2.7	1.9	OK
360 min Winter	16.054	0.014	2.1	1.5	OK
480 min Winter	16.052	0.012	1.8	1.2	OK
600 min Winter	16.050	0.010	1.5	1.0	OK
720 min Winter	16.049	0.009	1.3	0.9	OK
960 min Winter	16.047	0.007	1.1	0.8	OK
1440 min Winter	16.045	0.005	0.8	0.5	OK
2160 min Winter	16.044	0.004	0.6	0.4	OK
2880 min Winter	16.043	0.003	0.5	0.3	OK
4320 min Winter	16.043	0.003	0.4	0.3	OK
5760 min Winter	16.042	0.002	0.3	0.2	OK
7200 min Winter	16.042	0.002	0.3	0.2	OK
8640 min Winter	16.042	0.002	0.3	0.2	OK
10080 min Winter	16.041	0.001	0.2	0.1	OK

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	12.744	0.0	132
360 min Winter	9.573	0.0	192
480 min Winter	7.806	0.0	252
600 min Winter	6.660	0.0	314
720 min Winter	5.849	0.0	372
960 min Winter	4.762	0.0	488
1440 min Winter	3.561	0.0	738
2160 min Winter	2.660	0.0	1076
2880 min Winter	2.162	0.0	1456
4320 min Winter	1.613	0.0	2260
5760 min Winter	1.311	0.0	2872
7200 min Winter	1.116	0.0	3560
8640 min Winter	0.978	0.0	4616
10080 min Winter	0.875	0.0	5120

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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Permeable Paving Road South	
Date 15/04/2020 File 020.5360 Permeable	Designed by SH Checked by RW	
XP Solutions		Source Control 2014.1

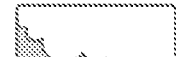
Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.039

Time (mins)	Area
From:	To: (ha)
0	4 0.039

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Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Permeable Paving Road South	
Date 15/04/2020	Designed by SH	
File 020.5360 Permeable	Checked by RW	
XP Solutions	Source Control 2014.1	

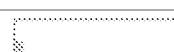
Model Details

Storage is Online Cover Level (m) 16.540

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	15.0
Membrane Percolation (mm/hr)	1000	Length (m)	23.7
Max Percolation (l/s)	98.8	Slope (1:X)	0.0
Safety Factor	4.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	16.040	Cap Volume Depth (m)	0.000

Appendix F 1-100 Year

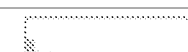
Paul Basham Associates		Page 1
Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Complex SA Central Rd East	
Date 03/04/2020	Designed by SH	
File 020.5360 COMPLEX@ROAD CENTRAL...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 149 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.980	0.940	2.5	39.5	O K
30 min Summer	16.307	1.267	2.7	53.2	O K
60 min Summer	16.562	1.522	4.6	65.9	O K
120 min Summer	16.597	1.557	6.7	70.3	O K
180 min Summer	16.611	1.571	6.7	72.2	O K
240 min Summer	16.612	1.572	6.7	72.3	O K
360 min Summer	16.604	1.564	6.7	71.3	O K
480 min Summer	16.592	1.552	6.7	69.7	O K
600 min Summer	16.583	1.543	6.2	68.5	O K
720 min Summer	16.575	1.535	5.6	67.5	O K
960 min Summer	16.562	1.522	4.6	65.8	O K
1440 min Summer	16.509	1.469	2.8	61.7	O K
2160 min Summer	16.245	1.205	2.7	50.6	O K
2880 min Summer	16.016	0.976	2.5	41.0	O K
4320 min Summer	15.657	0.617	2.3	25.9	O K
5760 min Summer	15.406	0.366	2.1	15.4	O K
7200 min Summer	15.234	0.194	2.0	8.1	O K
8640 min Summer	15.129	0.089	1.9	3.7	O K
10080 min Summer	15.089	0.049	1.8	2.0	O K
15 min Winter	16.102	1.062	2.6	44.6	O K
30 min Winter	16.474	1.434	2.8	60.2	O K
60 min Winter	16.611	1.571	6.7	72.2	O K
120 min Winter	16.670	1.630	6.8	79.9	O K
180 min Winter	16.687	1.647	6.8	82.0	O K

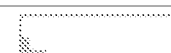
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	22
30 min Summer	85.368	0.0	36
60 min Summer	55.544	0.0	62
120 min Summer	34.816	0.0	96
180 min Summer	26.038	0.0	130
240 min Summer	21.042	0.0	164
360 min Summer	15.601	0.0	232
480 min Summer	12.593	0.0	298
600 min Summer	10.656	0.0	368
720 min Summer	9.290	0.0	438
960 min Summer	7.475	0.0	580
1440 min Summer	5.489	0.0	892
2160 min Summer	4.021	0.0	1280
2880 min Summer	3.220	0.0	1672
4320 min Summer	2.348	0.0	2384
5760 min Summer	1.878	0.0	3112
7200 min Summer	1.581	0.0	3816
8640 min Summer	1.373	0.0	4416
10080 min Summer	1.219	0.0	5112
15 min Winter	125.250	0.0	22
30 min Winter	85.368	0.0	36
60 min Winter	55.544	0.0	60
120 min Winter	34.816	0.0	104
180 min Winter	26.038	0.0	140

Paul Basham Associates		Page 2
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Central Rd East	
Date 03/04/2020 File 020.5360 COMPLEX@ROAD CENTRAL...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.684	1.644	6.8	81.7	O K
360 min Winter	16.664	1.624	6.8	79.0	O K
480 min Winter	16.635	1.595	6.8	75.3	O K
600 min Winter	16.608	1.568	6.7	71.8	O K
720 min Winter	16.590	1.550	6.7	69.5	O K
960 min Winter	16.574	1.534	5.5	67.3	O K
1440 min Winter	16.548	1.508	3.5	64.0	O K
2160 min Winter	16.212	1.172	2.6	49.2	O K
2880 min Winter	15.893	0.853	2.4	35.8	O K
4320 min Winter	15.425	0.385	2.1	16.2	O K
5760 min Winter	15.142	0.102	1.9	4.3	O K
7200 min Winter	15.086	0.046	1.7	1.9	O K
8640 min Winter	15.080	0.040	1.5	1.7	O K
10080 min Winter	15.075	0.035	1.3	1.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	178
360 min Winter	15.601	0.0	252
480 min Winter	12.593	0.0	320
600 min Winter	10.656	0.0	386
720 min Winter	9.290	0.0	446
960 min Winter	7.475	0.0	592
1440 min Winter	5.489	0.0	922
2160 min Winter	4.021	0.0	1364
2880 min Winter	3.220	0.0	1760
4320 min Winter	2.348	0.0	2468
5760 min Winter	1.878	0.0	3104
7200 min Winter	1.581	0.0	3616
8640 min Winter	1.373	0.0	4368
10080 min Winter	1.219	0.0	5136

Paul Basham Associates		Page 3
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Central Rd East	
Date 03/04/2020 File 020.5360 COMPLEX@ROAD CENTRAL...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.184

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.092	4 8	0.092

Paul Basham Associates		Page 4
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Central Rd East	
Date 03/04/2020 File 020.5360 COMPLEX@ROAD CENTRAL...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 17.040

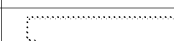
Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	8.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	17.5
Safety Factor	6.5	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	15.040	Cap Infiltration Depth (m)	0.000

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	6.0
Membrane Percolation (mm/hr)	1000	Length (m)	48.5
Max Percolation (l/s)	80.8	Slope (1:X)	0.0
Safety Factor	6.5	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	16.540	Membrane Depth (m)	0

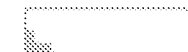
Paul Basham Associates		Page 1
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Rd South	
Date 03/04/2020 File 020.5360 COMPLEX@ROAD SOUTH.SRCX	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 117 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.517	0.757	1.8	13.6	O K
30 min Summer	15.753	0.993	2.0	17.9	O K
60 min Summer	15.943	1.183	2.1	21.3	O K
120 min Summer	16.022	1.262	2.2	22.7	O K
180 min Summer	16.011	1.251	2.2	22.5	O K
240 min Summer	15.976	1.216	2.2	21.9	O K
360 min Summer	15.905	1.145	2.1	20.6	O K
480 min Summer	15.831	1.071	2.1	19.3	O K
600 min Summer	15.758	0.998	2.0	18.0	O K
720 min Summer	15.687	0.927	2.0	16.7	O K
960 min Summer	15.555	0.795	1.9	14.3	O K
1440 min Summer	15.333	0.573	1.7	10.3	O K
2160 min Summer	15.093	0.333	1.5	6.0	O K
2880 min Summer	14.935	0.175	1.4	3.1	O K
4320 min Summer	14.808	0.048	1.3	0.9	O K
5760 min Summer	14.798	0.038	1.0	0.7	O K
7200 min Summer	14.792	0.032	0.9	0.6	O K
8640 min Summer	14.788	0.028	0.7	0.5	O K
10080 min Summer	14.785	0.025	0.7	0.5	O K
15 min Winter	15.617	0.857	1.9	15.4	O K
30 min Winter	15.890	1.130	2.1	20.3	O K
60 min Winter	16.119	1.359	2.3	24.5	O K
120 min Winter	16.220	1.460	2.3	26.3	O K
180 min Winter	16.207	1.447	2.3	26.1	O K

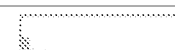
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	21
30 min Summer	85.368	0.0	34
60 min Summer	55.544	0.0	62
120 min Summer	34.816	0.0	100
180 min Summer	26.038	0.0	132
240 min Summer	21.042	0.0	168
360 min Summer	15.601	0.0	236
480 min Summer	12.593	0.0	306
600 min Summer	10.656	0.0	372
720 min Summer	9.290	0.0	438
960 min Summer	7.475	0.0	570
1440 min Summer	5.489	0.0	822
2160 min Summer	4.021	0.0	1176
2880 min Summer	3.220	0.0	1528
4320 min Summer	2.348	0.0	2200
5760 min Summer	1.878	0.0	2864
7200 min Summer	1.581	0.0	3608
8640 min Summer	1.373	0.0	4328
10080 min Summer	1.219	0.0	5080
15 min Winter	125.250	0.0	21
30 min Winter	85.368	0.0	34
60 min Winter	55.544	0.0	62
120 min Winter	34.816	0.0	100
180 min Winter	26.038	0.0	142

Paul Basham Associates		Page 2
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Rd South	
Date 03/04/2020 File 020.5360 COMPLEX@ROAD SOUTH.SRCX	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.156	1.396	2.3	25.1	O K
360 min Winter	16.043	1.283	2.2	23.1	O K
480 min Winter	15.927	1.167	2.1	21.0	O K
600 min Winter	15.814	1.054	2.1	19.0	O K
720 min Winter	15.708	0.948	2.0	17.1	O K
960 min Winter	15.517	0.757	1.8	13.6	O K
1440 min Winter	15.215	0.455	1.6	8.2	O K
2160 min Winter	14.916	0.156	1.4	2.8	O K
2880 min Winter	14.807	0.047	1.2	0.9	O K
4320 min Winter	14.795	0.035	0.9	0.6	O K
5760 min Winter	14.788	0.028	0.7	0.5	O K
7200 min Winter	14.783	0.023	0.6	0.4	O K
8640 min Winter	14.780	0.020	0.5	0.4	O K
10080 min Winter	14.778	0.018	0.5	0.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	180
360 min Winter	15.601	0.0	256
480 min Winter	12.593	0.0	328
600 min Winter	10.656	0.0	400
720 min Winter	9.290	0.0	468
960 min Winter	7.475	0.0	602
1440 min Winter	5.489	0.0	854
2160 min Winter	4.021	0.0	1192
2880 min Winter	3.220	0.0	1468
4320 min Winter	2.348	0.0	2180
5760 min Winter	1.878	0.0	2928
7200 min Winter	1.581	0.0	3632
8640 min Winter	1.373	0.0	4368
10080 min Winter	1.219	0.0	5112

Paul Basham Associates		Page 3
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Rd South	
Date 03/04/2020 File 020.5360 COMPLEX@ROAD SOUTH.SRCX	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

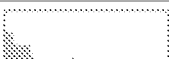
Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.066

Time (mins)	Area	Time (mins)	Area
From:	To: (ha)	From:	To: (ha)
0	4 0.033	4	8 0.033

Paul Basham Associates		Page 4
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Complex SA Rd South	
Date 03/04/2020 File 020.5360 COMPLEX@ROAD SOUTH.SRCX	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 16.760

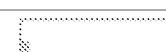
Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	5.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	12.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.760	Cap Infiltration Depth (m)	0.000

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	5.0
Membrane Percolation (mm/hr)	1000	Length (m)	9.2
Max Percolation (l/s)	12.8	Slope (1:X)	0.0
Safety Factor	4.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	16.260	Membrane Depth (m)	0

Paul Basham Associates		Page 1
Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	IC Rear Central Garden	
Date 03/04/2020	Designed by SH	
File 020.5360 INFILTRATION CRATE@R...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 212 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	16.181	0.421	0.5	6.9	O K
30 min Summer	16.317	0.557	0.6	9.1	O K
60 min Summer	16.447	0.687	0.6	11.2	O K
120 min Summer	16.538	0.778	0.6	12.7	O K
180 min Summer	16.554	0.794	0.7	13.0	O K
240 min Summer	16.552	0.792	0.7	12.9	O K
360 min Summer	16.537	0.777	0.6	12.7	O K
480 min Summer	16.515	0.755	0.6	12.3	O K
600 min Summer	16.489	0.729	0.6	11.9	O K
720 min Summer	16.464	0.704	0.6	11.5	O K
960 min Summer	16.413	0.653	0.6	10.7	O K
1440 min Summer	16.318	0.558	0.6	9.1	O K
2160 min Summer	16.195	0.435	0.5	7.1	O K
2880 min Summer	16.095	0.335	0.5	5.5	O K
4320 min Summer	15.950	0.190	0.4	3.1	O K
5760 min Summer	15.860	0.100	0.4	1.6	O K
7200 min Summer	15.815	0.055	0.4	0.9	O K
8640 min Summer	15.805	0.045	0.3	0.7	O K
10080 min Summer	15.800	0.040	0.3	0.7	O K
15 min Winter	16.234	0.474	0.5	7.7	O K
30 min Winter	16.390	0.630	0.6	10.3	O K
60 min Winter	16.540	0.780	0.6	12.7	O K
120 min Winter	16.653	0.893	0.7	14.6	O K
180 min Winter	16.678	0.918	0.7	15.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	18
30 min Summer	85.368	0.0	33
60 min Summer	55.544	0.0	62
120 min Summer	34.816	0.0	120
180 min Summer	26.038	0.0	158
240 min Summer	21.042	0.0	190
360 min Summer	15.601	0.0	256
480 min Summer	12.593	0.0	326
600 min Summer	10.656	0.0	394
720 min Summer	9.290	0.0	464
960 min Summer	7.475	0.0	600
1440 min Summer	5.489	0.0	866
2160 min Summer	4.021	0.0	1252
2880 min Summer	3.220	0.0	1616
4320 min Summer	2.348	0.0	2336
5760 min Summer	1.878	0.0	3008
7200 min Summer	1.581	0.0	3672
8640 min Summer	1.373	0.0	4384
10080 min Summer	1.219	0.0	5120
15 min Winter	125.250	0.0	18
30 min Winter	85.368	0.0	32
60 min Winter	55.544	0.0	60
120 min Winter	34.816	0.0	118
180 min Winter	26.038	0.0	172

Paul Basham Associates		Page 2
Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	IC Rear Central Garden	
Date 03/04/2020	Designed by SH	
File 020.5360 INFILTRATION CRATE@R...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.672	0.912	0.7	14.9	O K
360 min Winter	16.654	0.894	0.7	14.6	O K
480 min Winter	16.620	0.860	0.7	14.1	O K
600 min Winter	16.582	0.822	0.7	13.4	O K
720 min Winter	16.542	0.782	0.6	12.8	O K
960 min Winter	16.465	0.705	0.6	11.5	O K
1440 min Winter	16.323	0.563	0.6	9.2	O K
2160 min Winter	16.149	0.389	0.5	6.4	O K
2880 min Winter	16.016	0.256	0.5	4.2	O K
4320 min Winter	15.843	0.083	0.4	1.4	O K
5760 min Winter	15.805	0.045	0.3	0.7	O K
7200 min Winter	15.798	0.038	0.3	0.6	O K
8640 min Winter	15.793	0.033	0.3	0.5	O K
10080 min Winter	15.789	0.029	0.2	0.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	200
360 min Winter	15.601	0.0	274
480 min Winter	12.593	0.0	352
600 min Winter	10.656	0.0	428
720 min Winter	9.290	0.0	500
960 min Winter	7.475	0.0	646
1440 min Winter	5.489	0.0	924
2160 min Winter	4.021	0.0	1320
2880 min Winter	3.220	0.0	1696
4320 min Winter	2.348	0.0	2336
5760 min Winter	1.878	0.0	2928
7200 min Winter	1.581	0.0	3672
8640 min Winter	1.373	0.0	4400
10080 min Winter	1.219	0.0	5120

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate IC Rear Central Garden	
Date 03/04/2020 File 020.5360 INFILTRATION CRATE@R...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.031

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

0	4	0.031
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Paul Basham Associates		Page 4
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate IC Rear Central Garden	
Date 03/04/2020 File 020.5360 INFILTRATION CRATE@R...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 17.180

Cellular Storage Structure

Invert Level (m) 15.760 Safety Factor 4.0
Infiltration Coefficient Base (m/hr) 0.30852 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.30852

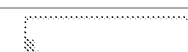
Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	17.2	17.2	1.000	17.2	33.8	1.100	0.0	33.8

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

Half Drain Time : 83 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.894	0.644	1.7	10.6	O K
30 min Summer	15.964	0.714	2.0	13.7	O K
60 min Summer	16.010	0.760	2.3	16.1	O K
120 min Summer	16.035	0.785	2.4	17.5	O K
180 min Summer	16.038	0.788	2.4	17.7	O K
240 min Summer	16.033	0.783	2.4	17.3	O K
360 min Summer	16.017	0.767	2.3	16.5	O K
480 min Summer	15.998	0.748	2.2	15.5	O K
600 min Summer	15.980	0.730	2.1	14.5	O K
720 min Summer	15.962	0.712	2.0	13.6	O K
960 min Summer	15.930	0.680	1.8	12.2	O K
1440 min Summer	15.878	0.628	1.6	10.0	O K
2160 min Summer	15.820	0.570	1.3	7.9	O K
2880 min Summer	15.776	0.526	1.1	6.6	O K
4320 min Summer	15.715	0.465	0.9	5.1	O K
5760 min Summer	15.674	0.424	0.7	4.3	O K
7200 min Summer	15.633	0.383	0.6	3.6	O K
8640 min Summer	15.593	0.343	0.5	3.0	O K
10080 min Summer	15.561	0.311	0.5	2.6	O K
15 min Winter	15.925	0.675	1.8	11.9	O K
30 min Winter	15.999	0.749	2.2	15.5	O K
60 min Winter	16.048	0.798	2.5	18.3	O K
120 min Winter	16.076	0.820	2.6	19.6	O K
180 min Winter	16.068	0.818	2.6	19.4	O K

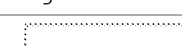
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	20
30 min Summer	85.368	0.0	33
60 min Summer	55.544	0.0	56
120 min Summer	34.816	0.0	88
180 min Summer	26.038	0.0	122
240 min Summer	21.042	0.0	156
360 min Summer	15.601	0.0	224
480 min Summer	12.593	0.0	290
600 min Summer	10.656	0.0	354
720 min Summer	9.290	0.0	418
960 min Summer	7.475	0.0	542
1440 min Summer	5.489	0.0	784
2160 min Summer	4.021	0.0	1148
2880 min Summer	3.220	0.0	1504
4320 min Summer	2.348	0.0	2212
5760 min Summer	1.878	0.0	2944
7200 min Summer	1.581	0.0	3680
8640 min Summer	1.373	0.0	4408
10080 min Summer	1.219	0.0	5144
15 min Winter	125.250	0.0	20
30 min Winter	85.368	0.0	33
60 min Winter	55.544	0.0	58
120 min Winter	34.816	0.0	94
180 min Winter	26.038	0.0	132

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infiltration Basin Central	
Date 03/04/2020 File 020.5360 INFILTRATION BASIN@V...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
240 min Winter	16.057	0.807	2.5	18.8	O K
360 min Winter	16.031	0.781	2.4	17.2	O K
480 min Winter	16.003	0.753	2.2	15.7	O K
600 min Winter	15.976	0.726	2.1	14.3	O K
720 min Winter	15.952	0.702	2.0	13.2	O K
960 min Winter	15.909	0.659	1.7	11.2	O K
1440 min Winter	15.842	0.592	1.4	8.7	O K
2160 min Winter	15.772	0.522	1.1	6.5	O K
2880 min Winter	15.724	0.474	0.9	5.3	O K
4320 min Winter	15.663	0.413	0.7	4.1	O K
5760 min Winter	15.598	0.348	0.5	3.1	O K
7200 min Winter	15.547	0.297	0.5	2.4	O K
8640 min Winter	15.510	0.260	0.4	2.0	O K
10080 min Winter	15.481	0.231	0.4	1.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
240 min Winter	21.042	0.0	168
360 min Winter	15.601	0.0	240
480 min Winter	12.593	0.0	308
600 min Winter	10.656	0.0	372
720 min Winter	9.290	0.0	438
960 min Winter	7.475	0.0	562
1440 min Winter	5.489	0.0	810
2160 min Winter	4.021	0.0	1168
2880 min Winter	3.220	0.0	1528
4320 min Winter	2.348	0.0	2252
5760 min Winter	1.878	0.0	3000
7200 min Winter	1.581	0.0	3744
8640 min Winter	1.373	0.0	4416
10080 min Winter	1.219	0.0	5144

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infiltration Basin Central	
Date 03/04/2020 File 020.5360 INFILTRATION BASIN@V...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

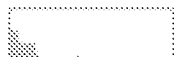
Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.050

Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)
0	4	0.025	4	8	0.025

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infiltration Basin Central	
Date 03/04/2020 File 020.5360 INFILTRATION BASIN@V...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 16.450

Infiltration Basin Structure

Invert Level (m) 15.250 Safety Factor 4.0
Infiltration Coefficient Base (m/hr) 0.30852 Porosity 1.00
Infiltration Coefficient Side (m/hr) 0.30852

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	4.4	1.200	111.5	2.400	0.0	3.600	0.0	4.800	0.0
0.200	9.3	1.201	0.0	2.600	0.0	3.800	0.0	5.000	0.0
0.400	16.5	1.600	0.0	2.800	0.0	4.000	0.0		
0.600	35.5	1.800	0.0	3.000	0.0	4.200	0.0		
0.800	59.5	2.000	0.0	3.200	0.0	4.400	0.0		
1.000	85.0	2.200	0.0	3.400	0.0	4.600	0.0		

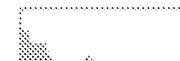
Paul Basham Associates		Page 1
Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Infiltration Crates Car Park N	
Date 03/04/2020 12:48	Designed by SH	
File 020.5360 INFILTRATION CRATE@C...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 213 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	17.167	0.167	2.0	22.9	O K
30 min Summer	17.223	0.223	2.1	30.5	O K
60 min Summer	17.276	0.276	2.1	37.7	O K
120 min Summer	17.313	0.313	2.1	42.9	O K
180 min Summer	17.320	0.320	2.1	43.7	O K
240 min Summer	17.318	0.318	2.1	43.5	O K
360 min Summer	17.311	0.311	2.1	42.5	O K
480 min Summer	17.300	0.300	2.1	41.1	O K
600 min Summer	17.288	0.288	2.1	39.4	O K
720 min Summer	17.275	0.275	2.1	37.6	O K
960 min Summer	17.249	0.249	2.1	34.1	O K
1440 min Summer	17.200	0.200	2.0	27.4	O K
2160 min Summer	17.139	0.139	2.0	19.0	O K
2880 min Summer	17.094	0.094	2.0	12.9	O K
4320 min Summer	17.050	0.050	1.9	6.9	O K
5760 min Summer	17.041	0.041	1.6	5.6	O K
7200 min Summer	17.035	0.035	1.3	4.7	O K
8640 min Summer	17.030	0.030	1.2	4.1	O K
10080 min Summer	17.027	0.027	1.0	3.7	O K
15 min Winter	17.189	0.189	2.0	25.8	O K
30 min Winter	17.252	0.252	2.1	34.5	O K
60 min Winter	17.313	0.313	2.1	42.9	O K
120 min Winter	17.361	0.361	2.1	49.3	O K
180 min Winter	17.372	0.372	2.2	50.9	O K

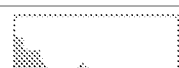
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	21
30 min Summer	85.368	0.0	35
60 min Summer	55.544	0.0	64
120 min Summer	34.816	0.0	122
180 min Summer	26.038	0.0	166
240 min Summer	21.042	0.0	196
360 min Summer	15.601	0.0	260
480 min Summer	12.593	0.0	330
600 min Summer	10.656	0.0	398
720 min Summer	9.290	0.0	466
960 min Summer	7.475	0.0	600
1440 min Summer	5.489	0.0	864
2160 min Summer	4.021	0.0	1232
2880 min Summer	3.220	0.0	1564
4320 min Summer	2.348	0.0	2208
5760 min Summer	1.878	0.0	2936
7200 min Summer	1.581	0.0	3672
8640 min Summer	1.373	0.0	4400
10080 min Summer	1.219	0.0	5136
15 min Winter	125.250	0.0	21
30 min Winter	85.368	0.0	35
60 min Winter	55.544	0.0	64
120 min Winter	34.816	0.0	120
180 min Winter	26.038	0.0	174

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Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Infiltration Crates Car Park N	
Date 03/04/2020 12:48	Designed by SH	
File 020.5360 INFILTRATION CRATE@C...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	17.369	0.369	2.2	50.4	O K
360 min Winter	17.358	0.358	2.1	49.0	O K
480 min Winter	17.342	0.342	2.1	46.8	O K
600 min Winter	17.323	0.323	2.1	44.2	O K
720 min Winter	17.303	0.303	2.1	41.4	O K
960 min Winter	17.262	0.262	2.1	35.9	O K
1440 min Winter	17.187	0.187	2.0	25.6	O K
2160 min Winter	17.099	0.099	2.0	13.6	O K
2880 min Winter	17.051	0.051	1.9	7.0	O K
4320 min Winter	17.037	0.037	1.4	5.1	O K
5760 min Winter	17.030	0.030	1.2	4.1	O K
7200 min Winter	17.025	0.025	1.0	3.4	O K
8640 min Winter	17.022	0.022	0.9	3.0	O K
10080 min Winter	17.020	0.020	0.8	2.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	224
360 min Winter	15.601	0.0	280
480 min Winter	12.593	0.0	358
600 min Winter	10.656	0.0	434
720 min Winter	9.290	0.0	508
960 min Winter	7.475	0.0	650
1440 min Winter	5.489	0.0	914
2160 min Winter	4.021	0.0	1260
2880 min Winter	3.220	0.0	1508
4320 min Winter	2.348	0.0	2208
5760 min Winter	1.878	0.0	2936
7200 min Winter	1.581	0.0	3672
8640 min Winter	1.373	0.0	4400
10080 min Winter	1.219	0.0	5096

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infiltration Crates Car Park N	
Date 03/04/2020 12:48 File 020.5360 INFILTRATION CRATE@C...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.105

Time (mins)	Area	Time (mins)	Area
From:	To: (ha)	From:	To: (ha)
0	4 0.053	4	8 0.052

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infiltration Crates Car Park N	
Date 03/04/2020 12:48 File 020.5360 INFILTRATION CRATE@C...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 17.900

Cellular Storage Structure

Invert Level (m) 17.000 Safety Factor 6.5
Infiltration Coefficient Base (m/hr) 0.30852 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.30852

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	144.0	144.0	0.400	144.0	164.8	0.500	0.0	164.8

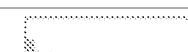
Paul Basham Associates		Page 1
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Front Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 63 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.692	0.812	0.7	3.5	O K
30 min Summer	15.907	1.027	0.8	4.4	O K
60 min Summer	16.045	1.165	0.9	5.0	O K
120 min Summer	16.098	1.218	0.9	5.3	O K
180 min Summer	16.066	1.186	0.9	5.1	O K
240 min Summer	16.013	1.133	0.8	4.9	O K
360 min Summer	15.915	1.035	0.8	4.5	O K
480 min Summer	15.824	0.944	0.8	4.1	O K
600 min Summer	15.742	0.862	0.7	3.7	O K
720 min Summer	15.667	0.787	0.7	3.4	O K
960 min Summer	15.541	0.661	0.6	2.9	O K
1440 min Summer	15.351	0.471	0.5	2.0	O K
2160 min Summer	15.164	0.284	0.4	1.2	O K
2880 min Summer	15.044	0.164	0.4	0.7	O K
4320 min Summer	14.929	0.049	0.3	0.2	O K
5760 min Summer	14.919	0.039	0.3	0.2	O K
7200 min Summer	14.913	0.033	0.2	0.1	O K
8640 min Summer	14.909	0.029	0.2	0.1	O K
10080 min Summer	14.906	0.026	0.2	0.1	O K
15 min Winter	15.798	0.918	0.7	4.0	O K
30 min Winter	16.049	1.169	0.9	5.0	O K
60 min Winter	16.212	1.332	0.9	5.8	O K
120 min Winter	16.262	1.382	1.0	6.0	O K
180 min Winter	16.206	1.326	0.9	5.7	O K

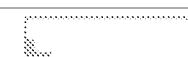
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	17
30 min Summer	85.368	0.0	31
60 min Summer	55.544	0.0	52
120 min Summer	34.816	0.0	84
180 min Summer	26.038	0.0	120
240 min Summer	21.042	0.0	154
360 min Summer	15.601	0.0	222
480 min Summer	12.593	0.0	288
600 min Summer	10.656	0.0	352
720 min Summer	9.290	0.0	416
960 min Summer	7.475	0.0	540
1440 min Summer	5.489	0.0	792
2160 min Summer	4.021	0.0	1148
2880 min Summer	3.220	0.0	1500
4320 min Summer	2.348	0.0	2164
5760 min Summer	1.878	0.0	2904
7200 min Summer	1.581	0.0	3640
8640 min Summer	1.373	0.0	4280
10080 min Summer	1.219	0.0	5040
15 min Winter	125.250	0.0	17
30 min Winter	85.368	0.0	31
60 min Winter	55.544	0.0	56
120 min Winter	34.816	0.0	90
180 min Winter	26.038	0.0	128

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Front Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
240 min Winter	16.122	1.242	0.9	5.4	O K
360 min Winter	15.970	1.090	0.8	4.7	O K
480 min Winter	15.837	0.957	0.8	4.1	O K
600 min Winter	15.722	0.842	0.7	3.6	O K
720 min Winter	15.622	0.742	0.7	3.2	O K
960 min Winter	15.458	0.578	0.6	2.5	O K
1440 min Winter	15.229	0.349	0.5	1.5	O K
2160 min Winter	15.022	0.142	0.4	0.6	O K
2880 min Winter	14.929	0.049	0.3	0.2	O K
4320 min Winter	14.916	0.036	0.2	0.2	O K
5760 min Winter	14.909	0.029	0.2	0.1	O K
7200 min Winter	14.904	0.024	0.2	0.1	O K
8640 min Winter	14.901	0.021	0.1	0.1	O K
10080 min Winter	14.899	0.019	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
240 min Winter	21.042	0.0	166
360 min Winter	15.601	0.0	236
480 min Winter	12.593	0.0	304
600 min Winter	10.656	0.0	372
720 min Winter	9.290	0.0	436
960 min Winter	7.475	0.0	566
1440 min Winter	5.489	0.0	810
2160 min Winter	4.021	0.0	1168
2880 min Winter	3.220	0.0	1444
4320 min Winter	2.348	0.0	2148
5760 min Winter	1.878	0.0	2888
7200 min Winter	1.581	0.0	3632
8640 min Winter	1.373	0.0	4304
10080 min Winter	1.219	0.0	5032

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Front Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.017

Time (mins)		Area
From:	To:	(ha)
0	4	0.017

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Front Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 16.880

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	1.5
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	9.6
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.880	Cap Infiltration Depth (m)	0.000

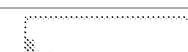
Paul Basham Associates		Page 1
Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Infil. Trench Garden West	
Date 03/04/2020	Designed by SH	
File 020.5360 INFILTRATION TRENCH@...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 51 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	17.024	0.854	0.5	1.8	O K
30 min Summer	17.227	1.057	0.5	2.2	O K
60 min Summer	17.349	1.179	0.6	2.5	O K
120 min Summer	17.369	1.199	0.6	2.5	O K
180 min Summer	17.313	1.143	0.6	2.4	O K
240 min Summer	17.244	1.074	0.5	2.3	O K
360 min Summer	17.123	0.953	0.5	2.0	O K
480 min Summer	17.016	0.846	0.5	1.8	O K
600 min Summer	16.924	0.754	0.4	1.6	O K
720 min Summer	16.843	0.673	0.4	1.4	O K
960 min Summer	16.709	0.539	0.4	1.1	O K
1440 min Summer	16.518	0.348	0.3	0.7	O K
2160 min Summer	16.344	0.174	0.3	0.4	O K
2880 min Summer	16.246	0.076	0.2	0.2	O K
4320 min Summer	16.210	0.040	0.2	0.1	O K
5760 min Summer	16.202	0.032	0.1	0.1	O K
7200 min Summer	16.197	0.027	0.1	0.1	O K
8640 min Summer	16.194	0.024	0.1	0.0	O K
10080 min Summer	16.191	0.021	0.1	0.0	O K
15 min Winter	17.137	0.967	0.5	2.0	O K
30 min Winter	17.378	1.208	0.6	2.5	O K
60 min Winter	17.514	1.344	0.6	2.8	O K
120 min Winter	17.517	1.347	0.6	2.8	O K
180 min Winter	17.422	1.252	0.6	2.6	O K

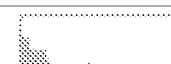
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	17
30 min Summer	85.368	0.0	30
60 min Summer	55.544	0.0	46
120 min Summer	34.816	0.0	82
180 min Summer	26.038	0.0	116
240 min Summer	21.042	0.0	150
360 min Summer	15.601	0.0	216
480 min Summer	12.593	0.0	280
600 min Summer	10.656	0.0	344
720 min Summer	9.290	0.0	406
960 min Summer	7.475	0.0	530
1440 min Summer	5.489	0.0	768
2160 min Summer	4.021	0.0	1128
2880 min Summer	3.220	0.0	1472
4320 min Summer	2.348	0.0	2172
5760 min Summer	1.878	0.0	2880
7200 min Summer	1.581	0.0	3616
8640 min Summer	1.373	0.0	4360
10080 min Summer	1.219	0.0	5136
15 min Winter	125.250	0.0	17
30 min Winter	85.368	0.0	30
60 min Winter	55.544	0.0	48
120 min Winter	34.816	0.0	88
180 min Winter	26.038	0.0	124

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Garden West	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	17.316	1.146	0.6	2.4	O K
360 min Winter	17.136	0.966	0.5	2.0	O K
480 min Winter	16.986	0.816	0.5	1.7	O K
600 min Winter	16.862	0.692	0.4	1.5	O K
720 min Winter	16.758	0.588	0.4	1.2	O K
960 min Winter	16.595	0.425	0.3	0.9	O K
1440 min Winter	16.379	0.209	0.3	0.4	O K
2160 min Winter	16.220	0.050	0.2	0.1	O K
2880 min Winter	16.210	0.040	0.2	0.1	O K
4320 min Winter	16.199	0.029	0.1	0.1	O K
5760 min Winter	16.193	0.023	0.1	0.0	O K
7200 min Winter	16.190	0.020	0.1	0.0	O K
8640 min Winter	16.187	0.017	0.1	0.0	O K
10080 min Winter	16.185	0.015	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	160
360 min Winter	15.601	0.0	228
480 min Winter	12.593	0.0	294
600 min Winter	10.656	0.0	360
720 min Winter	9.290	0.0	424
960 min Winter	7.475	0.0	548
1440 min Winter	5.489	0.0	792
2160 min Winter	4.021	0.0	1104
2880 min Winter	3.220	0.0	1468
4320 min Winter	2.348	0.0	2140
5760 min Winter	1.878	0.0	2928
7200 min Winter	1.581	0.0	3648
8640 min Winter	1.373	0.0	4352
10080 min Winter	1.219	0.0	5024

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Garden West	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.009

Time (mins)		Area
From:	To:	(ha)
0	4	0.009

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Garden West	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 18.170

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	2.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	3.5
Safety Factor	3.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	16.170	Cap Infiltration Depth (m)	0.000

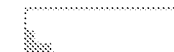
Paul Basham Associates		Page 1
Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Infil. Trench Garden West	
Date 03/04/2020	Designed by SH	
File 020.5360 INFILTRATION TRENCH@...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 66 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.506	0.756	0.4	2.3	O K
30 min Summer	15.708	0.958	0.5	2.9	O K
60 min Summer	15.838	1.088	0.5	3.3	O K
120 min Summer	15.886	1.136	0.6	3.4	O K
180 min Summer	15.856	1.106	0.5	3.3	O K
240 min Summer	15.807	1.057	0.5	3.2	O K
360 min Summer	15.716	0.966	0.5	2.9	O K
480 min Summer	15.630	0.880	0.5	2.6	O K
600 min Summer	15.552	0.802	0.5	2.4	O K
720 min Summer	15.481	0.731	0.4	2.2	O K
960 min Summer	15.360	0.610	0.4	1.8	O K
1440 min Summer	15.176	0.426	0.3	1.3	O K
2160 min Summer	14.995	0.245	0.3	0.7	O K
2880 min Summer	14.881	0.131	0.3	0.4	O K
4320 min Summer	14.796	0.046	0.2	0.1	O K
5760 min Summer	14.787	0.037	0.2	0.1	O K
7200 min Summer	14.781	0.031	0.1	0.1	O K
8640 min Summer	14.777	0.027	0.1	0.1	O K
10080 min Summer	14.774	0.024	0.1	0.1	O K
15 min Winter	15.605	0.855	0.5	2.6	O K
30 min Winter	15.841	1.091	0.5	3.3	O K
60 min Winter	15.997	1.247	0.6	3.7	O K
120 min Winter	16.044	1.294	0.6	3.9	O K
180 min Winter	15.992	1.242	0.6	3.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	17
30 min Summer	85.368	0.0	31
60 min Summer	55.544	0.0	52
120 min Summer	34.816	0.0	86
180 min Summer	26.038	0.0	120
240 min Summer	21.042	0.0	154
360 min Summer	15.601	0.0	222
480 min Summer	12.593	0.0	288
600 min Summer	10.656	0.0	354
720 min Summer	9.290	0.0	418
960 min Summer	7.475	0.0	542
1440 min Summer	5.489	0.0	792
2160 min Summer	4.021	0.0	1148
2880 min Summer	3.220	0.0	1500
4320 min Summer	2.348	0.0	2200
5760 min Summer	1.878	0.0	2936
7200 min Summer	1.581	0.0	3632
8640 min Summer	1.373	0.0	4304
10080 min Summer	1.219	0.0	5016
15 min Winter	125.250	0.0	17
30 min Winter	85.368	0.0	31
60 min Winter	55.544	0.0	56
120 min Winter	34.816	0.0	90
180 min Winter	26.038	0.0	130

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Garden West	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
240 min Winter	15.914	1.164	0.6	3.5	O K
360 min Winter	15.773	1.023	0.5	3.1	O K
480 min Winter	15.646	0.896	0.5	2.7	O K
600 min Winter	15.536	0.786	0.4	2.4	O K
720 min Winter	15.439	0.689	0.4	2.1	O K
960 min Winter	15.280	0.530	0.4	1.6	O K
1440 min Winter	15.055	0.305	0.3	0.9	O K
2160 min Winter	14.855	0.105	0.2	0.3	O K
2880 min Winter	14.796	0.046	0.2	0.1	O K
4320 min Winter	14.783	0.033	0.2	0.1	O K
5760 min Winter	14.777	0.027	0.1	0.1	O K
7200 min Winter	14.773	0.023	0.1	0.1	O K
8640 min Winter	14.770	0.020	0.1	0.1	O K
10080 min Winter	14.767	0.017	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
240 min Winter	21.042	0.0	166
360 min Winter	15.601	0.0	238
480 min Winter	12.593	0.0	306
600 min Winter	10.656	0.0	374
720 min Winter	9.290	0.0	440
960 min Winter	7.475	0.0	568
1440 min Winter	5.489	0.0	810
2160 min Winter	4.021	0.0	1164
2880 min Winter	3.220	0.0	1432
4320 min Winter	2.348	0.0	2128
5760 min Winter	1.878	0.0	2848
7200 min Winter	1.581	0.0	3608
8640 min Winter	1.373	0.0	4272
10080 min Winter	1.219	0.0	5176

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Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Infil. Trench Garden West	
Date 03/04/2020	Designed by SH	
File 020.5360 INFILTRATION TRENCH@...	Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.011

Time (mins)		Area
From:	To:	(ha)
0	4	0.011

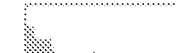
Paul Basham Associates		Page 4
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Garden West	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 16.750

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	2.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	5.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.750	Cap Infiltration Depth (m)	0.000

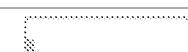
Paul Basham Associates		Page 1
Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Infil. Trench Rear Garden	
Date 03/04/2020	Designed by SH	
File 020.5360 INFILTRATION TRENCH@...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 70 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	16.057	0.807	0.5	2.9	O K
30 min Summer	16.276	1.026	0.6	3.7	O K
60 min Summer	16.421	1.171	0.7	4.2	O K
120 min Summer	16.479	1.229	0.7	4.4	O K
180 min Summer	16.451	1.201	0.7	4.3	O K
240 min Summer	16.402	1.152	0.7	4.1	O K
360 min Summer	16.308	1.058	0.6	3.8	O K
480 min Summer	16.220	0.970	0.6	3.5	O K
600 min Summer	16.139	0.889	0.6	3.2	O K
720 min Summer	16.065	0.815	0.5	2.9	O K
960 min Summer	15.937	0.687	0.5	2.5	O K
1440 min Summer	15.742	0.492	0.4	1.8	O K
2160 min Summer	15.545	0.295	0.4	1.1	O K
2880 min Summer	15.417	0.167	0.3	0.6	O K
4320 min Summer	15.299	0.049	0.3	0.2	O K
5760 min Summer	15.289	0.039	0.2	0.1	O K
7200 min Summer	15.283	0.033	0.2	0.1	O K
8640 min Summer	15.279	0.029	0.2	0.1	O K
10080 min Summer	15.276	0.026	0.1	0.1	O K
15 min Winter	16.162	0.912	0.6	3.3	O K
30 min Winter	16.418	1.168	0.7	4.2	O K
60 min Winter	16.594	1.344	0.7	4.8	O K
120 min Winter	16.656	1.400	0.7	5.0	O K
180 min Winter	16.603	1.353	0.7	4.9	O K

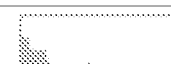
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	17
30 min Summer	85.368	0.0	31
60 min Summer	55.544	0.0	52
120 min Summer	34.816	0.0	86
180 min Summer	26.038	0.0	120
240 min Summer	21.042	0.0	156
360 min Summer	15.601	0.0	224
480 min Summer	12.593	0.0	290
600 min Summer	10.656	0.0	356
720 min Summer	9.290	0.0	420
960 min Summer	7.475	0.0	548
1440 min Summer	5.489	0.0	794
2160 min Summer	4.021	0.0	1148
2880 min Summer	3.220	0.0	1500
4320 min Summer	2.348	0.0	2200
5760 min Summer	1.878	0.0	2928
7200 min Summer	1.581	0.0	3640
8640 min Summer	1.373	0.0	4320
10080 min Summer	1.219	0.0	5064
15 min Winter	125.250	0.0	17
30 min Winter	85.368	0.0	31
60 min Winter	55.544	0.0	58
120 min Winter	34.816	0.0	92
180 min Winter	26.038	0.0	130

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.524	1.274	0.7	4.6	O K
360 min Winter	16.378	1.128	0.6	4.1	O K
480 min Winter	16.247	0.997	0.6	3.6	O K
600 min Winter	16.131	0.881	0.6	3.2	O K
720 min Winter	16.029	0.779	0.5	2.8	O K
960 min Winter	15.860	0.610	0.5	2.2	O K
1440 min Winter	15.618	0.368	0.4	1.3	O K
2160 min Winter	15.397	0.147	0.3	0.5	O K
2880 min Winter	15.299	0.049	0.3	0.2	O K
4320 min Winter	15.286	0.036	0.2	0.1	O K
5760 min Winter	15.278	0.028	0.2	0.1	O K
7200 min Winter	15.274	0.024	0.1	0.1	O K
8640 min Winter	15.271	0.021	0.1	0.1	O K
10080 min Winter	15.269	0.019	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	168
360 min Winter	15.601	0.0	238
480 min Winter	12.593	0.0	308
600 min Winter	10.656	0.0	374
720 min Winter	9.290	0.0	442
960 min Winter	7.475	0.0	570
1440 min Winter	5.489	0.0	822
2160 min Winter	4.021	0.0	1168
2880 min Winter	3.220	0.0	1436
4320 min Winter	2.348	0.0	2204
5760 min Winter	1.878	0.0	2936
7200 min Winter	1.581	0.0	3632
8640 min Winter	1.373	0.0	4368
10080 min Winter	1.219	0.0	5096

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.014

Time (mins)		Area
From:	To:	(ha)
0	4	0.014

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 17.250

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	2.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	6.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	15.250	Cap Infiltration Depth (m)	0.000

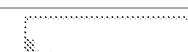
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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Central Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 81 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.953	0.765	0.8	4.6	O K
30 min Summer	16.167	0.979	0.9	5.9	O K
60 min Summer	16.314	1.126	0.9	6.8	O K
120 min Summer	16.371	1.183	1.0	7.1	O K
180 min Summer	16.349	1.161	1.0	7.0	O K
240 min Summer	16.305	1.117	0.9	6.7	O K
360 min Summer	16.221	1.033	0.9	6.2	O K
480 min Summer	16.139	0.951	0.9	5.7	O K
600 min Summer	16.061	0.873	0.8	5.2	O K
720 min Summer	15.990	0.802	0.8	4.8	O K
960 min Summer	15.863	0.675	0.7	4.1	O K
1440 min Summer	15.665	0.477	0.6	2.9	O K
2160 min Summer	15.463	0.275	0.6	1.6	O K
2880 min Summer	15.334	0.146	0.5	0.9	O K
4320 min Summer	15.235	0.047	0.4	0.3	O K
5760 min Summer	15.226	0.038	0.3	0.2	O K
7200 min Summer	15.220	0.032	0.3	0.2	O K
8640 min Summer	15.216	0.028	0.3	0.2	O K
10080 min Summer	15.212	0.024	0.2	0.1	O K
15 min Winter	16.053	0.865	0.8	5.2	O K
30 min Winter	16.302	1.114	0.9	6.7	O K
60 min Winter	16.485	1.297	1.0	7.8	O K
120 min Winter	16.545	1.357	1.0	8.1	O K
180 min Winter	16.508	1.320	1.0	7.9	O K

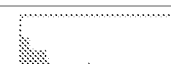
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	17
30 min Summer	85.368	0.0	31
60 min Summer	55.544	0.0	56
120 min Summer	34.816	0.0	88
180 min Summer	26.038	0.0	124
240 min Summer	21.042	0.0	158
360 min Summer	15.601	0.0	226
480 min Summer	12.593	0.0	294
600 min Summer	10.656	0.0	360
720 min Summer	9.290	0.0	424
960 min Summer	7.475	0.0	550
1440 min Summer	5.489	0.0	796
2160 min Summer	4.021	0.0	1164
2880 min Summer	3.220	0.0	1500
4320 min Summer	2.348	0.0	2200
5760 min Summer	1.878	0.0	2920
7200 min Summer	1.581	0.0	3640
8640 min Summer	1.373	0.0	4352
10080 min Summer	1.219	0.0	5136
15 min Winter	125.250	0.0	17
30 min Winter	85.368	0.0	31
60 min Winter	55.544	0.0	58
120 min Winter	34.816	0.0	94
180 min Winter	26.038	0.0	132

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Central Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.439	1.251	1.0	7.5	O K
360 min Winter	16.305	1.117	0.9	6.7	O K
480 min Winter	16.181	0.993	0.9	6.0	O K
600 min Winter	16.068	0.880	0.8	5.3	O K
720 min Winter	15.967	0.779	0.8	4.7	O K
960 min Winter	15.795	0.607	0.7	3.6	O K
1440 min Winter	15.543	0.355	0.6	2.1	O K
2160 min Winter	15.310	0.122	0.5	0.7	O K
2880 min Winter	15.234	0.046	0.4	0.3	O K
4320 min Winter	15.222	0.034	0.3	0.2	O K
5760 min Winter	15.215	0.027	0.2	0.2	O K
7200 min Winter	15.211	0.023	0.2	0.1	O K
8640 min Winter	15.208	0.020	0.2	0.1	O K
10080 min Winter	15.206	0.018	0.2	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	170
360 min Winter	15.601	0.0	242
480 min Winter	12.593	0.0	314
600 min Winter	10.656	0.0	380
720 min Winter	9.290	0.0	448
960 min Winter	7.475	0.0	578
1440 min Winter	5.489	0.0	824
2160 min Winter	4.021	0.0	1168
2880 min Winter	3.220	0.0	1468
4320 min Winter	2.348	0.0	2204
5760 min Winter	1.878	0.0	2904
7200 min Winter	1.581	0.0	3672
8640 min Winter	1.373	0.0	4400
10080 min Winter	1.219	0.0	5088

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Central Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.022

Time (mins)		Area
From:	To:	(ha)
0	4	0.022

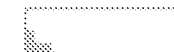
Paul Basham Associates		Page 4
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Central Garden	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 17.188

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	2.5
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	8.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	15.188	Cap Infiltration Depth (m)	0.000

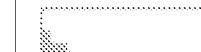
Paul Basham Associates		Page 1
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden N	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 56 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	16.354	0.824	1.3	5.7	O K
30 min Summer	16.558	1.028	1.5	7.1	O K
60 min Summer	16.686	1.156	1.7	8.0	O K
120 min Summer	16.726	1.196	1.7	8.2	O K
180 min Summer	16.682	1.152	1.7	7.9	O K
240 min Summer	16.621	1.091	1.6	7.5	O K
360 min Summer	16.512	0.982	1.5	6.8	O K
480 min Summer	16.416	0.886	1.4	6.1	O K
600 min Summer	16.332	0.802	1.3	5.5	O K
720 min Summer	16.259	0.729	1.2	5.0	O K
960 min Summer	16.137	0.607	1.1	4.2	O K
1440 min Summer	15.961	0.431	0.9	3.0	O K
2160 min Summer	15.792	0.262	0.8	1.8	O K
2880 min Summer	15.685	0.155	0.7	1.1	O K
4320 min Summer	15.579	0.049	0.5	0.3	O K
5760 min Summer	15.570	0.040	0.4	0.3	O K
7200 min Summer	15.563	0.033	0.4	0.2	O K
8640 min Summer	15.559	0.029	0.3	0.2	O K
10080 min Summer	15.556	0.026	0.3	0.2	O K
15 min Winter	16.461	0.931	1.5	6.4	O K
30 min Winter	16.701	1.171	1.7	8.1	O K
60 min Winter	16.844	1.314	1.8	9.1	O K
120 min Winter	16.876	1.348	1.8	9.2	O K
180 min Winter	16.795	1.265	1.8	8.7	O K

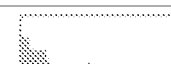
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	17
30 min Summer	85.368	0.0	30
60 min Summer	55.544	0.0	48
120 min Summer	34.816	0.0	82
180 min Summer	26.038	0.0	116
240 min Summer	21.042	0.0	150
360 min Summer	15.601	0.0	218
480 min Summer	12.593	0.0	282
600 min Summer	10.656	0.0	346
720 min Summer	9.290	0.0	408
960 min Summer	7.475	0.0	530
1440 min Summer	5.489	0.0	778
2160 min Summer	4.021	0.0	1144
2880 min Summer	3.220	0.0	1500
4320 min Summer	2.348	0.0	2200
5760 min Summer	1.878	0.0	2880
7200 min Summer	1.581	0.0	3648
8640 min Summer	1.373	0.0	4344
10080 min Summer	1.219	0.0	5008
15 min Winter	125.250	0.0	17
30 min Winter	85.368	0.0	30
60 min Winter	55.544	0.0	50
120 min Winter	34.816	0.0	88
180 min Winter	26.038	0.0	124

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Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Infil. Trench Rear Garden N	
Date 03/04/2020	Designed by SH	
File 020.5360 INFILTRATION TRENCH@...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.700	1.170	1.7	8.1	O K
360 min Winter	16.537	1.007	1.5	6.9	O K
480 min Winter	16.402	0.872	1.4	6.0	O K
600 min Winter	16.289	0.759	1.3	5.2	O K
720 min Winter	16.193	0.663	1.2	4.6	O K
960 min Winter	16.042	0.512	1.0	3.5	O K
1440 min Winter	15.839	0.309	0.8	2.1	O K
2160 min Winter	15.663	0.133	0.6	0.9	O K
2880 min Winter	15.579	0.049	0.5	0.3	O K
4320 min Winter	15.566	0.036	0.4	0.2	O K
5760 min Winter	15.559	0.029	0.3	0.2	O K
7200 min Winter	15.554	0.024	0.3	0.2	O K
8640 min Winter	15.551	0.021	0.2	0.1	O K
10080 min Winter	15.549	0.019	0.2	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	160
360 min Winter	15.601	0.0	230
480 min Winter	12.593	0.0	296
600 min Winter	10.656	0.0	362
720 min Winter	9.290	0.0	426
960 min Winter	7.475	0.0	550
1440 min Winter	5.489	0.0	796
2160 min Winter	4.021	0.0	1148
2880 min Winter	3.220	0.0	1464
4320 min Winter	2.348	0.0	2156
5760 min Winter	1.878	0.0	2920
7200 min Winter	1.581	0.0	3680
8640 min Winter	1.373	0.0	4360
10080 min Winter	1.219	0.0	5016

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden N	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.028

Time (mins)		Area
From:	To:	(ha)
0	4	0.028

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden N	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 17.530

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	1.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	23.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	15.530	Cap Infiltration Depth (m)	0.000

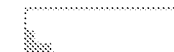
Paul Basham Associates		Page 1
Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Infil. Trench Rear Garden S	
Date 03/04/2020	Designed by SH	
File 020.5360 INFILTRATION TRENCH@...	Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 34 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.677	0.927	0.7	1.7	O K
30 min Summer	15.856	1.106	0.8	2.0	O K
60 min Summer	15.948	1.198	0.8	2.2	O K
120 min Summer	15.904	1.154	0.8	2.1	O K
180 min Summer	15.811	1.061	0.8	1.9	O K
240 min Summer	15.716	0.966	0.7	1.7	O K
360 min Summer	15.559	0.809	0.6	1.5	O K
480 min Summer	15.434	0.684	0.6	1.2	O K
600 min Summer	15.333	0.583	0.5	1.0	O K
720 min Summer	15.248	0.498	0.5	0.9	O K
960 min Summer	15.117	0.367	0.4	0.7	O K
1440 min Summer	14.946	0.196	0.3	0.4	O K
2160 min Summer	14.814	0.064	0.3	0.1	O K
2880 min Summer	14.792	0.042	0.2	0.1	O K
4320 min Summer	14.781	0.031	0.2	0.1	O K
5760 min Summer	14.775	0.025	0.1	0.0	O K
7200 min Summer	14.771	0.021	0.1	0.0	O K
8640 min Summer	14.768	0.018	0.1	0.0	O K
10080 min Summer	14.766	0.016	0.1	0.0	O K
15 min Winter	15.803	1.053	0.8	1.9	O K
30 min Winter	16.010	1.260	0.9	2.3	O K
60 min Winter	16.160	1.350	0.9	2.4	O K
120 min Winter	16.003	1.253	0.8	2.3	O K
180 min Winter	15.853	1.103	0.8	2.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	16
30 min Summer	85.368	0.0	26
60 min Summer	55.544	0.0	42
120 min Summer	34.816	0.0	78
180 min Summer	26.038	0.0	110
240 min Summer	21.042	0.0	144
360 min Summer	15.601	0.0	208
480 min Summer	12.593	0.0	270
600 min Summer	10.656	0.0	332
720 min Summer	9.290	0.0	392
960 min Summer	7.475	0.0	512
1440 min Summer	5.489	0.0	752
2160 min Summer	4.021	0.0	1104
2880 min Summer	3.220	0.0	1444
4320 min Summer	2.348	0.0	2136
5760 min Summer	1.878	0.0	2872
7200 min Summer	1.581	0.0	3576
8640 min Summer	1.373	0.0	4376
10080 min Summer	1.219	0.0	5104
15 min Winter	125.250	0.0	16
30 min Winter	85.368	0.0	27
60 min Winter	55.544	0.0	46
120 min Winter	34.816	0.0	82
180 min Winter	26.038	0.0	118

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden S	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.716	0.966	0.7	1.7	O K
360 min Winter	15.503	0.753	0.6	1.4	O K
480 min Winter	15.343	0.593	0.5	1.1	O K
600 min Winter	15.220	0.470	0.5	0.8	O K
720 min Winter	15.122	0.372	0.4	0.7	O K
960 min Winter	14.978	0.228	0.4	0.4	O K
1440 min Winter	14.811	0.061	0.3	0.1	O K
2160 min Winter	14.788	0.038	0.2	0.1	O K
2880 min Winter	14.781	0.031	0.2	0.1	O K
4320 min Winter	14.772	0.022	0.1	0.0	O K
5760 min Winter	14.768	0.018	0.1	0.0	O K
7200 min Winter	14.765	0.015	0.1	0.0	O K
8640 min Winter	14.763	0.013	0.1	0.0	O K
10080 min Winter	14.762	0.012	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	152
360 min Winter	15.601	0.0	216
480 min Winter	12.593	0.0	280
600 min Winter	10.656	0.0	342
720 min Winter	9.290	0.0	404
960 min Winter	7.475	0.0	522
1440 min Winter	5.489	0.0	750
2160 min Winter	4.021	0.0	1080
2880 min Winter	3.220	0.0	1448
4320 min Winter	2.348	0.0	2168
5760 min Winter	1.878	0.0	2928
7200 min Winter	1.581	0.0	3632
8640 min Winter	1.373	0.0	4296
10080 min Winter	1.219	0.0	5040

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Lancaster Court	020.5360	
Fareham	Fontwell Avenue, Eastergate	
Hampshire, PO15 5TU	Infil. Trench Rear Garden S	
Date 03/04/2020	Designed by SH	
File 020.5360 INFILTRATION TRENCH@...	Checked by RW	
Innovyze	Source Control 2019.1	

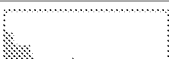
Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.009

Time (mins)		Area
From:	To:	(ha)
0	4	0.009

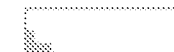
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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden S	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 16.750

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	1.5
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	4.0
Safety Factor	2.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.750	Cap Infiltration Depth (m)	0.000

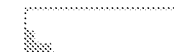
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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden S	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 98 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.265	0.765	1.0	6.4	O K
30 min Summer	15.494	0.994	1.1	8.3	O K
60 min Summer	15.667	1.167	1.1	9.8	O K
120 min Summer	15.734	1.234	1.2	10.4	O K
180 min Summer	15.717	1.217	1.2	10.2	O K
240 min Summer	15.678	1.178	1.2	9.9	O K
360 min Summer	15.600	1.100	1.1	9.2	O K
480 min Summer	15.522	1.022	1.1	8.6	O K
600 min Summer	15.446	0.946	1.0	7.9	O K
720 min Summer	15.374	0.874	1.0	7.3	O K
960 min Summer	15.244	0.744	1.0	6.3	O K
1440 min Summer	15.033	0.533	0.9	4.5	O K
2160 min Summer	14.810	0.310	0.7	2.6	O K
2880 min Summer	14.665	0.165	0.7	1.4	O K
4320 min Summer	14.548	0.048	0.6	0.4	O K
5760 min Summer	14.538	0.038	0.5	0.3	O K
7200 min Summer	14.532	0.032	0.4	0.3	O K
8640 min Summer	14.528	0.028	0.4	0.2	O K
10080 min Summer	14.525	0.025	0.3	0.2	O K
15 min Winter	15.365	0.865	1.0	7.3	O K
30 min Winter	15.630	1.130	1.1	9.5	O K
60 min Winter	15.841	1.341	1.2	11.3	O K
120 min Winter	15.921	1.421	1.3	12.9	O K
180 min Winter	15.898	1.398	1.3	11.7	O K

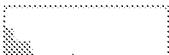
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	20
30 min Summer	85.368	0.0	34
60 min Summer	55.544	0.0	60
120 min Summer	34.816	0.0	94
180 min Summer	26.038	0.0	128
240 min Summer	21.042	0.0	164
360 min Summer	15.601	0.0	232
480 min Summer	12.593	0.0	300
600 min Summer	10.656	0.0	368
720 min Summer	9.290	0.0	434
960 min Summer	7.475	0.0	562
1440 min Summer	5.489	0.0	810
2160 min Summer	4.021	0.0	1172
2880 min Summer	3.220	0.0	1524
4320 min Summer	2.348	0.0	2192
5760 min Summer	1.878	0.0	2880
7200 min Summer	1.581	0.0	3672
8640 min Summer	1.373	0.0	4312
10080 min Summer	1.219	0.0	4968
15 min Winter	125.250	0.0	21
30 min Winter	85.368	0.0	34
60 min Winter	55.544	0.0	60
120 min Winter	34.816	0.0	100
180 min Winter	26.038	0.0	138

Paul Basham Associates		Page 2
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden S	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	15.837	1.337	1.2	11.2	O K
360 min Winter	15.713	1.213	1.2	10.2	O K
480 min Winter	15.592	1.092	1.1	9.2	O K
600 min Winter	15.478	0.978	1.1	8.2	O K
720 min Winter	15.373	0.873	1.0	7.3	O K
960 min Winter	15.190	0.690	0.9	5.8	O K
1440 min Winter	14.912	0.412	0.8	3.5	O K
2160 min Winter	14.645	0.145	0.7	1.2	O K
2880 min Winter	14.547	0.047	0.6	0.4	O K
4320 min Winter	14.535	0.035	0.4	0.3	O K
5760 min Winter	14.528	0.028	0.3	0.2	O K
7200 min Winter	14.523	0.023	0.3	0.2	O K
8640 min Winter	14.520	0.020	0.3	0.2	O K
10080 min Winter	14.518	0.018	0.2	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	176
360 min Winter	15.601	0.0	250
480 min Winter	12.593	0.0	322
600 min Winter	10.656	0.0	392
720 min Winter	9.290	0.0	460
960 min Winter	7.475	0.0	592
1440 min Winter	5.489	0.0	842
2160 min Winter	4.021	0.0	1192
2880 min Winter	3.220	0.0	1432
4320 min Winter	2.348	0.0	2148
5760 min Winter	1.878	0.0	2928
7200 min Winter	1.581	0.0	3664
8640 min Winter	1.373	0.0	4360
10080 min Winter	1.219	0.0	5144

Paul Basham Associates		Page 3
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden S	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.031

Time (mins)	Area (ha)	Time (mins)	Area (ha)
From: 0	To: 4 0.015	From: 4	To: 8 0.016

Paul Basham Associates		Page 4
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Infil. Trench Rear Garden S	
Date 03/04/2020 File 020.5360 INFILTRATION TRENCH@...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 16.500

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.30852	Trench Width (m)	4.0
Infiltration Coefficient Side (m/hr)	0.30852	Trench Length (m)	7.0
Safety Factor	4.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	14.500	Cap Infiltration Depth (m)	0.000

Paul Basham Associates				Page 1	
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU		REAR GARDEN IRREGULAR SHAPE 0.0125Ha INFILTRATION TRENCH			
Date 15/04/2020 File 020.5360 Infiltration T...		Designed by RW Checked by AS			
XP Solutions		Source Control 2014.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Half Drain Time : 159 minutes.					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	15.590	0.340	0.3	3.1	O K
30 min Summer	15.698	0.448	0.3	4.0	O K
60 min Summer	15.795	0.545	0.3	4.9	O K
120 min Summer	15.852	0.602	0.4	5.4	O K
180 min Summer	15.860	0.610	0.4	5.5	O K
240 min Summer	15.854	0.604	0.4	5.5	O K
360 min Summer	15.836	0.586	0.3	5.3	O K
480 min Summer	15.812	0.562	0.3	5.1	O K
600 min Summer	15.788	0.538	0.3	4.9	O K
720 min Summer	15.763	0.513	0.3	4.6	O K
960 min Summer	15.715	0.465	0.3	4.2	O K
1440 min Summer	15.628	0.378	0.3	3.4	O K
2160 min Summer	15.523	0.273	0.3	2.5	O K
2880 min Summer	15.444	0.194	0.3	1.7	O K
4320 min Summer	15.341	0.091	0.2	0.8	O K
5760 min Summer	15.300	0.050	0.2	0.4	O K
7200 min Summer	15.292	0.042	0.2	0.4	O K
8640 min Summer	15.286	0.036	0.2	0.3	O K
10080 min Summer	15.282	0.032	0.1	0.3	O K
15 min Winter	15.633	0.383	0.3	3.5	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
15 min Summer	125.250	0.0	18		
30 min Summer	85.368	0.0	32		
60 min Summer	55.544	0.0	62		
120 min Summer	34.816	0.0	116		
180 min Summer	26.038	0.0	144		
240 min Summer	21.042	0.0	176		
360 min Summer	15.601	0.0	246		
480 min Summer	12.593	0.0	314		
600 min Summer	10.656	0.0	384		
720 min Summer	9.290	0.0	454		
960 min Summer	7.475	0.0	588		
1440 min Summer	5.489	0.0	850		
2160 min Summer	4.021	0.0	1216		
2880 min Summer	3.220	0.0	1584		
4320 min Summer	2.348	0.0	2252		
5760 min Summer	1.878	0.0	2936		
7200 min Summer	1.581	0.0	3672		
8640 min Summer	1.373	0.0	4400		
10080 min Summer	1.219	0.0	5136		
15 min Winter	125.250	0.0	18		
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Paul Basham Associates				Page 2	
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU		REAR GARDEN IRREGULAR SHAPE 0.0125Ha INFILTRATION TRENCH			
Date 15/04/2020 File 020.5360 Infiltration T...		Designed by RW Checked by AS			
XP Solutions		Source Control 2014.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	15.756	0.506	0.3	4.6	O K
60 min Winter	15.870	0.620	0.4	5.6	O K
120 min Winter	15.945	0.695	0.4	6.3	O K
180 min Winter	15.951	0.701	0.4	6.3	O K
240 min Winter	15.945	0.695	0.4	6.3	O K
360 min Winter	15.918	0.668	0.4	6.0	O K
480 min Winter	15.881	0.631	0.4	5.7	O K
600 min Winter	15.842	0.592	0.4	5.3	O K
720 min Winter	15.804	0.554	0.3	5.0	O K
960 min Winter	15.732	0.482	0.3	4.3	O K
1440 min Winter	15.606	0.356	0.3	3.2	O K
2160 min Winter	15.464	0.214	0.3	1.9	O K
2880 min Winter	15.365	0.115	0.2	1.0	O K
4320 min Winter	15.295	0.045	0.2	0.4	O K
5760 min Winter	15.286	0.036	0.2	0.3	O K
7200 min Winter	15.280	0.030	0.1	0.3	O K
8640 min Winter	15.276	0.026	0.1	0.2	O K
10080 min Winter	15.273	0.023	0.1	0.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	85.368	0.0	32		
60 min Winter	55.544	0.0	60		
120 min Winter	34.816	0.0	116		
180 min Winter	26.038	0.0	154		
240 min Winter	21.042	0.0	188		
360 min Winter	15.601	0.0	264		
480 min Winter	12.593	0.0	340		
600 min Winter	10.656	0.0	416		
720 min Winter	9.290	0.0	486		
960 min Winter	7.475	0.0	626		
1440 min Winter	5.489	0.0	894		
2160 min Winter	4.021	0.0	1276		
2880 min Winter	3.220	0.0	1616		
4320 min Winter	2.348	0.0	2204		
5760 min Winter	1.878	0.0	2936		
7200 min Winter	1.581	0.0	3568		
8640 min Winter	1.373	0.0	4400		
10080 min Winter	1.219	0.0	5136		
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Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	REAR GARDEN IRREGULAR SHAPE 0.0125Ha INFILTRATION TRENCH	
Date 15/04/2020	Designed by RW	
File 020.5360 Infiltration T...	Checked by AS	
XP Solutions		Source Control 2014.1

Model Details

Storage is Online Cover Level (m) 17.250

Cellular Storage Structure

Invert Level (m) 15.250 Safety Factor 4.0
Infiltration Coefficient Base (m/hr) 0.30852 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.30852

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	9.5	9.5	1.000	9.5	21.2
0.500	9.5	15.3	1.500	9.5	27.0

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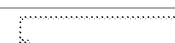
Paul Basham Associates		Page 1
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Permeable Paving Rd Central	
Date 03/04/2020 File 020.5360 PERMEABLE PAVING@ROA...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Half Drain Time : 11 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	16.710	0.045	3.0	2.1	O K
30 min Summer	16.720	0.055	3.3	2.5	O K
60 min Summer	16.722	0.057	3.3	2.6	O K
120 min Summer	16.713	0.048	3.2	2.2	O K
180 min Summer	16.706	0.041	2.7	1.9	O K
240 min Summer	16.701	0.036	2.4	1.6	O K
360 min Summer	16.693	0.028	1.9	1.3	O K
480 min Summer	16.689	0.024	1.6	1.1	O K
600 min Summer	16.686	0.021	1.4	1.0	O K
720 min Summer	16.683	0.018	1.2	0.9	O K
960 min Summer	16.680	0.015	1.0	0.7	O K
1440 min Summer	16.676	0.011	0.7	0.5	O K
2160 min Summer	16.673	0.008	0.5	0.4	O K
2880 min Summer	16.672	0.007	0.4	0.3	O K
4320 min Summer	16.670	0.005	0.3	0.2	O K
5760 min Summer	16.669	0.004	0.3	0.2	O K
7200 min Summer	16.668	0.003	0.2	0.1	O K
8640 min Summer	16.668	0.003	0.2	0.1	O K
10080 min Summer	16.668	0.003	0.2	0.1	O K
15 min Winter	16.717	0.052	3.3	2.4	O K
30 min Winter	16.726	0.061	3.3	2.8	O K
60 min Winter	16.723	0.058	3.3	2.7	O K
120 min Winter	16.709	0.044	2.9	2.0	O K
180 min Winter	16.701	0.036	2.4	1.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	125.250	0.0	13
30 min Summer	85.368	0.0	21
60 min Summer	55.544	0.0	38
120 min Summer	34.816	0.0	68
180 min Summer	26.038	0.0	98
240 min Summer	21.042	0.0	130
360 min Summer	15.601	0.0	190
480 min Summer	12.593	0.0	250
600 min Summer	10.656	0.0	310
720 min Summer	9.290	0.0	370
960 min Summer	7.475	0.0	490
1440 min Summer	5.489	0.0	736
2160 min Summer	4.021	0.0	1100
2880 min Summer	3.220	0.0	1448
4320 min Summer	2.348	0.0	2192
5760 min Summer	1.878	0.0	2864
7200 min Summer	1.581	0.0	3536
8640 min Summer	1.373	0.0	4352
10080 min Summer	1.219	0.0	5232
15 min Winter	125.250	0.0	14
30 min Winter	85.368	0.0	23
60 min Winter	55.544	0.0	40
120 min Winter	34.816	0.0	70
180 min Winter	26.038	0.0	102

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Permeable Paving Rd Central	
Date 03/04/2020 File 020.5360 PERMEABLE PAVING@ROA...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
240 min Winter	16.695	0.030	2.0	1.4	O K
360 min Winter	16.688	0.023	1.5	1.0	O K
480 min Winter	16.684	0.019	1.2	0.9	O K
600 min Winter	16.681	0.016	1.0	0.7	O K
720 min Winter	16.679	0.014	0.9	0.6	O K
960 min Winter	16.676	0.011	0.7	0.5	O K
1440 min Winter	16.673	0.008	0.5	0.4	O K
2160 min Winter	16.671	0.006	0.4	0.3	O K
2880 min Winter	16.670	0.005	0.3	0.2	O K
4320 min Winter	16.669	0.004	0.2	0.2	O K
5760 min Winter	16.668	0.003	0.2	0.1	O K
7200 min Winter	16.668	0.003	0.2	0.1	O K
8640 min Winter	16.667	0.002	0.1	0.1	O K
10080 min Winter	16.667	0.002	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
240 min Winter	21.042	0.0	132
360 min Winter	15.601	0.0	192
480 min Winter	12.593	0.0	250
600 min Winter	10.656	0.0	314
720 min Winter	9.290	0.0	376
960 min Winter	7.475	0.0	490
1440 min Winter	5.489	0.0	744
2160 min Winter	4.021	0.0	1072
2880 min Winter	3.220	0.0	1476
4320 min Winter	2.348	0.0	2128
5760 min Winter	1.878	0.0	2944
7200 min Winter	1.581	0.0	3752
8640 min Winter	1.373	0.0	4344
10080 min Winter	1.219	0.0	5152

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Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Permeable Paving Rd Central	
Date 03/04/2020 File 020.5360 PERMEABLE PAVING@ROA...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.017

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

0	4	0.017
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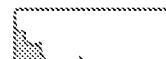
Paul Basham Associates		Page 4
Lancaster Court Fareham Hampshire, PO15 5TU	020.5360 Fontwell Avenue, Eastergate Permeable Paving Rd Central	
Date 03/04/2020 File 020.5360 PERMEABLE PAVING@ROA...	Designed by SH Checked by RW	
Innovyze	Source Control 2019.1	

Model Details

Storage is Online Cover Level (m) 17.165

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	11.0
Membrane Percolation (mm/hr)	1000	Length (m)	14.0
Max Percolation (l/s)	42.8	Slope (1:X)	0.0
Safety Factor	4.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	16.665	Membrane Depth (m)	0

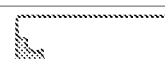
Paul Basham Associates		Page 1
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Permeable Paving Road South	
Date 03/04/2020	Designed by SH	
File 020.5360 Permeable	Checked by RW	
XP Solutions	Source Control 2014.1	

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

Half Drain Time : 11 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	16.085	0.045	6.9	4.8	O K
30 min Summer	16.095	0.055	7.6	5.8	O K
60 min Summer	16.096	0.056	7.6	6.0	O K
120 min Summer	16.088	0.048	7.3	5.1	O K
180 min Summer	16.081	0.041	6.2	4.3	O K
240 min Summer	16.075	0.035	5.4	3.8	O K
360 min Summer	16.068	0.028	4.3	3.0	O K
480 min Summer	16.064	0.024	3.6	2.5	O K
600 min Summer	16.061	0.021	3.2	2.2	O K
720 min Summer	16.058	0.018	2.8	2.0	O K
960 min Summer	16.055	0.015	2.3	1.6	O K
1440 min Summer	16.051	0.011	1.7	1.2	O K
2160 min Summer	16.048	0.008	1.3	0.9	O K
2880 min Summer	16.047	0.007	1.0	0.7	O K
4320 min Summer	16.045	0.005	0.7	0.5	O K
5760 min Summer	16.044	0.004	0.6	0.4	O K
7200 min Summer	16.043	0.003	0.5	0.3	O K
8640 min Summer	16.043	0.003	0.5	0.3	O K
10080 min Summer	16.043	0.003	0.4	0.3	O K
15 min Winter	16.091	0.051	7.6	5.5	O K
30 min Winter	16.100	0.060	7.6	6.4	O K
60 min Winter	16.097	0.057	7.6	6.1	O K
120 min Winter	16.084	0.044	6.7	4.7	O K
180 min Winter	16.075	0.035	5.4	3.8	O K

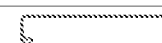
Storm Event	Rain (mm/hr)	Flooded Time-Peak Volume (m ³)	(mins)
15 min Summer	125.250	0.0	13
30 min Summer	85.368	0.0	21
60 min Summer	55.544	0.0	38
120 min Summer	34.816	0.0	68
180 min Summer	26.038	0.0	98
240 min Summer	21.042	0.0	130
360 min Summer	15.601	0.0	190
480 min Summer	12.593	0.0	250
600 min Summer	10.656	0.0	308
720 min Summer	9.290	0.0	370
960 min Summer	7.475	0.0	490
1440 min Summer	5.489	0.0	734
2160 min Summer	4.021	0.0	1100
2880 min Summer	3.220	0.0	1456
4320 min Summer	2.348	0.0	2204
5760 min Summer	1.878	0.0	2904
7200 min Summer	1.581	0.0	3664
8640 min Summer	1.373	0.0	4384
10080 min Summer	1.219	0.0	4976
15 min Winter	125.250	0.0	14
30 min Winter	85.368	0.0	23
60 min Winter	55.544	0.0	40
120 min Winter	34.816	0.0	70
180 min Winter	26.038	0.0	102

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Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Permeable Paving Road South	
Date 03/04/2020	Designed by SH	
File 020.5360 Permeable	Checked by RW	
XP Solutions	Source Control 2014.1	

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	16.070	0.030	4.5	3.2	O K
360 min Winter	16.063	0.023	3.5	2.4	O K
480 min Winter	16.059	0.019	2.9	2.0	O K
600 min Winter	16.056	0.016	2.4	1.7	O K
720 min Winter	16.054	0.014	2.1	1.5	O K
960 min Winter	16.051	0.011	1.7	1.2	O K
1440 min Winter	16.048	0.008	1.3	0.9	O K
2160 min Winter	16.046	0.006	1.0	0.6	O K
2880 min Winter	16.045	0.005	0.7	0.5	O K
4320 min Winter	16.044	0.004	0.6	0.4	O K
5760 min Winter	16.043	0.003	0.4	0.3	O K
7200 min Winter	16.043	0.003	0.4	0.3	O K
8640 min Winter	16.042	0.002	0.3	0.2	O K
10080 min Winter	16.042	0.002	0.3	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.042	0.0	132
360 min Winter	15.601	0.0	190
480 min Winter	12.593	0.0	252
600 min Winter	10.656	0.0	312
720 min Winter	9.290	0.0	374
960 min Winter	7.475	0.0	488
1440 min Winter	5.489	0.0	714
2160 min Winter	4.021	0.0	1144
2880 min Winter	3.220	0.0	1472
4320 min Winter	2.348	0.0	2328
5760 min Winter	1.878	0.0	2992
7200 min Winter	1.581	0.0	3608
8640 min Winter	1.373	0.0	4520
10080 min Winter	1.219	0.0	5144

Paul Basham Associates		Page 3
Lancaster Court	020.5360	
8 Barnes Wallis Road	Fontwell Avenue, Eastergate	
Fareham PO15 5TU	Permeable Paving Road South	
Date 03/04/2020	Designed by SH	
File 020.5360 Permeable	Checked by RW	
XP Solutions	Source Control 2014.1	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.600	Shortest Storm (mins)	15
Ratio R	0.322	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.039

Time (mins)	Area
From:	To: (ha)
0	4 0.039

Paul Basham Associates		Page 4
Lancaster Court 8 Barnes Wallis Road Fareham PO15 5TU	020.5360 Fontwell Avenue, Eastergate Permeable Paving Road South	
Date 03/04/2020 File 020.5360 Permeable	Designed by SH Checked by RW	
XP Solutions	Source Control 2014.1	

Model Details

Storage is Online Cover Level (m) 16.540

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	15.0
Membrane Percolation (mm/hr)	1000	Length (m)	23.7
Max Percolation (l/s)	98.8	Slope (1:X)	0.0
Safety Factor	4.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	16.040	Cap Volume Depth (m)	0.000

Appendix G



Surface Water Drainage Proposal Checklist

This 'Surface Water Drainage Proposals Checklist' has been designed to clearly define Arun District Council's and Chichester District Council's expectations and requirements for any surface water drainage proposals, submitted for appraisal by the council's Engineers, during the planning process.

Please be aware that it is in your interest to provide all of the requested information, as this will allow the council's Engineers to quickly and efficiently review your proposals. The omission of any requested information may lead to delays in the planning process.

This document will be of help to any applicant, or drainage consultant, preparing to submit a 'Discharge of Conditions Application' relating to surface water drainage conditions. Alternatively, it can also be used earlier in the planning process, if the applicant wishes to avoid pre-commencement conditions relating to surface water drainage. The Town and Country Planning Regulations now require pre-commencement conditions to have the prior agreement of the applicant regarding their wording and use. Therefore, if you wish to avoid pre-commencement conditions, in relation to surface water drainage, you will need to submit proposals that provide the information requested in this checklist and also align with the requirements of the following documents:

West Sussex Policy for the Management of Surface Water (WSSC)

'Supplementary Requirements for Surface Water Drainage Proposals'. (Arun DC)

'Supplementary Requirements for Surface Water Drainage Proposals'. (Chichester DC)

By submitting all of the information requested by this checklist you will enable the council's Engineers to determine whether your proposals follow the hierarchy for sustainable drainage and will adequately drain the site.

Please be aware that it will be difficult for the council's Engineers to undertake a timely assessment of your application if you fail to provide any of the information requested.



Surface Water Drainage Proposal Checklist

Ground Investigation Results				
Results Required		Results Provided?		
Winter groundwater monitoring results (Please refer to guidance note 1 below)		Yes	☒	No
Period of winter groundwater monitoring ^{Note 1}		From	22/12/2017	
		To	18/04/2018	
Maximum recorded groundwater level		WS1 14.94 mAOD 2.96 mBGL WS2 13.59 mAOD 4.01 mBGL WS3 12.99 mAOD 3.51 mBGL		
Winter infiltration test results ^{Note 2}		Yes	☒	No
Date of winter infiltration testing		03/02/2020		
Details of the location and depth of the infiltration testing ^{Note 3}		Yes	☒	No
Minimum infiltration rate ^{Note 4}		8.57e-5 m/s		

Guidance Notes

1. A full winters groundwater monitoring should be undertaken, (October to March inclusive) to enable the peak annual groundwater levels to be established. The extent of winter monitoring for developments of less than 5 properties should be discussed with the council's Engineers.
2. Infiltration testing should be undertaken during the wet winter months (typically January) and in line with BRE365, or a similar approved method. Tests should be repeated 3x, to replicate saturated ground conditions. Please note that infiltration testing is to be carried out at a time and depth agreed with the Councils engineers.
3. Infiltration testing should be undertaken at the location and depth of any proposed infiltration structures. This must be above the maximum recorded groundwater level in that vicinity.
4. The minimum infiltration rate obtained at the location and depth of the proposed infiltration structures should be used to inform the design of the structures.

Proposed Method of Surface Water Disposal				
Infiltration	Yes	☒	No	☐
On-site, via soak-away structures	Yes	☐	No	☐
If on-site infiltration is not to be used, has justification for this been provided? Note 5	Yes	☐	No	☐
Attenuation (on-site) with a restricted discharge to a watercourse on, or adjacent to, the site	Yes	☐	No	☐
Attenuation (on-site) with a restricted discharge to a surface water sewer on, or adjacent to, the site	Yes	☐	No	☐

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Surface Water Drainage Proposal Checklist

Attenuation (on-site) with a restricted discharge to a foul water sewer on, or adjacent to, the site	Yes	No
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Guidance Notes

5. If on-site infiltration is not being used to drain the site you will need to provide evidence that demonstrates on-site infiltration is unviable.

Drainage Design: Supporting Calculations				
Calculations Required			Calculations Provided?	
Infiltration Structures	Half-drain time for 10 year event (plus climate change allowance)	Yes	✓	No
		3 Hours 2 minutes (worst case) See Appendices in report 020.5360.FRADS1 for full results		
	Half-drain time for 100 year event (plus climate change allowance)	Yes	✓	No
		3 Hours 32 minutes (worst case) See Appendices in report 020.5360.FRADS1 for full results		
	Calculations demonstrating that the 1 in 100 year event, plus climate change allowance can be accommodated on-site. Note 7	Yes	✓	No
Attenuation and Subsequent Restricted Discharge	Lowest base level of infiltration structure	14.50 mAOD 2.00 mBGL		
	Has the design sought to provide treatment of potential contaminants? E.g. hydrocarbons.	Yes	✓	No
	Pre-development run-off rate calculations	Yes	N/A	No
	Proposed discharge rate Note 6	N/A l/s		
	Calculations demonstrating that the 1 in 100 year event, plus climate change allowance can be accommodated on-site. Note 7	Yes	N/A	No
	Has the design sought to provide treatment of potential contaminants? E.g. hydrocarbons.	Yes	N/A	No
	If your proposed scheme incorporates any impermeable lined attenuation features we require calculations to demonstrate that appropriate resistance to floatation (due to groundwater levels) is catered for in the design	Yes	N/A	No
	If you propose discharging into or altering an ordinary watercourse; have you sought Ordinary Watercourse/Land Drainage Consent? Note 8	Yes	N/A	No
	If discharging to a watercourse, piped system or the sea, has the proposed drainage network been modelled against predicted top water levels for the 1 in 100 year storm event plus climate change allowance, within the existing system? Note 9	Yes	N/A	No

Guidance Notes

- Any proposed discharge rate must be less than, or equal to, the pre-development rate. Greenfield sites must use the mean flow rate (Qbar) and be based upon the area occupied by the development, ignoring significant open spaces. Please note that the minimum acceptable discharge rate is 2l/s when using formal flow control devices, unless otherwise agreed. Additionally, if you are developing a brownfield site, we expect you to provide fully detailed plans of the existing surface water drainage arrangements on site, including impermeable areas, gullies, outfalls, pipes & diameters, manholes, etc. We generally seek



50% betterment in terms of run off from brownfield sites.

7. The appropriate factor of safety from the table below must be applied to your calculations to ensure your design is fully in accordance with CIRIA R156/ CIRIA C753.

Factor of Safety Table						
Size of Area to be Drained	Consequences of failure					
	No damage or inconvenience		Minor inconvenience, e.g. surface water on car park		Damage to buildings or structures or roads.	
	Cv=1.0	Cv=0.75	Cv=1.0	Cv=0.75	Cv=1.0	Cv=0.75
<100 m ²	1.5	2	2	3	10	13
100m ² to 1000m ²	1.5	2	3	4	10	13
>1000m ²	1.5	2	5	6.5	10	13

8. Ordinary Watercourse/Land Drainage Consent will need to be sought, ideally in parallel with planning permission, if you propose discharging into, culverting or altering a watercourse.
9. Modelling is required to ensure that problems, such as surcharged outfalls, are addressed.

Plans/Drawings/Diagrams				
Required		Provided?		
Plan detailing the location of groundwater monitoring and infiltration testing	Yes	☒	No	☐
Detailed drainage layout plan Note 10	Yes	☒	No	☐
Construction detail plans Note 11	Yes	☒	No	☐
Exceedance flow route plans Note 12	Yes	☒	No	☐
Impermeable area plan	Yes	☒	No	☐
If ground levels are being raised $\geq 300\text{mm}$ above existing levels and is unavoidable, have fully detailed plans been provided, together with drainage proposals, to address any potential drainage related issues.	Yes	N/A	No	☐

Guidance Notes

10. Drainage layout plans should include:
 - All surface water drainage pipes labelled with; diameters, pipe materials, falls and invert levels.
 - All infiltrating and attenuating structures (including permeable paving) labelled with; dimensions, invert and cover levels.
 - All manholes labelled with; cover levels, invert levels, cover types detailed.
 - All silt traps clearly labelled with sump depths.
 - Control structures with outflow rates and invert levels.
 - Proposed/existing levels of any areas subject to ground raising, together with suitable measures/detailed drawings for the associated management of surface water runoff. Please note that ground raising should be avoided unless there are exceptional circumstances.
11. Site specific construction detail plans should be supplied if your proposed drainage scheme includes any of the following elements: pipe bed and surround; infiltrating structures; attenuating structures; manholes; catch-pits/silt traps; control devices; permeable paving; headwalls.
12. Unless specifically requested by the council's drainage engineers 'Exceedance Flow Route Plans' are only required for developments of more than 5 residential properties or more than 0.5ha of commercial development .

Report presented by



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