

Odyssey					Page 1																																																																																																																																																																																																																		
Tuscany House			Stakers Farm, Yapton																																																																																																																																																																																																																				
White Hart Lane			19-156																																																																																																																																																																																																																				
Basingstoke RG21 4AF			Road 2 and Plots 23-28																																																																																																																																																																																																																				
Date 15/07/2020 11:30			Designed by AK																																																																																																																																																																																																																				
File Road 2_including Plots			Checked by																																																																																																																																																																																																																				
Micro Drainage			Source Control 2020.1																																																																																																																																																																																																																				
Summary of Results for 10 year Return Period Half Drain Time : 1082 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>0.125</td><td>0.125</td><td>0.3</td><td>12.2</td><td>O K</td></tr><tr><td>30 min Summer</td><td>0.169</td><td>0.169</td><td>0.3</td><td>16.5</td><td>Flood Risk</td></tr><tr><td>60 min Summer</td><td>0.215</td><td>0.215</td><td>0.3</td><td>21.0</td><td>Flood Risk</td></tr><tr><td>120 min Summer</td><td>0.231</td><td>0.231</td><td>0.3</td><td>25.9</td><td>Flood Risk</td></tr><tr><td>180 min Summer</td><td>0.240</td><td>0.240</td><td>0.3</td><td>28.6</td><td>Flood Risk</td></tr><tr><td>240 min Summer</td><td>0.246</td><td>0.246</td><td>0.3</td><td>30.3</td><td>Flood Risk</td></tr><tr><td>360 min Summer</td><td>0.251</td><td>0.251</td><td>0.3</td><td>32.0</td><td>Flood Risk</td></tr><tr><td>480 min Summer</td><td>0.253</td><td>0.253</td><td>0.3</td><td>32.7</td><td>Flood Risk</td></tr><tr><td>600 min Summer</td><td>0.254</td><td>0.254</td><td>0.3</td><td>32.8</td><td>Flood Risk</td></tr><tr><td>720 min Summer</td><td>0.253</td><td>0.253</td><td>0.3</td><td>32.7</td><td>Flood Risk</td></tr><tr><td>960 min Summer</td><td>0.251</td><td>0.251</td><td>0.3</td><td>31.9</td><td>Flood Risk</td></tr><tr><td>1440 min Summer</td><td>0.246</td><td>0.246</td><td>0.3</td><td>30.5</td><td>Flood Risk</td></tr><tr><td>2160 min Summer</td><td>0.240</td><td>0.240</td><td>0.3</td><td>28.6</td><td>Flood Risk</td></tr><tr><td>2880 min Summer</td><td>0.235</td><td>0.235</td><td>0.3</td><td>27.0</td><td>Flood Risk</td></tr><tr><td>4320 min Summer</td><td>0.226</td><td>0.226</td><td>0.3</td><td>24.4</td><td>Flood Risk</td></tr><tr><td>5760 min Summer</td><td>0.220</td><td>0.220</td><td>0.3</td><td>22.4</td><td>Flood Risk</td></tr><tr><td>7200 min Summer</td><td>0.212</td><td>0.212</td><td>0.3</td><td>20.8</td><td>Flood Risk</td></tr><tr><td>8640 min Summer</td><td>0.198</td><td>0.198</td><td>0.3</td><td>19.4</td><td>Flood Risk</td></tr><tr><td>10080 min Summer</td><td>0.187</td><td>0.187</td><td>0.3</td><td>18.3</td><td>Flood Risk</td></tr><tr><td>15 min Winter</td><td>0.142</td><td>0.142</td><td>0.3</td><td>13.9</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>62.586</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>41.202</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>26.034</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>16.170</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>12.091</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>9.769</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>7.145</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>5.686</td><td>0.0</td><td>482</td></tr><tr><td>600 min Summer</td><td>4.751</td><td>0.0</td><td>600</td></tr><tr><td>720 min Summer</td><td>4.098</td><td>0.0</td><td>720</td></tr><tr><td>960 min Summer</td><td>3.242</td><td>0.0</td><td>856</td></tr><tr><td>1440 min Summer</td><td>2.335</td><td>0.0</td><td>1084</td></tr><tr><td>2160 min Summer</td><td>1.695</td><td>0.0</td><td>1488</td></tr><tr><td>2880 min Summer</td><td>1.362</td><td>0.0</td><td>1900</td></tr><tr><td>4320 min Summer</td><td>1.021</td><td>0.0</td><td>2720</td></tr><tr><td>5760 min Summer</td><td>0.845</td><td>0.0</td><td>3520</td></tr><tr><td>7200 min Summer</td><td>0.738</td><td>0.0</td><td>4320</td></tr><tr><td>8640 min Summer</td><td>0.667</td><td>0.0</td><td>5096</td></tr><tr><td>10080 min Summer</td><td>0.615</td><td>0.0</td><td>5848</td></tr><tr><td>15 min Winter</td><td>62.586</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	0.125	0.125	0.3	12.2	O K	30 min Summer	0.169	0.169	0.3	16.5	Flood Risk	60 min Summer	0.215	0.215	0.3	21.0	Flood Risk	120 min Summer	0.231	0.231	0.3	25.9	Flood Risk	180 min Summer	0.240	0.240	0.3	28.6	Flood Risk	240 min Summer	0.246	0.246	0.3	30.3	Flood Risk	360 min Summer	0.251	0.251	0.3	32.0	Flood Risk	480 min Summer	0.253	0.253	0.3	32.7	Flood Risk	600 min Summer	0.254	0.254	0.3	32.8	Flood Risk	720 min Summer	0.253	0.253	0.3	32.7	Flood Risk	960 min Summer	0.251	0.251	0.3	31.9	Flood Risk	1440 min Summer	0.246	0.246	0.3	30.5	Flood Risk	2160 min Summer	0.240	0.240	0.3	28.6	Flood Risk	2880 min Summer	0.235	0.235	0.3	27.0	Flood Risk	4320 min Summer	0.226	0.226	0.3	24.4	Flood Risk	5760 min Summer	0.220	0.220	0.3	22.4	Flood Risk	7200 min Summer	0.212	0.212	0.3	20.8	Flood Risk	8640 min Summer	0.198	0.198	0.3	19.4	Flood Risk	10080 min Summer	0.187	0.187	0.3	18.3	Flood Risk	15 min Winter	0.142	0.142	0.3	13.9	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	62.586	0.0	19	30 min Summer	41.202	0.0	34	60 min Summer	26.034	0.0	64	120 min Summer	16.170	0.0	124	180 min Summer	12.091	0.0	182	240 min Summer	9.769	0.0	242	360 min Summer	7.145	0.0	362	480 min Summer	5.686	0.0	482	600 min Summer	4.751	0.0	600	720 min Summer	4.098	0.0	720	960 min Summer	3.242	0.0	856	1440 min Summer	2.335	0.0	1084	2160 min Summer	1.695	0.0	1488	2880 min Summer	1.362	0.0	1900	4320 min Summer	1.021	0.0	2720	5760 min Summer	0.845	0.0	3520	7200 min Summer	0.738	0.0	4320	8640 min Summer	0.667	0.0	5096	10080 min Summer	0.615	0.0	5848	15 min Winter	62.586	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	0.125	0.125	0.3	12.2	O K																																																																																																																																																																																																																		
30 min Summer	0.169	0.169	0.3	16.5	Flood Risk																																																																																																																																																																																																																		
60 min Summer	0.215	0.215	0.3	21.0	Flood Risk																																																																																																																																																																																																																		
120 min Summer	0.231	0.231	0.3	25.9	Flood Risk																																																																																																																																																																																																																		
180 min Summer	0.240	0.240	0.3	28.6	Flood Risk																																																																																																																																																																																																																		
240 min Summer	0.246	0.246	0.3	30.3	Flood Risk																																																																																																																																																																																																																		
360 min Summer	0.251	0.251	0.3	32.0	Flood Risk																																																																																																																																																																																																																		
480 min Summer	0.253	0.253	0.3	32.7	Flood Risk																																																																																																																																																																																																																		
600 min Summer	0.254	0.254	0.3	32.8	Flood Risk																																																																																																																																																																																																																		
720 min Summer	0.253	0.253	0.3	32.7	Flood Risk																																																																																																																																																																																																																		
960 min Summer	0.251	0.251	0.3	31.9	Flood Risk																																																																																																																																																																																																																		
1440 min Summer	0.246	0.246	0.3	30.5	Flood Risk																																																																																																																																																																																																																		
2160 min Summer	0.240	0.240	0.3	28.6	Flood Risk																																																																																																																																																																																																																		
2880 min Summer	0.235	0.235	0.3	27.0	Flood Risk																																																																																																																																																																																																																		
4320 min Summer	0.226	0.226	0.3	24.4	Flood Risk																																																																																																																																																																																																																		
5760 min Summer	0.220	0.220	0.3	22.4	Flood Risk																																																																																																																																																																																																																		
7200 min Summer	0.212	0.212	0.3	20.8	Flood Risk																																																																																																																																																																																																																		
8640 min Summer	0.198	0.198	0.3	19.4	Flood Risk																																																																																																																																																																																																																		
10080 min Summer	0.187	0.187	0.3	18.3	Flood Risk																																																																																																																																																																																																																		
15 min Winter	0.142	0.142	0.3	13.9	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	62.586	0.0	19																																																																																																																																																																																																																				
30 min Summer	41.202	0.0	34																																																																																																																																																																																																																				
60 min Summer	26.034	0.0	64																																																																																																																																																																																																																				
120 min Summer	16.170	0.0	124																																																																																																																																																																																																																				
180 min Summer	12.091	0.0	182																																																																																																																																																																																																																				
240 min Summer	9.769	0.0	242																																																																																																																																																																																																																				
360 min Summer	7.145	0.0	362																																																																																																																																																																																																																				
480 min Summer	5.686	0.0	482																																																																																																																																																																																																																				
600 min Summer	4.751	0.0	600																																																																																																																																																																																																																				
720 min Summer	4.098	0.0	720																																																																																																																																																																																																																				
960 min Summer	3.242	0.0	856																																																																																																																																																																																																																				
1440 min Summer	2.335	0.0	1084																																																																																																																																																																																																																				
2160 min Summer	1.695	0.0	1488																																																																																																																																																																																																																				
2880 min Summer	1.362	0.0	1900																																																																																																																																																																																																																				
4320 min Summer	1.021	0.0	2720																																																																																																																																																																																																																				
5760 min Summer	0.845	0.0	3520																																																																																																																																																																																																																				
7200 min Summer	0.738	0.0	4320																																																																																																																																																																																																																				
8640 min Summer	0.667	0.0	5096																																																																																																																																																																																																																				
10080 min Summer	0.615	0.0	5848																																																																																																																																																																																																																				
15 min Winter	62.586	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

Odyssey		Page 2			
Tuscany House	Stakers Farm, Yapton				
White Hart Lane	19-156				
Basingstoke RG21 4AF	Road 2 and Plots 23-28				
Date 15/07/2020 11:30	Designed by AK				
File Road 2_including Plots	Checked by				
Micro Drainage	Source Control 2020.1				
<u>Summary of Results for 10 year Return Period</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	0.192	0.192	0.3	18.7	Flood Risk
60 min Winter	0.224	0.224	0.3	23.8	Flood Risk
120 min Winter	0.242	0.242	0.3	29.3	Flood Risk
180 min Winter	0.253	0.253	0.3	32.5	Flood Risk
240 min Winter	0.259	0.259	0.3	34.4	Flood Risk
360 min Winter	0.266	0.266	0.3	36.6	Flood Risk
480 min Winter	0.269	0.269	0.3	37.5	Flood Risk
600 min Winter	0.270	0.270	0.3	37.9	Flood Risk
720 min Winter	0.270	0.270	0.3	37.9	Flood Risk
960 min Winter	0.268	0.268	0.3	37.3	Flood Risk
1440 min Winter	0.262	0.262	0.3	35.2	Flood Risk
2160 min Winter	0.253	0.253	0.3	32.7	Flood Risk
2880 min Winter	0.245	0.245	0.3	30.2	Flood Risk
4320 min Winter	0.231	0.231	0.3	26.0	Flood Risk
5760 min Winter	0.219	0.219	0.3	22.3	Flood Risk
7200 min Winter	0.197	0.197	0.3	19.3	Flood Risk
8640 min Winter	0.171	0.171	0.3	16.7	Flood Risk
10080 min Winter	0.149	0.149	0.3	14.6	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	41.202	0.0	33		
60 min Winter	26.034	0.0	62		
120 min Winter	16.170	0.0	122		
180 min Winter	12.091	0.0	180		
240 min Winter	9.769	0.0	238		
360 min Winter	7.145	0.0	356		
480 min Winter	5.686	0.0	472		
600 min Winter	4.751	0.0	584		
720 min Winter	4.098	0.0	698		
960 min Winter	3.242	0.0	914		
1440 min Winter	2.335	0.0	1168		
2160 min Winter	1.695	0.0	1620		
2880 min Winter	1.362	0.0	2072		
4320 min Winter	1.021	0.0	2940		
5760 min Winter	0.845	0.0	3800		
7200 min Winter	0.738	0.0	4608		
8640 min Winter	0.667	0.0	5360		
10080 min Winter	0.615	0.0	6144		
©1982-2020 Innovyze					

Odyssey		Page 3
Tuscany House White Hart Lane Basingstoke RG21 4AF	Stakers Farm, Yapton 19-156 Road 2 and Plots 23-28	
Date 15/07/2020 11:30 File Road 2_including Plots	Designed by AK Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	10
FEH Rainfall Version	2013
Site Location	GB 497682 103581 SU 97682 03581
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.120

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.120

©1982-2020 Innovyze

Odyssey		Page 4																																																
Tuscany House White Hart Lane Basingstoke RG21 4AF	Stakers Farm, Yapton 19-156 Road 2 and Plots 23-28																																																	
Date 15/07/2020 11:30 File Road 2_including Plots	Designed by AK Checked by																																																	
Micro Drainage Source Control 2020.1																																																		
<u>Model Details</u> Storage is Online Cover Level (m) 0.450 <u>Complex Structure</u> <u>Porous Car Park</u> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Infiltration Coefficient Base (m/hr)</td> <td style="width: 20%;">0.00648</td> <td style="width: 20%;">Width (m)</td> <td style="width: 20%;">4.8</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>67.9</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>90.5</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</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>0.000</td> <td>Cap Volume Depth (m)</td> <td>0.215</td> </tr> </table> <u>Cellular Storage</u> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Invert Level (m)</td> <td style="width: 20%;">0.215</td> <td style="width: 20%;">Safety Factor</td> <td style="width: 20%;">2.0</td> </tr> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Porosity</td> <td>0.95</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.00000</td> <td></td> <td></td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Depth (m)</th> <th style="width: 15%;">Area (m²)</th> <th style="width: 15%;">Inf. Area (m²)</th> <th style="width: 15%;">Depth (m)</th> <th style="width: 15%;">Area (m²)</th> <th style="width: 15%;">Inf. Area (m²)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0.000</td> <td style="text-align: center;">320.0</td> <td style="text-align: center;">0.0</td> <td style="text-align: center;">0.235</td> <td style="text-align: center;">320.0</td> <td style="text-align: center;">0.0</td> </tr> </tbody> </table>			Infiltration Coefficient Base (m/hr)	0.00648	Width (m)	4.8	Membrane Percolation (mm/hr)	1000	Length (m)	67.9	Max Percolation (l/s)	90.5	Slope (1:X)	0.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	0.000	Cap Volume Depth (m)	0.215	Invert Level (m)	0.215	Safety Factor	2.0	Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.95	Infiltration Coefficient Side (m/hr)	0.00000			Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	0.000	320.0	0.0	0.235	320.0	0.0
Infiltration Coefficient Base (m/hr)	0.00648	Width (m)	4.8																																															
Membrane Percolation (mm/hr)	1000	Length (m)	67.9																																															
Max Percolation (l/s)	90.5	Slope (1:X)	0.0																																															
Safety Factor	2.0	Depression Storage (mm)	5																																															
Porosity	0.30	Evaporation (mm/day)	3																																															
Invert Level (m)	0.000	Cap Volume Depth (m)	0.215																																															
Invert Level (m)	0.215	Safety Factor	2.0																																															
Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.95																																															
Infiltration Coefficient Side (m/hr)	0.00000																																																	
Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)																																													
0.000	320.0	0.0	0.235	320.0	0.0																																													
©1982-2020 Innovyze																																																		