

Odyssey			Page 1																																																																																																																																																																																																																				
Tuscany House White Hart Lane Basingstoke RG21 4AF		Stakers Farm, Yapton As-built Road 2 and Plots 23-28																																																																																																																																																																																																																					
Date 20/04/2022 11:47 File As-built_Road 2_includi...		Designed by WindesPC5 Checked by																																																																																																																																																																																																																					
Innovyze		Source Control 2020.1.3																																																																																																																																																																																																																					
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 2661 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>5.948</td><td>0.153</td><td>0.3</td><td>26.5</td><td>O K</td></tr><tr><td>30 min Summer</td><td>5.982</td><td>0.187</td><td>0.3</td><td>36.0</td><td>O K</td></tr><tr><td>60 min Summer</td><td>6.019</td><td>0.224</td><td>0.3</td><td>46.5</td><td>O K</td></tr><tr><td>120 min Summer</td><td>6.050</td><td>0.255</td><td>0.3</td><td>54.9</td><td>O K</td></tr><tr><td>180 min Summer</td><td>6.074</td><td>0.279</td><td>0.3</td><td>60.0</td><td>Flood Risk</td></tr><tr><td>240 min Summer</td><td>6.090</td><td>0.295</td><td>0.3</td><td>63.4</td><td>Flood Risk</td></tr><tr><td>360 min Summer</td><td>6.109</td><td>0.314</td><td>0.3</td><td>67.4</td><td>Flood Risk</td></tr><tr><td>480 min Summer</td><td>6.120</td><td>0.325</td><td>0.3</td><td>69.9</td><td>Flood Risk</td></tr><tr><td>600 min Summer</td><td>6.128</td><td>0.333</td><td>0.3</td><td>71.5</td><td>Flood Risk</td></tr><tr><td>720 min Summer</td><td>6.133</td><td>0.338</td><td>0.3</td><td>72.6</td><td>Flood Risk</td></tr><tr><td>960 min Summer</td><td>6.138</td><td>0.343</td><td>0.3</td><td>73.7</td><td>Flood Risk</td></tr><tr><td>1440 min Summer</td><td>6.140</td><td>0.345</td><td>0.3</td><td>74.1</td><td>Flood Risk</td></tr><tr><td>2160 min Summer</td><td>6.134</td><td>0.339</td><td>0.3</td><td>72.7</td><td>Flood Risk</td></tr><tr><td>2880 min Summer</td><td>6.129</td><td>0.334</td><td>0.3</td><td>71.7</td><td>Flood Risk</td></tr><tr><td>4320 min Summer</td><td>6.123</td><td>0.328</td><td>0.3</td><td>70.4</td><td>Flood Risk</td></tr><tr><td>5760 min Summer</td><td>6.118</td><td>0.323</td><td>0.3</td><td>69.4</td><td>Flood Risk</td></tr><tr><td>7200 min Summer</td><td>6.115</td><td>0.320</td><td>0.3</td><td>68.8</td><td>Flood Risk</td></tr><tr><td>8640 min Summer</td><td>6.113</td><td>0.318</td><td>0.3</td><td>68.3</td><td>Flood Risk</td></tr><tr><td>10080 min Summer</td><td>6.112</td><td>0.317</td><td>0.3</td><td>68.0</td><td>Flood Risk</td></tr><tr><td>15 min Winter</td><td>5.960</td><td>0.165</td><td>0.3</td><td>29.9</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>141.164</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.700</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>60.903</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.128</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>26.473</td><td>0.0</td><td>184</td></tr><tr><td>240 min Summer</td><td>21.126</td><td>0.0</td><td>244</td></tr><tr><td>360 min Summer</td><td>15.214</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>12.016</td><td>0.0</td><td>482</td></tr><tr><td>600 min Summer</td><td>9.993</td><td>0.0</td><td>602</td></tr><tr><td>720 min Summer</td><td>8.590</td><td>0.0</td><td>722</td></tr><tr><td>960 min Summer</td><td>6.756</td><td>0.0</td><td>962</td></tr><tr><td>1440 min Summer</td><td>4.823</td><td>0.0</td><td>1440</td></tr><tr><td>2160 min Summer</td><td>3.462</td><td>0.0</td><td>1972</td></tr><tr><td>2880 min Summer</td><td>2.754</td><td>0.0</td><td>2308</td></tr><tr><td>4320 min Summer</td><td>2.025</td><td>0.0</td><td>3072</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3920</td></tr><tr><td>7200 min Summer</td><td>1.419</td><td>0.0</td><td>4752</td></tr><tr><td>8640 min Summer</td><td>1.264</td><td>0.0</td><td>5616</td></tr><tr><td>10080 min Summer</td><td>1.153</td><td>0.0</td><td>6448</td></tr><tr><td>15 min Winter</td><td>141.164</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	5.948	0.153	0.3	26.5	O K	30 min Summer	5.982	0.187	0.3	36.0	O K	60 min Summer	6.019	0.224	0.3	46.5	O K	120 min Summer	6.050	0.255	0.3	54.9	O K	180 min Summer	6.074	0.279	0.3	60.0	Flood Risk	240 min Summer	6.090	0.295	0.3	63.4	Flood Risk	360 min Summer	6.109	0.314	0.3	67.4	Flood Risk	480 min Summer	6.120	0.325	0.3	69.9	Flood Risk	600 min Summer	6.128	0.333	0.3	71.5	Flood Risk	720 min Summer	6.133	0.338	0.3	72.6	Flood Risk	960 min Summer	6.138	0.343	0.3	73.7	Flood Risk	1440 min Summer	6.140	0.345	0.3	74.1	Flood Risk	2160 min Summer	6.134	0.339	0.3	72.7	Flood Risk	2880 min Summer	6.129	0.334	0.3	71.7	Flood Risk	4320 min Summer	6.123	0.328	0.3	70.4	Flood Risk	5760 min Summer	6.118	0.323	0.3	69.4	Flood Risk	7200 min Summer	6.115	0.320	0.3	68.8	Flood Risk	8640 min Summer	6.113	0.318	0.3	68.3	Flood Risk	10080 min Summer	6.112	0.317	0.3	68.0	Flood Risk	15 min Winter	5.960	0.165	0.3	29.9	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	141.164	0.0	19	30 min Summer	94.700	0.0	34	60 min Summer	60.903	0.0	64	120 min Summer	36.128	0.0	124	180 min Summer	26.473	0.0	184	240 min Summer	21.126	0.0	244	360 min Summer	15.214	0.0	362	480 min Summer	12.016	0.0	482	600 min Summer	9.993	0.0	602	720 min Summer	8.590	0.0	722	960 min Summer	6.756	0.0	962	1440 min Summer	4.823	0.0	1440	2160 min Summer	3.462	0.0	1972	2880 min Summer	2.754	0.0	2308	4320 min Summer	2.025	0.0	3072	5760 min Summer	1.648	0.0	3920	7200 min Summer	1.419	0.0	4752	8640 min Summer	1.264	0.0	5616	10080 min Summer	1.153	0.0	6448	15 min Winter	141.164	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	5.948	0.153	0.3	26.5	O K																																																																																																																																																																																																																		
30 min Summer	5.982	0.187	0.3	36.0	O K																																																																																																																																																																																																																		
60 min Summer	6.019	0.224	0.3	46.5	O K																																																																																																																																																																																																																		
120 min Summer	6.050	0.255	0.3	54.9	O K																																																																																																																																																																																																																		
180 min Summer	6.074	0.279	0.3	60.0	Flood Risk																																																																																																																																																																																																																		
240 min Summer	6.090	0.295	0.3	63.4	Flood Risk																																																																																																																																																																																																																		
360 min Summer	6.109	0.314	0.3	67.4	Flood Risk																																																																																																																																																																																																																		
480 min Summer	6.120	0.325	0.3	69.9	Flood Risk																																																																																																																																																																																																																		
600 min Summer	6.128	0.333	0.3	71.5	Flood Risk																																																																																																																																																																																																																		
720 min Summer	6.133	0.338	0.3	72.6	Flood Risk																																																																																																																																																																																																																		
960 min Summer	6.138	0.343	0.3	73.7	Flood Risk																																																																																																																																																																																																																		
1440 min Summer	6.140	0.345	0.3	74.1	Flood Risk																																																																																																																																																																																																																		
2160 min Summer	6.134	0.339	0.3	72.7	Flood Risk																																																																																																																																																																																																																		
2880 min Summer	6.129	0.334	0.3	71.7	Flood Risk																																																																																																																																																																																																																		
4320 min Summer	6.123	0.328	0.3	70.4	Flood Risk																																																																																																																																																																																																																		
5760 min Summer	6.118	0.323	0.3	69.4	Flood Risk																																																																																																																																																																																																																		
7200 min Summer	6.115	0.320	0.3	68.8	Flood Risk																																																																																																																																																																																																																		
8640 min Summer	6.113	0.318	0.3	68.3	Flood Risk																																																																																																																																																																																																																		
10080 min Summer	6.112	0.317	0.3	68.0	Flood Risk																																																																																																																																																																																																																		
15 min Winter	5.960	0.165	0.3	29.9	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	141.164	0.0	19																																																																																																																																																																																																																				
30 min Summer	94.700	0.0	34																																																																																																																																																																																																																				
60 min Summer	60.903	0.0	64																																																																																																																																																																																																																				
120 min Summer	36.128	0.0	124																																																																																																																																																																																																																				
180 min Summer	26.473	0.0	184																																																																																																																																																																																																																				
240 min Summer	21.126	0.0	244																																																																																																																																																																																																																				
360 min Summer	15.214	0.0	362																																																																																																																																																																																																																				
480 min Summer	12.016	0.0	482																																																																																																																																																																																																																				
600 min Summer	9.993	0.0	602																																																																																																																																																																																																																				
720 min Summer	8.590	0.0	722																																																																																																																																																																																																																				
960 min Summer	6.756	0.0	962																																																																																																																																																																																																																				
1440 min Summer	4.823	0.0	1440																																																																																																																																																																																																																				
2160 min Summer	3.462	0.0	1972																																																																																																																																																																																																																				
2880 min Summer	2.754	0.0	2308																																																																																																																																																																																																																				
4320 min Summer	2.025	0.0	3072																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	3920																																																																																																																																																																																																																				
7200 min Summer	1.419	0.0	4752																																																																																																																																																																																																																				
8640 min Summer	1.264	0.0	5616																																																																																																																																																																																																																				
10080 min Summer	1.153	0.0	6448																																																																																																																																																																																																																				
15 min Winter	141.164	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

Odyssey			Page 2		
Tuscany House		Stakers Farm, Yapton			
White Hart Lane		As-built			
Basingstoke RG21 4AF		Road 2 and Plots 23-28			
Date 20/04/2022 11:47		Designed by WindesPC5			
File As-built_Road 2_includi...		Checked by			
Innovyze		Source Control 2020.1.3			
<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	5.998	0.203	0.3	40.5	O K
60 min Winter	6.040	0.245	0.3	52.4	O K
120 min Winter	6.083	0.288	0.3	61.9	Flood Risk
180 min Winter	6.109	0.314	0.3	67.6	Flood Risk
240 min Winter	6.128	0.333	0.3	71.4	Flood Risk
360 min Winter	6.153	0.358	0.3	76.1	Flood Risk
480 min Winter	6.182	0.387	0.3	79.0	Flood Risk
600 min Winter	6.202	0.407	0.3	80.9	Flood Risk
720 min Winter	6.215	0.420	0.3	82.3	Flood Risk
960 min Winter	6.236	0.441	0.3	83.8	Flood Risk
1440 min Winter	6.256	0.461	0.3	84.9	Flood Risk
2160 min Winter	6.244	0.449	0.3	84.3	Flood Risk
2880 min Winter	6.219	0.424	0.3	82.7	Flood Risk
4320 min Winter	6.197	0.402	0.3	80.4	Flood Risk
5760 min Winter	6.178	0.383	0.3	78.6	Flood Risk
7200 min Winter	6.162	0.367	0.3	76.9	Flood Risk
8640 min Winter	6.147	0.352	0.3	75.4	Flood Risk
10080 min Winter	6.140	0.345	0.3	74.1	Flood Risk
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.700	0.0	34		
60 min Winter	60.903	0.0	64		
120 min Winter	36.128	0.0	122		
180 min Winter	26.473	0.0	182		
240 min Winter	21.126	0.0	240		
360 min Winter	15.214	0.0	358		
480 min Winter	12.016	0.0	476		
600 min Winter	9.993	0.0	594		
720 min Winter	8.590	0.0	710		
960 min Winter	6.756	0.0	942		
1440 min Winter	4.823	0.0	1400		
2160 min Winter	3.462	0.0	2072		
2880 min Winter	2.754	0.0	2680		
4320 min Winter	2.025	0.0	3328		
5760 min Winter	1.648	0.0	4264		
7200 min Winter	1.419	0.0	5184		
8640 min Winter	1.264	0.0	6056		
10080 min Winter	1.153	0.0	6968		
©1982-2020 Innovyze					

Odyssey		Page 3
Tuscany House White Hart Lane Basingstoke RG21 4AF	Stakers Farm, Yapton As-built Road 2 and Plots 23-28	
Date 20/04/2022 11:47 File As-built_Road 2_includi...	Designed by WindesPC5 Checked by	
Innovyze	Source Control 2020.1.3	

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
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 %	+40

Time Area Diagram

Total Area (ha) 0.107

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.107

©1982-2020 Innovyze

Odyssey		Page 4
Tuscany House White Hart Lane Basingstoke RG21 4AF	Stakers Farm, Yapton As-built Road 2 and Plots 23-28	
Date 20/04/2022 11:47 File As-built_Road 2_includi...	Designed by WindesPC5 Checked by	
Innovyze	Source Control 2020.1.3	

Model Details

Storage is Online Cover Level (m) 6.355

Complex Structure

Cellular Storage

Invert Level (m) 5.795 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00648 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	74.0	74.0	0.251	0.0	86.7
0.250	74.0	86.7			

Cellular Storage

Invert Level (m) 5.795 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00648 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	47.5	47.5	0.251	0.0	53.5
0.250	47.5	53.5			

Cellular Storage

Invert Level (m) 5.895 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00648 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	175.2	175.2	0.251	0.0	189.2
0.250	175.2	189.2			

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.0
Membrane Percolation (mm/hr)	1000	Length (m)	21.8
Max Percolation (l/s)	30.3	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	6.045	Cap Volume Depth (m)	0.180

©1982-2020 Innovyze

Odyssey		Page 5																																																
Tuscany House White Hart Lane Basingstoke RG21 4AF	Stakers Farm, Yapton As-built Road 2 and Plots 23-28																																																	
Date 20/04/2022 11:47 File As-built_Road 2_includi...	Designed by WindesPC5 Checked by																																																	
Innovyze Source Control 2020.1.3																																																		
<u>Porous Car Park</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Width (m)</td> <td>4.8</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>9.6</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>12.8</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>6.045</td> <td>Cap Volume Depth (m)</td> <td>0.180</td> </tr> </table> <u>Porous Car Park</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Width (m)</td> <td>13.4</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>13.4</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>49.9</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>6.145</td> <td>Cap Volume Depth (m)</td> <td>0.180</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8	Membrane Percolation (mm/hr)	1000	Length (m)	9.6	Max Percolation (l/s)	12.8	Slope (1:X)	0.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	6.045	Cap Volume Depth (m)	0.180	Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	13.4	Membrane Percolation (mm/hr)	1000	Length (m)	13.4	Max Percolation (l/s)	49.9	Slope (1:X)	0.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	6.145	Cap Volume Depth (m)	0.180
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8																																															
Membrane Percolation (mm/hr)	1000	Length (m)	9.6																																															
Max Percolation (l/s)	12.8	Slope (1:X)	0.0																																															
Safety Factor	2.0	Depression Storage (mm)	5																																															
Porosity	0.30	Evaporation (mm/day)	3																																															
Invert Level (m)	6.045	Cap Volume Depth (m)	0.180																																															
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	13.4																																															
Membrane Percolation (mm/hr)	1000	Length (m)	13.4																																															
Max Percolation (l/s)	49.9	Slope (1:X)	0.0																																															
Safety Factor	2.0	Depression Storage (mm)	5																																															
Porosity	0.30	Evaporation (mm/day)	3																																															
Invert Level (m)	6.145	Cap Volume Depth (m)	0.180																																															
©1982-2020 Innovyze																																																		