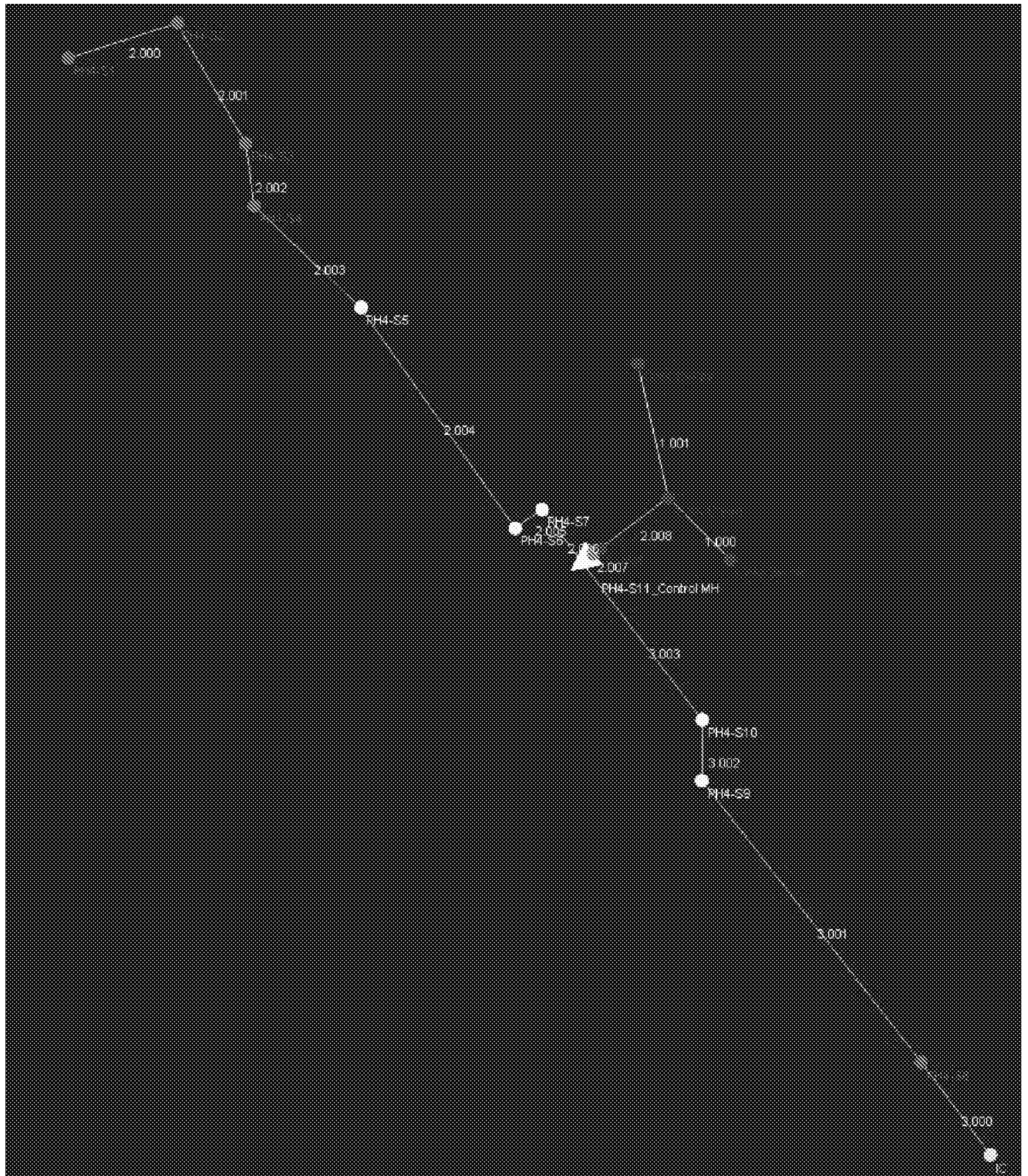


HAMPTON PARK, LITTLEHAMPTON

PHASE 4 CATCHMENT 03 WINDES PLAN (Sept 2021)



Mayer Brown Limited										Page 1																																																																																																																																																																																																																																																																																																																																	
Lion House Oriental Road Woking, GU22 8AR					Hampton Park, Littlehampton Phase 4 Catchment 03 Network Details																																																																																																																																																																																																																																																																																																																																						
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Existing Network Details for Storm * - Indicates pipe has been modified outside of System 1 <table><thead><tr><th>PN</th><th>Length (m)</th><th>Fall (m)</th><th>Slope (1:X)</th><th>I.Area (ha)</th><th>T.E. (mins)</th><th>k (mm)</th><th>HYD SECT</th><th>DIA (mm)</th><th>Section Type</th></tr></thead><tbody><tr><td>* 1.000</td><td>14.566</td><td>0.000</td><td>0.0</td><td>0.000</td><td>5.00</td><td>0.600</td><td>\/</td><td>27</td><td>Pipe/Conduit</td></tr><tr><td>* 2.000</td><td>19.169</td><td>0.140</td><td>136.9</td><td>0.048</td><td>5.00</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>* 2.001</td><td>23.083</td><td>0.150</td><td>153.9</td><td>0.048</td><td>5.00</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr><tr><td>* 2.002</td><td>10.543</td><td>0.070</td><td>150.6</td><td>0.048</td><td>0.00</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr><tr><td>* 2.003</td><td>24.538</td><td>0.160</td><td>153.4</td><td>0.048</td><td>0.00</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr><tr><td>* 2.004</td><td>44.885</td><td>0.300</td><td>149.6</td><td>0.048</td><td>0.00</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr><tr><td>* 2.005</td><td>5.444</td><td>0.260</td><td>20.9</td><td>0.051</td><td>0.00</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr><tr><td>* 2.006</td><td>10.994</td><td>0.060</td><td>183.2</td><td>0.000</td><td>0.00</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr><tr><td>* 3.000</td><td>19.284</td><td>0.590</td><td>32.7</td><td>0.024</td><td>5.00</td><td>0.600</td><td>o</td><td>150</td><td>Pipe/Conduit</td></tr><tr><td>* 3.001</td><td>59.447</td><td>0.400</td><td>148.6</td><td>0.048</td><td>0.00</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>* 3.002</td><td>10.000</td><td>0.110</td><td>90.9</td><td>0.048</td><td>0.00</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>* 3.003</td><td>33.001</td><td>0.170</td><td>194.1</td><td>0.024</td><td>0.00</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr><tr><td>* 2.007</td><td>3.818</td><td>0.200</td><td>19.1</td><td>0.000</td><td>0.00</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>* 2.008</td><td>14.044</td><td>0.050</td><td>280.9</td><td>0.000</td><td>0.00</td><td>0.600</td><td>\/</td><td>27</td><td>Pipe/Conduit</td></tr><tr><td>* 1.001</td><td>22.887</td><td>0.000</td><td>0.0</td><td>0.000</td><td>0.00</td><td>0.600</td><td>\/</td><td>27</td><td>Pipe/Conduit</td></tr></tbody></table> <table><thead><tr><th>PN</th><th>US/MH Name</th><th>US/CL (m)</th><th>US/IL (m)</th><th>US C.Depth (m)</th><th>DS/CL (m)</th><th>DS/IL (m)</th><th>DS C.Depth (m)</th><th>Ctrl</th><th>US/MH (mm)</th></tr></thead><tbody><tr><td>* 1.000</td><td>CWA Swale</td><td>1.380</td><td>1.000</td><td>-0.073</td><td>1.380</td><td>1.000</td><td>-0.073</td><td></td><td>1800</td></tr><tr><td>* 2.000</td><td>PH4-S1</td><td>3.800</td><td>2.390</td><td>1.185</td><td>3.630</td><td>2.250</td><td>1.155</td><td></td><td>1200</td></tr><tr><td>* 2.001</td><td>PH4-S2</td><td>3.630</td><td>2.250</td><td>1.080</td><td>3.710</td><td>2.100</td><td>1.310</td><td></td><td>1200</td></tr><tr><td>* 2.002</td><td>PH4-S3</td><td>3.710</td><td>2.100</td><td>1.310</td><td>3.820</td><td>2.030</td><td>1.490</td><td></td><td>1200</td></tr><tr><td>* 2.003</td><td>PH4-S4</td><td>3.820</td><td>2.030</td><td>1.490</td><td>3.930</td><td>1.870</td><td>1.760</td><td></td><td>1200</td></tr><tr><td>* 2.004</td><td>PH4-S5</td><td>3.930</td><td>1.870</td><td>1.760</td><td>3.580</td><td>1.570</td><td>1.710</td><td></td><td>1200</td></tr><tr><td>* 2.005</td><td>PH4-S6</td><td>3.580</td><td>1.570</td><td>1.710</td><td>3.470</td><td>1.310</td><td>1.860</td><td></td><td>1200</td></tr><tr><td>* 2.006</td><td>PH4-S7</td><td>3.470</td><td>1.310</td><td>1.860</td><td>3.650</td><td>1.250</td><td>2.100</td><td></td><td>1200</td></tr><tr><td>* 3.000</td><td>IC</td><td>3.500</td><td>2.740</td><td>0.610</td><td>3.620</td><td>2.150</td><td>1.320</td><td></td><td>450</td></tr><tr><td>* 3.001</td><td>PH4-S8</td><td>3.620</td><td>2.000</td><td>1.395</td><td>3.820</td><td>1.600</td><td>1.995</td><td></td><td>1200</td></tr><tr><td>* 3.002</td><td>PH4-S9</td><td>3.820</td><td>1.600</td><td>1.995</td><td>3.600</td><td>1.490</td><td>1.885</td><td></td><td>1200</td></tr><tr><td>* 3.003</td><td>PH4-S10</td><td>3.600</td><td>1.420</td><td>1.880</td><td>3.650</td><td>1.250</td><td>2.100</td><td></td><td>1200</td></tr><tr><td>* 2.007</td><td>PH4-S11_Control MH</td><td>3.650</td><td>1.250</td><td>2.175</td><td>1.380</td><td>1.050</td><td>0.105</td><td>Hydro-Brake®</td><td>1200</td></tr><tr><td>* 2.008</td><td>Outfall</td><td>1.380</td><td>1.050</td><td>-0.123</td><td>1.380</td><td>1.000</td><td>-0.073</td><td></td><td>1200</td></tr><tr><td>* 1.001</td><td>CWA Swale</td><td>1.380</td><td>1.000</td><td>-0.073</td><td>1.380</td><td>1.000</td><td>-0.073</td><td></td><td>1200</td></tr></tbody></table>												PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type	* 1.000	14.566	0.000	0.0	0.000	5.00	0.600	\/	27	Pipe/Conduit	* 2.000	19.169	0.140	136.9	0.048	5.00	0.600	o	225	Pipe/Conduit	* 2.001	23.083	0.150	153.9	0.048	5.00	0.600	o	300	Pipe/Conduit	* 2.002	10.543	0.070	150.6	0.048	0.00	0.600	o	300	Pipe/Conduit	* 2.003	24.538	0.160	153.4	0.048	0.00	0.600	o	300	Pipe/Conduit	* 2.004	44.885	0.300	149.6	0.048	0.00	0.600	o	300	Pipe/Conduit	* 2.005	5.444	0.260	20.9	0.051	0.00	0.600	o	300	Pipe/Conduit	* 2.006	10.994	0.060	183.2	0.000	0.00	0.600	o	300	Pipe/Conduit	* 3.000	19.284	0.590	32.7	0.024	5.00	0.600	o	150	Pipe/Conduit	* 3.001	59.447	0.400	148.6	0.048	0.00	0.600	o	225	Pipe/Conduit	* 3.002	10.000	0.110	90.9	0.048	0.00	0.600	o	225	Pipe/Conduit	* 3.003	33.001	0.170	194.1	0.024	0.00	0.600	o	300	Pipe/Conduit	* 2.007	3.818	0.200	19.1	0.000	0.00	0.600	o	225	Pipe/Conduit	* 2.008	14.044	0.050	280.9	0.000	0.00	0.600	\/	27	Pipe/Conduit	* 1.001	22.887	0.000	0.0	0.000	0.00	0.600	\/	27	Pipe/Conduit	PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)	* 1.000	CWA Swale	1.380	1.000	-0.073	1.380	1.000	-0.073		1800	* 2.000	PH4-S1	3.800	2.390	1.185	3.630	2.250	1.155		1200	* 2.001	PH4-S2	3.630	2.250	1.080	3.710	2.100	1.310		1200	* 2.002	PH4-S3	3.710	2.100	1.310	3.820	2.030	1.490		1200	* 2.003	PH4-S4	3.820	2.030	1.490	3.930	1.870	1.760		1200	* 2.004	PH4-S5	3.930	1.870	1.760	3.580	1.570	1.710		1200	* 2.005	PH4-S6	3.580	1.570	1.710	3.470	1.310	1.860		1200	* 2.006	PH4-S7	3.470	1.310	1.860	3.650	1.250	2.100		1200	* 3.000	IC	3.500	2.740	0.610	3.620	2.150	1.320		450	* 3.001	PH4-S8	3.620	2.000	1.395	3.820	1.600	1.995		1200	* 3.002	PH4-S9	3.820	1.600	1.995	3.600	1.490	1.885		1200	* 3.003	PH4-S10	3.600	1.420	1.880	3.650	1.250	2.100		1200	* 2.007	PH4-S11_Control MH	3.650	1.250	2.175	1.380	1.050	0.105	Hydro-Brake®	1200	* 2.008	Outfall	1.380	1.050	-0.123	1.380	1.000	-0.073		1200	* 1.001	CWA Swale	1.380	1.000	-0.073	1.380	1.000	-0.073		1200
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)	Section Type																																																																																																																																																																																																																																																																																																																																		
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Mayer Brown Limited		Page 2
Lion House Oriental Road Woking, GU22 8AR	Hampton Park, Littlehampton Phase 4 Catchment 03 Network Details	
Date 01/09/2021	Designed by SF	
File Phase 4 Catchment 01.09...	Checked by SF	
Innovyze	Network 2020.1	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
CWA Swale	1.380	0.380	Open Manhole	1800	1.000	1.000	27				
PH4-S1	3.630	1.410	Open Manhole	1200	2.000	2.390	225				
PH4-S2	3.630	1.380	Open Manhole	1200	2.001	2.250	300	2.000	2.250	300	
PH4-S3	3.710	1.610	Open Manhole	1200	2.002	2.100	300	2.001	2.100	300	
PH4-S4	3.830	1.790	Open Manhole	1200	2.003	2.030	300	2.002	2.030	300	
PH4-S5	3.930	2.060	Open Manhole	1200	2.004	1.870	300	2.003	1.870	300	
PH4-S6	3.590	2.010	Open Manhole	1200	2.005	1.570	300	2.004	1.570	300	
PH4-S7	3.470	2.160	Open Manhole	1200	2.006	1.310	300	2.005	1.310	300	
IC	3.500	0.760	Open Manhole	450	3.000	2.740	150				
PH4-S8	3.820	1.620	Open Manhole	1200	3.001	2.000	225	3.000	2.150	150	75
PH4-S9	3.820	2.220	Open Manhole	1200	3.002	1.600	225	3.001	1.600	225	
PH4-S10	3.600	2.180	Open Manhole	1200	3.003	1.430	300	3.002	1.490	225	
PH4-S11_Control MH	3.650	2.400	Open Manhole	1200	2.007	1.250	225	2.006	1.250	300	
								3.003	1.250	300	
Outfall	1.080	0.330	Open Manhole	1200	2.008	1.050	27	2.007	1.050	225	
CWA Swale	1.330	0.380	Open Manhole	1200	1.001	1.000	27	1.000	1.000	27	
								2.008	1.000	27	
CWA Swale	1.380	0.380	Open Manhole	1200		OUTFALL		1.001	1.000	27	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
CWA Swale	503616.225	104032.302	503616.225	104032.302	Required	
PH4-S1	503505.889	104115.816	503505.889	104115.816	Required	
PH4-S2	503524.143	104121.669	503524.143	104121.669	Required	
PH4-S3	503535.514	104101.583	503535.514	104101.583	Required	
PH4-S4	503536.886	104091.130	503536.886	104091.130	Required	
PH4-S5	503554.747	104074.304	503554.747	104074.304	Required	
PH4-S6	503580.447	104037.505	503580.447	104037.505	Required	
PH4-S7	503584.910	104040.622	503584.910	104040.622	Required	
IC	503659.622	103933.151	503659.622	103933.151	Required	

Mayer Brown Limited						Page 3									
Lion House Oriental Road Woking, GU22 8AR			Hampton Park, Littlehampton Phase 4 Catchment 03 Network Details												
Date 01/09/2021			Designed by SF												
File Phase 4 Catchment 01.09...			Checked by SF												
Innovyze			Network 2020.1												
<u>Manhole Schedules for Storm</u>															
MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)									
PH4-S8	503648.037	103948.567	503648.037	103948.567	Required										
PH4-S9	503611.528	103995.482	503611.528	103995.482	Required										
PH4-S10	503611.587	104005.638	503611.587	104005.638	Required										
PH4-S11_Control MH	503591.576	104031.880	503591.576	104031.880	Required										
Outfall	503594.613	104034.193	503594.613	104034.193	Required										
CWA Swale	503605.889	104042.565	503605.889	104042.565	Required										
CWA Swale	503600.824	104064.885			No Entry										
<u>Surcharged Outfall Details for Storm</u>															
Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)									
1.001	CWA Swale	1.380	1.000	1.000	1200	0									
Datum (m) 1.000 Offset (mins) 0															
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
1	0.800	24	0.800	47	0.800	70	0.800	93	0.800	116	0.800	139	0.800	162	0.800
2	0.800	25	0.800	48	0.800	71	0.800	94	0.800	117	0.800	140	0.800	163	0.800
3	0.800	26	0.800	49	0.800	72	0.800	95	0.800	118	0.800	141	0.800	164	0.800
4	0.800	27	0.800	50	0.800	73	0.800	96	0.800	119	0.800	142	0.800	165	0.800
5	0.800	28	0.800	51	0.800	74	0.800	97	0.800	120	0.800	143	0.800	166	0.800
6	0.800	29	0.800	52	0.800	75	0.800	98	0.800	121	0.800	144	0.800	167	0.800
7	0.800	30	0.800	53	0.800	76	0.800	99	0.800	122	0.800	145	0.800	168	0.800
8	0.800	31	0.800	54	0.800	77	0.800	100	0.800	123	0.800	146	0.800	169	0.800
9	0.800	32	0.800	55	0.800	78	0.800	101	0.800	124	0.800	147	0.800	170	0.800
10	0.800	33	0.800	56	0.800	79	0.800	102	0.800	125	0.800	148	0.800	171	0.800
11	0.800	34	0.800	57	0.800	80	0.800	103	0.800	126	0.800	149	0.800	172	0.800
12	0.800	35	0.800	58	0.800	81	0.800	104	0.800	127	0.800	150	0.800	173	0.800
13	0.800	36	0.800	59	0.800	82	0.800	105	0.800	128	0.800	151	0.800	174	0.800
14	0.800	37	0.800	60	0.800	83	0.800	106	0.800	129	0.800	152	0.800	175	0.800
15	0.800	38	0.800	61	0.800	84	0.800	107	0.800	130	0.800	153	0.800	176	0.800
16	0.800	39	0.800	62	0.800	85	0.800	108	0.800	131	0.800	154	0.800	177	0.800
17	0.800	40	0.800	63	0.800	86	0.800	109	0.800	132	0.800	155	0.800	178	0.800
18	0.800	41	0.800	64	0.800	87	0.800	110	0.800	133	0.800	156	0.800	179	0.800
19	0.800	42	0.800	65	0.800	88	0.800	111	0.800	134	0.800	157	0.800	180	0.800
20	0.800	43	0.800	66	0.800	89	0.800	112	0.800	135	0.800	158	0.800	181	0.800
21	0.800	44	0.800	67	0.800	90	0.800	113	0.800	136	0.800	159	0.800	182	0.800
22	0.800	45	0.800	68	0.800	91	0.800	114	0.800	137	0.800	160	0.800	183	0.800
23	0.800	46	0.800	69	0.800	92	0.800	115	0.800	138	0.800	161	0.800	184	0.800
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Lion House Oriental Road Woking, GU22 8AR						Hampton Park, Littlehampton Phase 4 Catchment 03 Network Details							
Date 01/09/2021						Designed by SF							
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Innovyze						Network 2020.1							
Surcharged Outfall Details for Storm													
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
185	0.800	237	0.800	289	0.800	341	0.800	393	0.800	445	0.800	497	0.800
186	0.800	238	0.800	290	0.800	342	0.800	394	0.800	446	0.800	498	0.800
187	0.800	239	0.800	291	0.800	343	0.800	395	0.800	447	0.800	499	0.800
188	0.800	240	0.800	292	0.800	344	0.800	396	0.800	448	0.800	500	0.800
189	0.800	241	0.800	293	0.800	345	0.800	397	0.800	449	0.800	501	0.800
190	0.800	242	0.800	294	0.800	346	0.800	398	0.800	450	0.800	502	0.800
191	0.800	243	0.800	295	0.800	347	0.800	399	0.800	451	0.800	503	0.800
192	0.800	244	0.800	296	0.800	348	0.800	400	0.800	452	0.800	504	0.800
193	0.800	245	0.800	297	0.800	349	0.800	401	0.800	453	0.800	505	0.800
194	0.800	246	0.800	298	0.800	350	0.800	402	0.800	454	0.800	506	0.800
195	0.800	247	0.800	299	0.800	351	0.800	403	0.800	455	0.800	507	0.800
196	0.800	248	0.800	300	0.800	352	0.800	404	0.800	456	0.800	508	0.800
197	0.800	249	0.800	301	0.800	353	0.800	405	0.800	457	0.800	509	0.800
198	0.800	250	0.800	302	0.800	354	0.800	406	0.800	458	0.800	510	0.800
199	0.800	251	0.800	303	0.800	355	0.800	407	0.800	459	0.800	511	0.800
200	0.800	252	0.800	304	0.800	356	0.800	408	0.800	460	0.800	512	0.800
201	0.800	253	0.800	305	0.800	357	0.800	409	0.800	461	0.800	513	0.800
202	0.800	254	0.800	306	0.800	358	0.800	410	0.800	462	0.800	514	0.800
203	0.800	255	0.800	307	0.800	359	0.800	411	0.800	463	0.800	515	0.800
204	0.800	256	0.800	308	0.800	360	0.800	412	0.800	464	0.800	516	0.800
205	0.800	257	0.800	309	0.800	361	0.800	413	0.800	465	0.800	517	0.800
206	0.800	258	0.800	310	0.800	362	0.800	414	0.800	466	0.800	518	0.800
207	0.800	259	0.800	311	0.800	363	0.800	415	0.800	467	0.800	519	0.800
208	0.800	260	0.800	312	0.800	364	0.800	416	0.800	468	0.800	520	0.800
209	0.800	261	0.800	313	0.800	365	0.800	417	0.800	469	0.800	521	0.800
210	0.800	262	0.800	314	0.800	366	0.800	418	0.800	470	0.800	522	0.800
211	0.800	263	0.800	315	0.800	367	0.800	419	0.800	471	0.800	523	0.800
212	0.800	264	0.800	316	0.800	368	0.800	420	0.800	472	0.800	524	0.800
213	0.800	265	0.800	317	0.800	369	0.800	421	0.800	473	0.800	525	0.800
214	0.800	266	0.800	318	0.800	370	0.800	422	0.800	474	0.800	526	0.800
215	0.800	267	0.800	319	0.800	371	0.800	423	0.800	475	0.800	527	0.800
216	0.800	268	0.800	320	0.800	372	0.800	424	0.800	476	0.800	528	0.800
217	0.800	269	0.800	321	0.800	373	0.800	425	0.800	477	0.800	529	0.800
218	0.800	270	0.800	322	0.800	374	0.800	426	0.800	478	0.800	530	0.800
219	0.800	271	0.800	323	0.800	375	0.800	427	0.800	479	0.800	531	0.800
220	0.800	272	0.800	324	0.800	376	0.800	428	0.800	480	0.800	532	0.800
221	0.800	273	0.800	325	0.800	377	0.800	429	0.800	481	0.800	533	0.800
222	0.800	274	0.800	326	0.800	378	0.800	430	0.800	482	0.800	534	0.800
223	0.800	275	0.800	327	0.800	379	0.800	431	0.800	483	0.800	535	0.800
224	0.800	276	0.800	328	0.800	380	0.800	432	0.800	484	0.800	536	0.800
225	0.800	277	0.800	329	0.800	381	0.800	433	0.800	485	0.800	537	0.800
226	0.800	278	0.800	330	0.800	382	0.800	434	0.800	486	0.800	538	0.800
227	0.800	279	0.800	331	0.800	383	0.800	435	0.800	487	0.800	539	0.800
228	0.800	280	0.800	332	0.800	384	0.800	436	0.800	488	0.800	540	0.800
229	0.800	281	0.800	333	0.800	385	0.800	437	0.800	489	0.800	541	0.800
230	0.800	282	0.800	334	0.800	386	0.800	438	0.800	490	0.800	542	0.800
231	0.800	283	0.800	335	0.800	387	0.800	439	0.800	491	0.800	543	0.800
232	0.800	284	0.800	336	0.800	388	0.800	440	0.800	492	0.800	544	0.800
233	0.800	285	0.800	337	0.800	389	0.800	441	0.800	493	0.800	545	0.800
234	0.800	286	0.800	338	0.800	390	0.800	442	0.800	494	0.800	546	0.800
235	0.800	287	0.800	339	0.800	391	0.800	443	0.800	495	0.800	547	0.800
236	0.800	288	0.800	340	0.800	392	0.800	444	0.800	496	0.800	548	0.800
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Lion House Oriental Road Woking, GU22 8AR	Hampton Park, Littlehampton Phase 4 Catchment 03 Network Details	
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Online Controls for Storm

Hydro-Brake® Optimum Manhole: PH4-S11_Control MH, DS/PN: 2.007, Volume (m³):

5.7

Unit Reference	MD-SHE-0157-1300-1500-1300
Design Head (m)	1.500
Design Flow (l/s)	13.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	157
Invert Level (m)	1.250
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.500	13.0	Kick-Flo®	0.950	10.5
Flush-Flo™	0.443	13.0	Mean Flow over Head Range	-	11.3

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.6	0.800	12.0	2.000	14.9	4.000	20.7	7.000	27.1
0.200	11.7	1.000	10.7	2.200	15.6	4.500	21.9	7.500	28.0
0.300	12.7	1.200	11.7	2.400	16.2	5.000	23.1	8.000	28.9
0.400	13.0	1.400	12.6	2.600	16.9	5.500	24.1	8.500	29.8
0.500	13.0	1.600	13.4	3.000	18.1	6.000	25.2	9.000	30.6
0.600	12.8	1.800	14.2	3.500	19.4	6.500	26.2	9.500	31.4

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Lion House Oriental Road Woking, GU22 8AR	Hampton Park, Littlehampton Phase 4 Catchment 03 Network Details	
Date 01/09/2021	Designed by SF	
File Phase 4 Catchment 01.09...	Checked by SF	
Innovyze	Network 2020.1	

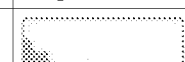
Storage Structures for Storm

Cellular Storage Manhole: PH4-S11_Control MH, DS/PN: 2.007

Invert Level (m) 1.250 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)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	150.0	150.0	1.500	150.0	255.0	1.501	0.0	255.0

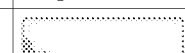
Mayer Brown Limited							Page 1																																																																																																																																																																												
Lion House Oriental Road Woking, GU22 8AR				Hampton Park, Littlehampton Phase 4 Catchment 03 Simulation Results																																																																																																																																																																															
Date 01/09/2021				Designed by SF																																																																																																																																																																															
File Phase 4 Catchment 01.09...				Checked by SF																																																																																																																																																																															
Innovyze				Network 2020.1																																																																																																																																																																															
<u>Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>																																																																																																																																																																																			
<u>Simulation Criteria</u>																																																																																																																																																																																			
Areal Reduction Factor		1.000	Additional Flow - % of Total Flow		0.000																																																																																																																																																																														
Hot Start (mins)		0	MADD Factor * 10m³/ha Storage		2.000																																																																																																																																																																														
Hot Start Level (mm)		0	Inlet Coefficient		0.800																																																																																																																																																																														
Manhole Headloss Coeff (Global)		0.500	Flow per Person per Day (l/per/day)		0.000																																																																																																																																																																														
Foul Sewage per hectare (l/s)		0.000																																																																																																																																																																																	
Number of Input Hydrographs		0	Number of Offline Controls		0	Number of Time/Area Diagrams		0																																																																																																																																																																											
Number of Online Controls		1	Number of Storage Structures		1	Number of Real Time Controls		0																																																																																																																																																																											
<u>Synthetic Rainfall Details</u>																																																																																																																																																																																			
Rainfall Model		FEH		Data Type	Catchment																																																																																																																																																																														
FEH Rainfall Version		2013		Cv (Summer)	0.750																																																																																																																																																																														
Site Location		GB 502950 104450 TQ 02950 04450		Cv (Winter)	1.000																																																																																																																																																																														
Margin for Flood Risk Warning (mm)		300.0																																																																																																																																																																																	
Analysis Timestep		2.5 Second Increment (Extended)																																																																																																																																																																																	
DTS Status		ON																																																																																																																																																																																	
DVD Status		OFF																																																																																																																																																																																	
Inertia Status		ON																																																																																																																																																																																	
Profile(s)		Winter																																																																																																																																																																																	
Duration(s) (mins)		15, 30, 60, 120, 240, 360, 480, 960, 1440																																																																																																																																																																																	
Return Period(s) (years)		2																																																																																																																																																																																	
Climate Change (%)		0																																																																																																																																																																																	
<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Water</td></tr><tr><td>PN</td><td>US/MH Name</td><td>Storm</td><td>Return Period</td><td>Climate Change</td><td>First (X) Surge</td><td>First (Y) Flood</td><td>First (Z) Overflow</td><td>Overflow Act.</td><td>Level (m)</td></tr><tr><td>1.000</td><td>CWA Swale</td><td>480 Winter</td><td>2</td><td>+0%</td><td></td><td>2/15 Winter</td><td></td><td></td><td>1.417</td></tr><tr><td>2.000</td><td>PH4-S1</td><td>15 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.466</td></tr><tr><td>2.001</td><td>PH4-S2</td><td>15 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.352</td></tr><tr><td>2.002</td><td>PH4-S3</td><td>15 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.236</td></tr><tr><td>2.003</td><td>PH4-S4</td><td>15 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.171</td></tr><tr><td>2.004</td><td>PH4-S5</td><td>15 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.024</td></tr><tr><td>2.005</td><td>PH4-S6</td><td>15 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>1.702</td></tr><tr><td>2.006</td><td>PH4-S7</td><td>240 Winter</td><td>2</td><td>+0%</td><td>2/120 Winter</td><td></td><td></td><td></td><td>1.613</td></tr><tr><td>3.000</td><td>IC</td><td>15 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.781</td></tr><tr><td>3.001</td><td>PH4-S8</td><td>15 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.089</td></tr><tr><td>3.002</td><td>PH4-S9</td><td>15 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>1.708</td></tr><tr><td>3.003</td><td>PH4-S10</td><td>240 Winter</td><td>2</td><td>+0%</td><td></td><td></td><td></td><td></td><td>1.612</td></tr><tr><td>2.007</td><td>PH4-S11_Control MH</td><td>240 Winter</td><td>2</td><td>+0%</td><td>2/15 Winter</td><td></td><td></td><td></td><td>1.607</td></tr><tr><td>2.008</td><td>Outfall</td><td>480 Winter</td><td>2</td><td>+0%</td><td></td><td>2/15 Winter</td><td></td><td></td><td>1.417</td></tr><tr><td>1.001</td><td>CWA Swale</td><td>480 Winter</td><td>2</td><td>+0%</td><td></td><td>2/15 Winter</td><td></td><td></td><td>1.417</td></tr></table>																			Water	PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	1.000	CWA Swale	480 Winter	2	+0%		2/15 Winter			1.417	2.000	PH4-S1	15 Winter	2	+0%					2.466	2.001	PH4-S2	15 Winter	2	+0%					2.352	2.002	PH4-S3	15 Winter	2	+0%					2.236	2.003	PH4-S4	15 Winter	2	+0%					2.171	2.004	PH4-S5	15 Winter	2	+0%					2.024	2.005	PH4-S6	15 Winter	2	+0%					1.702	2.006	PH4-S7	240 Winter	2	+0%	2/120 Winter				1.613	3.000	IC	15 Winter	2	+0%					2.781	3.001	PH4-S8	15 Winter	2	+0%					2.089	3.002	PH4-S9	15 Winter	2	+0%					1.708	3.003	PH4-S10	240 Winter	2	+0%					1.612	2.007	PH4-S11_Control MH	240 Winter	2	+0%	2/15 Winter				1.607	2.008	Outfall	480 Winter	2	+0%		2/15 Winter			1.417	1.001	CWA Swale	480 Winter	2	+0%		2/15 Winter			1.417
									Water																																																																																																																																																																										
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3.001	PH4-S8	15 Winter	2	+0%					2.089																																																																																																																																																																										
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2.008	Outfall	480 Winter	2	+0%		2/15 Winter			1.417																																																																																																																																																																										
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Mayer Brown Limited		Page 2
Lion House Oriental Road Woking, GU22 8AR	Hampton Park, Littlehampton Phase 4 Catchment 03 Simulation Results	
Date 01/09/2021	Designed by SF	
File Phase 4 Catchment 01.09...	Checked by SF	
Innovyze	Network 2020.1	

Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged	Flooded	Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)		
2.007	PH4-S11_Control MH	0.132	0.000	0.19		146	11.9	SURCHARGED	
2.008	Outfall	-0.086	37.258	0.41			170.6	FLOOD	9
1.001	CWA Swale	-0.036	37.289	0.70			465.8	FLOOD	9

Mayer Brown Limited								Page 1																																																																																																																																																																																					
Lion House Oriental Road Woking, GU22 8AR				Hampton Park, Littlehampton Phase 4 Catchment 03 Simulation Results																																																																																																																																																																																									
Date 01/09/2021				Designed by SF																																																																																																																																																																																									
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<u>Simulation Criteria</u>																																																																																																																																																																																													
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																																																																																							
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																																																																																							
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																																																																																							
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																																																																																							
Foul Sewage per hectare (l/s)		0.000																																																																																																																																																																																											
Number of Input Hydrographs		0		Number of Offline Controls		0		Number of Time/Area Diagrams 0																																																																																																																																																																																					
Number of Online Controls		1		Number of Storage Structures		1		Number of Real Time Controls 0																																																																																																																																																																																					
<u>Synthetic Rainfall Details</u>																																																																																																																																																																																													
Rainfall Model		FEH		Data Type		Catchment																																																																																																																																																																																							
FEH Rainfall Version		2013		Cv (Summer)		0.750																																																																																																																																																																																							
Site Location		GB 502950 104450 TQ 02950 04450		Cv (Winter)		1.000																																																																																																																																																																																							
Margin for Flood Risk Warning (mm)						300.0																																																																																																																																																																																							
Analysis Timestep		2.5 Second Increment (Extended)																																																																																																																																																																																											
DTS Status						ON																																																																																																																																																																																							
DVD Status						OFF																																																																																																																																																																																							
Inertia Status						ON																																																																																																																																																																																							
Profile(s)						Winter																																																																																																																																																																																							
Duration(s) (mins)		15, 30, 60, 120, 240, 360, 480, 960, 1440																																																																																																																																																																																											
Return Period(s) (years)						30																																																																																																																																																																																							
Climate Change (%)						0																																																																																																																																																																																							
<table><tr><td></td><td>US/MH</td><td></td><td>Return</td><td>Climate</td><td>First (X)</td><td>First (Y)</td><td>First (Z)</td><td>Overflow</td><td>Water</td></tr><tr><td>PN</td><td>Name</td><td>Storm</td><td>Period</td><td>Change</td><td>Surcharge</td><td>Flood</td><td>Overflow</td><td>Act.</td><td>Level</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>(m)</td></tr><tr><td>1.000</td><td>CWA Swale</td><td>480 Winter</td><td>30</td><td>+0%</td><td></td><td>30/15 Winter</td><td></td><td></td><td>1.451</td></tr><tr><td>2.000</td><td>PH4-S1</td><td>15 Winter</td><td>30</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.514</td></tr><tr><td>2.001</td><td>PH4-S2</td><td>15 Winter</td><td>30</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.475</td></tr><tr><td>2.002</td><td>PH4-S3</td><td>15 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td>2.433</td></tr><tr><td>2.003</td><td>PH4-S4</td><td>15 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td>2.390</td></tr><tr><td>2.004</td><td>PH4-S5</td><td>15 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td>2.250</td></tr><tr><td>2.005</td><td>PH4-S6</td><td>120 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td>2.040</td></tr><tr><td>2.006</td><td>PH4-S7</td><td>120 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td>2.038</td></tr><tr><td>3.000</td><td>IC</td><td>15 Winter</td><td>30</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.803</td></tr><tr><td>3.001</td><td>PH4-S8</td><td>15 Winter</td><td>30</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.156</td></tr><tr><td>3.002</td><td>PH4-S9</td><td>120 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td>2.040</td></tr><tr><td>3.003</td><td>PH4-S10</td><td>120 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td>2.035</td></tr><tr><td>2.007</td><td>PH4-S11_Control MH</td><td>120 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td>2.030</td></tr><tr><td>2.008</td><td>Outfall</td><td>480 Winter</td><td>30</td><td>+0%</td><td></td><td>30/15 Winter</td><td></td><td></td><td>1.451</td></tr><tr><td>1.001</td><td>CWA Swale</td><td>480 Winter</td><td>30</td><td>+0%</td><td></td><td>30/15 Winter</td><td></td><td></td><td>1.451</td></tr></table>											US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water	PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level										(m)	1.000	CWA Swale	480 Winter	30	+0%		30/15 Winter			1.451	2.000	PH4-S1	15 Winter	30	+0%					2.514	2.001	PH4-S2	15 Winter	30	+0%					2.475	2.002	PH4-S3	15 Winter	30	+0%	30/15 Winter				2.433	2.003	PH4-S4	15 Winter	30	+0%	30/15 Winter				2.390	2.004	PH4-S5	15 Winter	30	+0%	30/15 Winter				2.250	2.005	PH4-S6	120 Winter	30	+0%	30/15 Winter				2.040	2.006	PH4-S7	120 Winter	30	+0%	30/15 Winter				2.038	3.000	IC	15 Winter	30	+0%					2.803	3.001	PH4-S8	15 Winter	30	+0%					2.156	3.002	PH4-S9	120 Winter	30	+0%	30/15 Winter				2.040	3.003	PH4-S10	120 Winter	30	+0%	30/15 Winter				2.035	2.007	PH4-S11_Control MH	120 Winter	30	+0%	30/15 Winter				2.030	2.008	Outfall	480 Winter	30	+0%		30/15 Winter			1.451	1.001	CWA Swale	480 Winter	30	+0%		30/15 Winter			1.451
	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water																																																																																																																																																																																				
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2.001	PH4-S2	15 Winter	30	+0%					2.475																																																																																																																																																																																				
2.002	PH4-S3	15 Winter	30	+0%	30/15 Winter				2.433																																																																																																																																																																																				
2.003	PH4-S4	15 Winter	30	+0%	30/15 Winter				2.390																																																																																																																																																																																				
2.004	PH4-S5	15 Winter	30	+0%	30/15 Winter				2.250																																																																																																																																																																																				
2.005	PH4-S6	120 Winter	30	+0%	30/15 Winter				2.040																																																																																																																																																																																				
2.006	PH4-S7	120 Winter	30	+0%	30/15 Winter				2.038																																																																																																																																																																																				
3.000	IC	15 Winter	30	+0%					2.803																																																																																																																																																																																				
3.001	PH4-S8	15 Winter	30	+0%					2.156																																																																																																																																																																																				
3.002	PH4-S9	120 Winter	30	+0%	30/15 Winter				2.040																																																																																																																																																																																				
3.003	PH4-S10	120 Winter	30	+0%	30/15 Winter				2.035																																																																																																																																																																																				
2.007	PH4-S11_Control MH	120 Winter	30	+0%	30/15 Winter				2.030																																																																																																																																																																																				
2.008	Outfall	480 Winter	30	+0%		30/15 Winter			1.451																																																																																																																																																																																				
1.001	CWA Swale	480 Winter	30	+0%		30/15 Winter			1.451																																																																																																																																																																																				
<table><tr><td></td><td>US/MH</td><td>Surcharged</td><td>Flooded</td><td></td><td>Half Drain</td><td>Pipe</td><td></td><td></td><td></td></tr><tr><td>PN</td><td>Name</td><td>Depth (m)</td><td>Volume (m³)</td><td>Flow / Cap.</td><td>Overflow (l/s)</td><td>Time (mins)</td><td>Flow (l/s)</td><td>Status</td><td>Level Exceeded</td></tr><tr><td>1.000</td><td>CWA Swale</td><td>-0.002</td><td>71.130</td><td>1.10</td><td></td><td></td><td>184.6</td><td>FLOOD</td><td>5</td></tr><tr><td>2.000</td><td>PH4-S1</td><td>-0.101</td><td>0.000</td><td>0.53</td><td></td><td></td><td>21.2</td><td>OK</td><td></td></tr><tr><td>2.001</td><td>PH4-S2</td><td>-0.075</td><td>0.000</td><td>0.50</td><td></td><td></td><td>39.9</td><td>OK</td><td></td></tr><tr><td>2.002</td><td>PH4-S3</td><td>0.033</td><td>0.000</td><td>0.86</td><td></td><td></td><td>56.7</td><td>SURCHARGED</td><td></td></tr><tr><td>2.003</td><td>PH4-S4</td><td>0.060</td><td>0.000</td><td>0.92</td><td></td><td></td><td>73.3</td><td>SURCHARGED</td><td></td></tr><tr><td>2.004</td><td>PH4-S5</td><td>0.080</td><td>0.000</td><td>1.06</td><td></td><td></td><td>90.2</td><td>SURCHARGED</td><td></td></tr><tr><td>2.005</td><td>PH4-S6</td><td>0.170</td><td>0.000</td><td>0.32</td><td></td><td></td><td>40.3</td><td>SURCHARGED</td><td></td></tr><tr><td>2.006</td><td>PH4-S7</td><td>0.428</td><td>0.000</td><td>0.65</td><td></td><td></td><td>39.8</td><td>SURCHARGED</td><td></td></tr><tr><td>3.000</td><td>IC</td><td>-0.087</td><td>0.000</td><td>0.37</td><td></td><td></td><td>10.8</td><td>OK</td><td></td></tr><tr><td>3.001</td><td>PH4-S8</td><td>-0.069</td><td>0.000</td><td>0.78</td><td></td><td></td><td>31.9</td><td>OK</td><td></td></tr><tr><td>3.002</td><td>PH4-S9</td><td>0.215</td><td>0.000</td><td>0.37</td><td></td><td></td><td>16.7</td><td>SURCHARGED</td><td></td></tr><tr><td>3.003</td><td>PH4-S10</td><td>0.315</td><td>0.000</td><td>0.26</td><td></td><td></td><td>19.0</td><td>SURCHARGED</td><td></td></tr></table>											US/MH	Surcharged	Flooded		Half Drain	Pipe				PN	Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded	1.000	CWA Swale	-0.002	71.130	1.10			184.6	FLOOD	5	2.000	PH4-S1	-0.101	0.000	0.53			21.2	OK		2.001	PH4-S2	-0.075	0.000	0.50			39.9	OK		2.002	PH4-S3	0.033	0.000	0.86			56.7	SURCHARGED		2.003	PH4-S4	0.060	0.000	0.92			73.3	SURCHARGED		2.004	PH4-S5	0.080	0.000	1.06			90.2	SURCHARGED		2.005	PH4-S6	0.170	0.000	0.32			40.3	SURCHARGED		2.006	PH4-S7	0.428	0.000	0.65			39.8	SURCHARGED		3.000	IC	-0.087	0.000	0.37			10.8	OK		3.001	PH4-S8	-0.069	0.000	0.78			31.9	OK		3.002	PH4-S9	0.215	0.000	0.37			16.7	SURCHARGED		3.003	PH4-S10	0.315	0.000	0.26			19.0	SURCHARGED																																									
	US/MH	Surcharged	Flooded		Half Drain	Pipe																																																																																																																																																																																							
PN	Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded																																																																																																																																																																																				
1.000	CWA Swale	-0.002	71.130	1.10			184.6	FLOOD	5																																																																																																																																																																																				
2.000	PH4-S1	-0.101	0.000	0.53			21.2	OK																																																																																																																																																																																					
2.001	PH4-S2	-0.075	0.000	0.50			39.9	OK																																																																																																																																																																																					
2.002	PH4-S3	0.033	0.000	0.86			56.7	SURCHARGED																																																																																																																																																																																					
2.003	PH4-S4	0.060	0.000	0.92			73.3	SURCHARGED																																																																																																																																																																																					
2.004	PH4-S5	0.080	0.000	1.06			90.2	SURCHARGED																																																																																																																																																																																					
2.005	PH4-S6	0.170	0.000	0.32			40.3	SURCHARGED																																																																																																																																																																																					
2.006	PH4-S7	0.428	0.000	0.65			39.8	SURCHARGED																																																																																																																																																																																					
3.000	IC	-0.087	0.000	0.37			10.8	OK																																																																																																																																																																																					
3.001	PH4-S8	-0.069	0.000	0.78			31.9	OK																																																																																																																																																																																					
3.002	PH4-S9	0.215	0.000	0.37			16.7	SURCHARGED																																																																																																																																																																																					
3.003	PH4-S10	0.315	0.000	0.26			19.0	SURCHARGED																																																																																																																																																																																					
©1982-2020 Innovyze																																																																																																																																																																																													

Mayer Brown Limited		Page 2
Lion House Oriental Road Woking, GU22 8AR	Hampton Park, Littlehampton Phase 4 Catchment 03 Simulation Results	
Date 01/09/2021	Designed by SF	
File Phase 4 Catchment 01.09...	Checked by SF	
Innovyze	Network 2020.1	

Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
2.007	PH4-S11_Control MH	0.555	0.000	0.21		105	13.0	SURCHARGED	
2.008	Outfall	-0.052	71.152	0.41			170.9	FLOOD	9
1.001	CWA Swale	-0.002	71.163	3.83			661.3	FLOOD	9

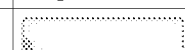
Mayer Brown Limited						Page 1																																																																																																																																																																		
Lion House Oriental Road Woking, GU22 8AR			Hampton Park, Littlehampton Phase 4 Catchment 03 Simulation Results																																																																																																																																																																					
Date 01/09/2021			Designed by SF																																																																																																																																																																					
File Phase 4 Catchment 01.09...			Checked by SF																																																																																																																																																																					
Innovyze			Network 2020.1																																																																																																																																																																					
<u>Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>																																																																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																																																																								
Areal Reduction Factor		1.000	Additional Flow - % of Total Flow		0.000																																																																																																																																																																			
Hot Start (mins)		0	MADD Factor * 10m³/ha Storage		2.000																																																																																																																																																																			
Hot Start Level (mm)		0	Inlet Coefficient		0.800																																																																																																																																																																			
Manhole Headloss Coeff (Global)		0.500	Flow per Person per Day (l/per/day)		0.000																																																																																																																																																																			
Foul Sewage per hectare (l/s)		0.000																																																																																																																																																																						
Number of Input Hydrographs		0	Number of Offline Controls		0	Number of Time/Area Diagrams		0																																																																																																																																																																
Number of Online Controls		1	Number of Storage Structures		1	Number of Real Time Controls		0																																																																																																																																																																
<u>Synthetic Rainfall Details</u>																																																																																																																																																																								
Rainfall Model		FEH		Data Type	Catchment																																																																																																																																																																			
FEH Rainfall Version		2013		Cv (Summer)	0.750																																																																																																																																																																			
Site Location		GB 502950 104450 TQ 02950 04450		Cv (Winter)	1.000																																																																																																																																																																			
Margin for Flood Risk Warning (mm)		300.0																																																																																																																																																																						
Analysis Timestep		2.5 Second Increment (Extended)																																																																																																																																																																						
DTS Status		ON																																																																																																																																																																						
DVD Status		OFF																																																																																																																																																																						
Inertia Status		ON																																																																																																																																																																						
Profile(s)		Winter																																																																																																																																																																						
Duration(s) (mins)		60, 120, 240, 360, 480, 960, 1440																																																																																																																																																																						
Return Period(s) (years)		100																																																																																																																																																																						
Climate Change (%)		0																																																																																																																																																																						
<table><tr><th>PN</th><th>US/MH Name</th><th>Storm</th><th>Return Period</th><th>Climate Change</th><th>First (X) Surge</th><th>First (Y) Flood</th><th>First (Z) Overflow</th><th>Overflow Act.</th><th>Water Level (m)</th></tr><tr><td>1.000</td><td>CWA Swale</td><td>480 Winter</td><td>100</td><td>+0%</td><td>100/240 Winter</td><td>100/60 Winter</td><td></td><td></td><td>1.469</td></tr><tr><td>2.000</td><td>PH4-S1</td><td>60 Winter</td><td>100</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.485</td></tr><tr><td>2.001</td><td>PH4-S2</td><td>60 Winter</td><td>100</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.377</td></tr><tr><td>2.002</td><td>PH4-S3</td><td>60 Winter</td><td>100</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.334</td></tr><tr><td>2.003</td><td>PH4-S4</td><td>120 Winter</td><td>100</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.314</td></tr><tr><td>2.004</td><td>PH4-S5</td><td>120 Winter</td><td>100</td><td>+0%</td><td>100/60 Winter</td><td></td><td></td><td></td><td>2.308</td></tr><tr><td>2.005</td><td>PH4-S6</td><td>120 Winter</td><td>100</td><td>+0%</td><td>100/60 Winter</td><td></td><td></td><td></td><td>2.298</td></tr><tr><td>2.006</td><td>PH4-S7</td><td>120 Winter</td><td>100</td><td>+0%</td><td>100/60 Winter</td><td></td><td></td><td></td><td>2.294</td></tr><tr><td>3.000</td><td>IC</td><td>60 Winter</td><td>100</td><td>+0%</td><td></td><td></td><td></td><td></td><td>2.791</td></tr><tr><td>3.001</td><td>PH4-S8</td><td>120 Winter</td><td>100</td><td>+0%</td><td>100/60 Winter</td><td></td><td></td><td></td><td>2.305</td></tr><tr><td>3.002</td><td>PH4-S9</td><td>120 Winter</td><td>100</td><td>+0%</td><td>100/60 Winter</td><td></td><td></td><td></td><td>2.298</td></tr><tr><td>3.003</td><td>PH4-S10</td><td>120 Winter</td><td>100</td><td>+0%</td><td>100/60 Winter</td><td></td><td></td><td></td><td>2.293</td></tr><tr><td>2.007</td><td>PH4-S11_Control MH</td><td>120 Winter</td><td>100</td><td>+0%</td><td>100/60 Winter</td><td></td><td></td><td></td><td>2.289</td></tr><tr><td>2.008</td><td>Outfall</td><td>480 Winter</td><td>100</td><td>+0%</td><td></td><td>100/60 Winter</td><td></td><td></td><td>1.469</td></tr><tr><td>1.001</td><td>CWA Swale</td><td>480 Winter</td><td>100</td><td>+0%</td><td>100/240 Winter</td><td>100/60 Winter</td><td></td><td></td><td>1.469</td></tr></table>									PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	1.000	CWA Swale	480 Winter	100	+0%	100/240 Winter	100/60 Winter			1.469	2.000	PH4-S1	60 Winter	100	+0%					2.485	2.001	PH4-S2	60 Winter	100	+0%					2.377	2.002	PH4-S3	60 Winter	100	+0%					2.334	2.003	PH4-S4	120 Winter	100	+0%					2.314	2.004	PH4-S5	120 Winter	100	+0%	100/60 Winter				2.308	2.005	PH4-S6	120 Winter	100	+0%	100/60 Winter				2.298	2.006	PH4-S7	120 Winter	100	+0%	100/60 Winter				2.294	3.000	IC	60 Winter	100	+0%					2.791	3.001	PH4-S8	120 Winter	100	+0%	100/60 Winter				2.305	3.002	PH4-S9	120 Winter	100	+0%	100/60 Winter				2.298	3.003	PH4-S10	120 Winter	100	+0%	100/60 Winter				2.293	2.007	PH4-S11_Control MH	120 Winter	100	+0%	100/60 Winter				2.289	2.008	Outfall	480 Winter	100	+0%		100/60 Winter			1.469	1.001	CWA Swale	480 Winter	100	+0%	100/240 Winter	100/60 Winter			1.469
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)																																																																																																																																																															
1.000	CWA Swale	480 Winter	100	+0%	100/240 Winter	100/60 Winter			1.469																																																																																																																																																															
2.000	PH4-S1	60 Winter	100	+0%					2.485																																																																																																																																																															
2.001	PH4-S2	60 Winter	100	+0%					2.377																																																																																																																																																															
2.002	PH4-S3	60 Winter	100	+0%					2.334																																																																																																																																																															
2.003	PH4-S4	120 Winter	100	+0%					2.314																																																																																																																																																															
2.004	PH4-S5	120 Winter	100	+0%	100/60 Winter				2.308																																																																																																																																																															
2.005	PH4-S6	120 Winter	100	+0%	100/60 Winter				2.298																																																																																																																																																															
2.006	PH4-S7	120 Winter	100	+0%	100/60 Winter				2.294																																																																																																																																																															
3.000	IC	60 Winter	100	+0%					2.791																																																																																																																																																															
3.001	PH4-S8	120 Winter	100	+0%	100/60 Winter				2.305																																																																																																																																																															
3.002	PH4-S9	120 Winter	100	+0%	100/60 Winter				2.298																																																																																																																																																															
3.003	PH4-S10	120 Winter	100	+0%	100/60 Winter				2.293																																																																																																																																																															
2.007	PH4-S11_Control MH	120 Winter	100	+0%	100/60 Winter				2.289																																																																																																																																																															
2.008	Outfall	480 Winter	100	+0%		100/60 Winter			1.469																																																																																																																																																															
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Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged	Flooded	Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)		
2.007	PH4-S11_Control MH	0.814	0.000	0.21		121	13.0	SURCHARGED	
2.008	Outfall	-0.034	89.076	0.43			179.7	FLOOD	7
1.001	CWA Swale	0.016	89.080	4.46			768.8	FLOOD	7

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<u>Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>										
<u>Simulation Criteria</u>										
Areal Reduction Factor		1.000	Additional Flow - % of Total Flow		0.000					
Hot Start (mins)		0	MADD Factor * 10m³/ha Storage		2.000					
Hot Start Level (mm)		0	Inlet Coefficient		0.800					
Manhole Headloss Coeff (Global)		0.500	Flow per Person per Day (l/per/day)		0.000					
Foul Sewage per hectare (l/s)		0.000								
Number of Input Hydrographs		0	Number of Offline Controls		0	Number of Time/Area Diagrams		0		
Number of Online Controls		1	Number of Storage Structures		1	Number of Real Time Controls		0		
<u>Synthetic Rainfall Details</u>										
Rainfall Model		FEH		Data Type	Catchment					
FEH Rainfall Version		2013		Cv (Summer)	0.750					
Site Location		GB 502950 104450		TQ 02950 04450	Cv (Winter)	1.000				
Margin for Flood Risk Warning (mm)		300.0								
Analysis Timestep		2.5 Second Increment (Extended)								
DTS Status		ON								
DVD Status		OFF								
Inertia Status		ON								
Profile(s)		Winter								
Duration(s) (mins)		15, 30, 60, 120, 240, 360, 480, 960, 1440								
Return Period(s) (years)		100								
Climate Change (%)		30								
WARNING: Half Drain Time has not been calculated as the structure is too full.										
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharged	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	
1.000	CWA Swale	480 Winter	100	+30%	100/240 Winter	100/15 Winter			1.490	
2.000	PH4-S1	15 Winter	100	+30%	100/15 Winter				3.649	
2.001	PH4-S2	15 Winter	100	+30%	100/15 Winter				3.586	
2.002	PH4-S3	15 Winter	100	+30%	100/15 Winter				3.516	
2.003	PH4-S4	15 Winter	100	+30%	100/15 Winter				3.414	
2.004	PH4-S5	15 Winter	100	+30%	100/15 Winter				3.138	
2.005	PH4-S6	120 Winter	100	+30%	100/15 Winter				2.692	
2.006	PH4-S7	120 Winter	100	+30%	100/15 Winter				2.688	
3.000	IC	15 Winter	100	+30%	100/15 Winter				2.917	
3.001	PH4-S8	15 Winter	100	+30%	100/15 Winter				2.733	
3.002	PH4-S9	120 Winter	100	+30%	100/15 Winter				2.692	
3.003	PH4-S10	120 Winter	100	+30%	100/15 Winter				2.687	
2.007	PH4-S11_Control MH	120 Winter	100	+30%	100/15 Winter				2.682	
2.008	Outfall	480 Winter	100	+30%		100/15 Winter			1.493	
1.001	CWA Swale	480 Winter	100	+30%	100/240 Winter	100/15 Winter			1.491	
PN	US/MH Name	Depth (m)	Surcharged Volume (m³)	Flooded Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded	
1.000	CWA Swale	0.937	110.482	1.10			184.0	FLOOD	9	
2.000	PH4-S1	1.034	0.000	0.70			28.2	FLOOD RISK		
2.001	PH4-S2	1.036	0.000	0.71			56.2	FLOOD RISK		
2.002	PH4-S3	1.116	0.000	1.21			80.0	FLOOD RISK		
2.003	PH4-S4	1.084	0.000	1.31			104.3	SURCHARGED		
2.004	PH4-S5	0.968	0.000	1.51			128.1	SURCHARGED		
2.005	PH4-S6	0.822	0.000	0.48			61.2	SURCHARGED		
2.006	PH4-S7	1.078	0.000	0.99			60.6	SURCHARGED		
3.000	IC	0.027	0.000	0.58			17.1	SURCHARGED		
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Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged	Flooded	Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)		
3.001	PH4-S8	0.508	0.000	1.16			47.4	SURCHARGED	
3.002	PH4-S9	0.867	0.000	0.56			25.6	SURCHARGED	
3.003	PH4-S10	0.967	0.000	0.41			30.2	SURCHARGED	
2.007	PH4-S11_Control MH	1.207	0.000	0.21			13.0	SURCHARGED	
2.008	Outfall	-0.010	112.519	0.46			193.1	FLOOD	9
1.001	CWA Swale	0.038	111.255	4.28			739.4	FLOOD	9