

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
Report Details: Type: Connections Storm Phase: Full Site		Company Address: 20 Market Street Altrincham WA14 1PF			

Name	From	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)
600.002	SW603	6.816	Pipe	100.000		0.6	150	44.630
600.003	SW604	14.870	Pipe	120.000		0.6	225	44.640
600.004	SW605	6.712	Pipe	120.000		0.6	225	44.620
600.007	SW608	16.973	Pipe	120.000		0.6	225	44.630
Pipe (5)	SW609	12.026	Pipe	32.328		0.6	225	44.780
Pipe (6)	Manhole (6)	28.922	Pipe	149.852		0.6	225	44.670
Pipe (9)	Manhole (9)	3.175	Pipe	120.000		0.6	225	44.250
Pipe (10)	Manhole (10)	6.798	Pipe	146.053		0.6	225	44.390
Pipe (12)	Manhole (12)	8.355	Pipe	80.000		0.6	150	43.260
Pipe (13)	Manhole (13)	14.330	Pipe	59.269		0.6	150	43.170
Pipe (14)	Manhole (14)	19.906	Pipe	70.000		0.6	225	42.620
Pipe (15)	Manhole (15)	12.560	Pipe	100.000		0.6	225	41.950
Pipe (16)	Manhole (16)	20.729	Pipe	95.000		0.6	300	41.600
Pipe (17)	Manhole (17)	24.614	Pipe	100.000		0.6	300	41.530
Pipe (18)	Manhole (18)	12.433	Pipe	300.000		0.6	450	40.980
Pipe (19)	Manhole (19)	20.425	Pipe	300.000		0.6	450	40.680
Pipe (20)	Manhole (20)	18.924	Pipe	300.000		0.6	450	40.000
Pipe (21)	Manhole (21)	10.081	Pipe	300.000		0.6	450	39.900
Pipe (22)	Manhole (22)	23.517	Pipe	300.000		0.6	450	40.000
Pipe (23)	Manhole (23)	13.637	Pipe	300.000		0.6	450	40.000
Pipe (24)	Manhole (24)	18.297	Pipe	300.000		0.6	450	40.000
Pipe (25)	Manhole (25)	13.055	Pipe	280.920		0.6	450	39.800
Pipe (26)	Manhole (26)	18.611	Pipe	301.757		0.6	450	40.030
Pipe (28)	Manhole (28)	30.785	Pipe	167.309		0.6	450	39.600
610.002	SW611	14.253	Pipe	131.974		0.6	150	44.780
Pipe (30)	Manhole (31)	17.863	Pipe	69.506		0.6	150	44.490
Pipe (31)	Manhole (32)	17.288	Pipe	99.930		0.6	150	44.485
500.000	SW500	13.116	Pipe	80.000		0.6	150	44.770
500.003	SW503	4.702	Pipe	80.000		0.6	150	44.780
500.004	SW504	14.355	Pipe	80.000		0.6	150	44.790
500.005	SW505	9.218	Pipe	80.000		0.6	150	44.800
500.006	SW506	16.105	Pipe	73.383		0.6	150	44.640
508.003	SW507	7.885	Pipe	88.591		0.6	225	44.550
508.001	SW509	11.901	Pipe	80.000		0.6	150	44.790
508.002	SW510	15.304	Pipe	23.691		0.6	150	44.750
300.000	SW300	7.949	Pipe	80.000		0.6	225	44.380
508.000	SW508	8.720	Pipe	80.000		0.6	150	44.790
300.001	SW301	10.091	Pipe	80.000		0.6	225	44.500
300.002	SW302	21.398	Pipe	80.000		0.6	225	44.740
300.003	SW303	18.423	Pipe	80.000		0.6	225	44.650
Pipe (47)	SW304	10.228	Pipe	31.305		0.6	225	44.550
305.002	SW307	4.960	Pipe	80.000		0.6	150	44.650
305.003	SW308	11.944	Pipe	100.000		0.6	225	44.780
305.006	SW311	15.226	Pipe	106.631		0.6	225	44.650
100.002	SW102	11.750	Pipe	80.000		0.6	150	44.550
100.003	SW103	14.308	Pipe	80.000		0.6	150	44.470
100.004	SW104	8.638	Pipe	49.188		0.6	150	44.490
Pipe (1)	SW059	25.129	Pipe	80.000		0.6	225	44.450
Pipe (60)	SW060	4.420	Pipe	12.195		0.6	225	44.400
200.001	SW201	16.661	Pipe	80.000		0.6	150	44.680
200.002	SW202	9.774	Pipe	80.000		0.6	150	44.610
200.003	SW203	13.593	Pipe	28.581		0.6	150	44.600
700.002	SW702	6.404	Pipe	80.000		0.6	150	44.460
700.003	SW703	12.822	Pipe	80.000		0.6	150	44.480
700.004	SW704	15.046	Pipe	40.000		0.6	150	44.470
700.005	SW705	7.597	Pipe	40.000		0.6	150	44.000
Pipe (71)	SW706	13.463	Pipe	40.000		0.6	150	43.970
707.000	SW707	5.977	Pipe	80.000		0.6	150	43.980
707.001	SW708	19.488	Pipe	80.000		0.6	150	43.960
1100.000	SW1100	14.011	Pipe	80.000		0.6	150	44.350
1100.003	SW1103	8.234	Pipe	80.000		0.6	150	44.350

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
Report Details: Type: Connections Storm Phase: Full Site		Company Address: 20 Market Street Altrincham WA14 1PF			

1100.009	SW1109	20.085	Pipe	41.055		0.6	150	44.470
1100.006	SW1106	6.451	Pipe	80.000		0.6	150	44.350
1100.008	SW1108	5.260	Pipe	80.000		0.6	150	44.460
1800.004	SW1804	16.973	Pipe	80.060		0.6	225	43.050
1800.003	SW1803	9.405	Pipe	80.000		0.6	225	43.000
1800.001	SW1801	3.856	Pipe	80.000		0.6	225	42.900
1800.000	SW1800	6.465	Pipe	80.000		0.6	225	42.900
1800.005	SW1805	13.593	Pipe	82.882		0.6	225	43.200
1306.000	SW1306	15.142	Pipe	39.742		0.6	150	42.550
2100.009	SW2109	10.473	Pipe	42.923		0.6	150	42.280
1801.003	SW1809	14.289	Pipe	79.814		0.6	150	42.950
1801.002	SW1808	2.466	Pipe	80.000		0.6	150	42.950
1801.001	SW1807	5.401	Pipe	80.000		0.6	150	42.950
1801.000	SW1806	16.672	Pipe	80.000		0.6	150	43.100
Pipe (100)	SW1810	15.784	Pipe	100.000		0.6	225	42.740
1900.000	SW1900	5.069	Pipe	80.000		0.6	150	42.150
1900.001	SW1901	10.497	Pipe	80.000		0.6	150	42.300
1900.002	SW1902	9.458	Pipe	40.943		0.6	225	42.200
1300.000	SW1300	17.173	Pipe	80.000		0.6	150	41.500
1300.002	SW1302	3.236	Pipe	80.000		0.6	150	41.800
1300.003	SW1303	15.866	Pipe	80.000		0.6	150	42.700
1300.004	SW1304	12.023	Pipe	80.000		0.6	150	42.700
1300.005	SW1305	10.065	Pipe	14.757		0.6	150	42.550
1306.001	SW1307	4.406	Pipe	40.055		0.6	225	42.600
1401.000	SW1401	19.112	Pipe	80.000		0.6	150	41.500
1401.001	SW1402	4.328	Pipe	80.000		0.6	150	41.350
1401.002	SW1403	22.150	Pipe	80.000		0.6	150	41.350
1401.003	SW1404	5.378	Pipe	80.000		0.6	150	41.520
1500.000	SW1500	8.340	Pipe	80.000		0.6	150	41.480
1500.001	SW1501	14.004	Pipe	80.000		0.6	150	41.480
1200.000	SW1200	9.545	Pipe	20.333		0.6	150	42.100
1200.002	SW1202	17.275	Pipe	100.000		0.6	150	41.400
1300.001	SW1301	3.939	Pipe	80.000		0.6	150	41.600
1200.006	SW1206	7.583	Pipe	100.000		0.6	225	41.000
1200.004	SW1204	10.086	Pipe	100.000		0.6	150	41.250
1200.005	SW1205	12.007	Pipe	100.000		0.6	150	41.150
1200.007	SW1207	20.345	Pipe	80.000		0.6	225	41.040
1200.008	SW1208	8.881	Pipe	21.912		0.6	225	41.200
1200.009	SW1209	29.295	Pipe	100.826		0.6	225	39.950
1700.004	SW1704	23.583	Pipe	135.269		0.6	300	40.020
1400.000	SW1400	13.349	Pipe	41.847		0.6	150	41.300
1606.000	SW1606	19.202	Pipe	149.491		0.6	225	40.000
1700.000	SW1700	4.589	Pipe	90.000		0.6	150	40.100
1700.001	SW1701	17.577	Pipe	100.000		0.6	150	40.150
1700.002	SW1702	8.833	Pipe	100.000		0.6	150	40.150
1700.003	SW1703	6.578	Pipe	109.791		0.6	150	40.100
2200.000	SW2200	4.985	Pipe	79.453		0.6	150	40.460
2300.000	SW2300	19.574	Pipe	100.000		0.6	150	40.350
2200.001	SW2201	16.164	Pipe	100.000		0.6	150	40.460
2200.002	SW2202	10.457	Pipe	120.000		0.6	225	40.470
2200.003	SW2203	15.968	Pipe	133.223		0.6	225	40.400
2200.004	SW2204	19.208	Pipe	152.447		0.6	300	40.700
1903.000	SW1903	6.354	Pipe	80.000		0.6	150	42.150
1903.001	SW1904	9.134	Pipe	80.000		0.6	225	42.150
1600.000	SW1600	12.599	Pipe	120.000		0.6	150	39.850
1600.001	SW1601	6.546	Pipe	120.000		0.6	150	40.000
1600.002	SW1602	4.998	Pipe	120.000		0.6	150	39.850
1600.004	SW1604	15.320	Pipe	120.000		0.6	150	40.000
1600.005	SW1605	20.468	Pipe	144.138		0.6	150	40.000
2301.000	SW2301	8.549	Pipe	80.000		0.6	150	40.000
Pipe (149)	Manhole (149)	14.220	Pipe	80.000		0.6	150	44.460
Pipe (150)	Manhole (150)	16.955	Pipe	80.000		0.6	150	44.520

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Connections Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			

Pipe (151)	Manhole (151)	23.250	Pipe	80.000		0.6	150	44.490
Pipe (152)	Manhole (152)	19.529	Pipe	80.000		0.6	150	44.370
Pipe (153)	Manhole (153)	23.314	Pipe	39.183		0.6	150	44.270
Pipe (154)	Manhole (154)	30.957	Pipe	25.000		0.6	150	43.130
Pipe (155)	Manhole (155)	11.852	Pipe	80.000		0.6	225	41.700
Pipe (156)	Manhole (156)	8.551	Pipe	30.496		0.6	225	41.650
2400.002	SW2402	8.282	Pipe	25.000		0.6	300	41.550
2400.004	SW2404	14.511	Pipe	150.000		0.6	375	41.210
Pipe (159)	Manhole (159)	33.205	Pipe	150.070		0.6	375	40.710
Pipe (160)	Manhole (160)	33.060	Pipe	150.000		0.6	375	40.450
Pipe (161)	Manhole (161)	32.465	Pipe	150.000		0.6	375	40.240
Pipe (162)	Manhole (162)	23.869	Pipe	120.117		0.6	375	40.340
Pipe (163)	Manhole (163)	4.643	Pipe	119.051		0.6	375	40.290
Pipe (164)	Manhole (164)	21.419	Pipe	80.000		0.6	150	44.370
Pipe (165)	Manhole (165)	10.616	Pipe	80.000		0.6	150	44.000
Pipe (166)	Manhole (166)	25.745	Pipe	79.434		0.6	150	44.320
2405.000	SW2405	9.046	Pipe	82.233		0.6	150	41.620
2405.001	SW2406	10.047	Pipe	84.943		0.6	150	41.620
2100.003	SW2103	6.775	Pipe	100.000		0.6	225	42.250
2100.002	SW2102	13.128	Pipe	100.000		0.6	150	42.270
2100.001	SW2101	5.214	Pipe	100.000		0.6	150	42.270
2100.006	SW2106	15.900	Pipe	150.000		0.6	225	42.280
2100.005	SW2105	6.672	Pipe	100.000		0.6	225	42.250
2100.004	SW2104	6.047	Pipe	100.000		0.6	225	42.250
2100.008	SW2108	20.219	Pipe	150.000		0.6	225	42.180
2100.007	SW2107	10.180	Pipe	150.000		0.6	225	42.270
2100.000	SW2100	9.183	Pipe	100.000		0.6	150	42.270
2400.003	SW2403	8.324	Pipe	27.380		0.6	300	41.570
2400.000	SW2400	21.934	Pipe	80.000		0.6	150	41.690
2400.001	SW2401	18.006	Pipe	80.000		0.6	150	41.650
2500.001	SW2501	5.997	Pipe	80.000		0.6	150	41.570
2500.000	SW2500	12.602	Pipe	80.000		0.6	150	41.570
2500.002	SW2502	9.298	Pipe	80.000		0.6	150	41.620
2500.003	SW2503	14.151	Pipe	80.000		0.6	225	41.640
2500.004	SW2504	7.459	Pipe	80.000		0.6	225	41.150
2500.005	SW2505	13.149	Pipe	30.000		0.6	225	41.110
2506.000	SW2506	7.728	Pipe	51.867		0.6	150	41.550
Pipe (191)	Manhole (191)	22.709	Pipe	40.052		0.6	150	40.620
Pipe (192)	Manhole (192)	10.569	Pipe	80.000		0.6	150	40.530
Pipe (193)	Manhole (193)	19.804	Pipe	80.000		0.6	150	40.520
Pipe (194)	Manhole (194)	11.625	Pipe	79.500		0.6	150	40.530
Pipe (195)	Manhole (195)	13.885	Pipe	19.786		0.6	150	40.360
Pipe (196)	Manhole (196)	16.855	Pipe	40.131		0.6	150	40.310
Pipe (197)	Manhole (197)	7.314	Pipe	80.000		0.6	150	40.260
Pipe (198)	Manhole (198)	15.887	Pipe	80.000		0.6	150	40.290
Pipe (199)	Manhole (199)	15.925	Pipe	100.000		0.6	150	40.250
Pipe (200)	Manhole (200)	11.590	Pipe	100.000		0.6	150	40.310

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Connections Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			

Pipe (201)	Manhole (201)	3.793	Pipe	100.000		0.6	150	40.340
Pipe (202)	Manhole (202)	16.491	Pipe	100.000		0.6	150	40.360
Pipe (203)	Manhole (203)	14.609	Pipe	100.000		0.6	150	40.360
Pipe (204)	Manhole (204)	8.284	Pipe	57.170		0.6	150	40.270
Pipe (55)	Tank 5	3.072	Pipe	75.952		0.6	450	40.120
Pipe (90)	Swale (4)	4.766	Pipe	4.501		0.6	150	39.955
Pipe (88)	Swale (1)	6.412	Pipe	43.233		0.6	150	43.173
1100.005	SW1105	10.802	Pipe	8.281		0.6	150	44.350
Pipe (210)	Tank 3	14.110	Pipe	97.310		0.6	225	43.500
Pipe (211)	Swale (2)	9.187	Pipe	102.073		0.6	150	43.523
Pipe (212)	Tank 2	14.225	Pipe	0.000		0.6	150	44.500
Pipe (85)	Manhole (20a)	5.824	Pipe	147.389		0.6	450	40.000
Pipe (27)	Manhole (27)	13.736	Pipe	0.000		0.6	450	40.100
Pipe (7)	Tank 1	24.665	Pipe	251.681		0.6	300	44.390
Pipe (215)	Manhole (7)	21.032	Pipe	52.711		0.6	300	44.500
Pipe (57)	Tank 4	2.403	Pipe	150.000		0.6	300	40.300
Pipe (63)	Tank 6	1.968	Pipe	72.885		0.6	450	39.600
Pipe (62)	Manhole (18a)	13.759	Pipe	165.140		0.6	300	40.010
305.001	SW306	10.506	Pipe	80.000		0.6	150	44.650
305.004	SW309	2.496	Pipe	100.000		0.6	225	44.650
305.005	SW310	9.207	Pipe	100.000		0.6	225	44.650
500.001	SW501	7.928	Pipe	80.000		0.6	150	44.650
500.002	SW502	3.858	Pipe	80.000		0.6	150	44.650
Pipe (8)	Manhole (8)	20.267	Pipe	120.000		0.6	150	44.400
Pipe (9a)	Manhole (9a)	2.588	Pipe	120.000		0.6	150	44.460
Pipe (9b)	Manhole (9b)	12.244	Pipe	120.000		0.6	225	44.350
Pipe (11)	Manhole (11a)	17.092	Pipe	150.000		0.6	225	44.380
Pipe (32)	Manhole (11)	19.626	Pipe	150.000		0.6	225	43.670
Pipe (33)	SW709	15.568	Pipe	80.000		0.6	150	43.850
305.000	SW305	20.085	Pipe	80.000		0.6	150	44.450
900.000	SW900	6.176	Pipe	80.000		0.6	150	44.350
900.001	SW901	12.607	Pipe	80.000		0.6	150	44.350
900.002	SW902	6.454	Pipe	161.356		0.6	225	44.120
1100.004	SW1104	17.468	Pipe	80.000		0.6	150	44.350
1100.002	SW1102	6.412	Pipe	80.000		0.6	150	44.350
1100.001	SW1101	12.713	Pipe	80.000		0.6	150	44.490
1100.007	SW1107	7.988	Pipe	80.000		0.6	150	44.350
PP2	Porous Paving (2)	3.664	Pipe	2.097		0.6	100	44.593
100.000	SW100	5.522	Pipe	80.000		0.6	150	44.680
200.000	SW200	16.157	Pipe	80.000		0.6	150	44.670
PP8	Porous Paving (8)	9.520	Pipe	10.347		0.6	100	44.773
PP15	Porous Paving (15)	3.733	Pipe	4.102		0.6	100	44.763
PP16	Porous Paving (16)	13.707	Pipe	14.323		0.6	100	44.718
PP21	Porous Paving (21)	2.421	Pipe	1.991		0.6	100	44.817
PP4	Porous Paving (4)	15.540	Pipe	11.881		0.6	100	44.410
PP3	Porous Paving (3)	8.160	Pipe	3.794		0.6	100	44.560
PP09	Porous Paving (9)	12.284	Pipe	8.830		0.6	100	44.513
PP11	Porous Paving (11)	12.208	Pipe	6.708		0.6	100	44.528
PP10	Porous Paving (10)	11.326	Pipe	8.141		0.6	100	44.453
PP12	Porous Paving (12)	8.460	Pipe	4.842		0.6	100	44.549
PP13	Porous Paving (13)	5.441	Pipe	3.320		0.6	100	44.528

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Connections Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			

PP1	Porous Paving (1)	2.112	Pipe	2.162		0.6	150	44.749
600.005	SW606	6.322	Pipe	120.000		0.6	225	44.640
600.006	SW607	8.586	Pipe	120.000		0.6	225	44.650
600.000	SW600	15.699	Pipe	100.000		0.6	150	44.700
601.000	SW602	2.458	Pipe	91.088		0.6	150	44.620
600.001	SW601	8.075	Pipe	100.000		0.6	150	44.610
610.001	SW610	8.043	Pipe	114.894		0.6	150	44.700
700.000	SW700	5.730	Pipe	80.000		0.6	150	44.350
700.001	SW701	2.384	Pipe	80.000		0.6	150	44.350
PP5	Porous Paving (5)	13.125	Pipe	8.971		0.6	100	44.702
PP	Porous Paving	2.354	Pipe	2.709		0.6	100	44.650
PP7	Porous Paving (7)	3.525	Pipe	1.890		0.6	100	44.700
PP17	Porous Paving (17)	1.138	Pipe	1.160		0.6	100	41.203
1200.003	SW1203	6.593	Pipe	100.000		0.6	150	41.270
PP18	Porous Paving (18)	8.693	Pipe	19.535		0.6	100	42.015
Pipe (58)	Porous Paving (20)	2.489	Pipe	5.593		0.6	100	39.998
Pipe (61)	Porous Paving (22)	5.000	Pipe	6.640		0.6	100	40.004
PP24	Porous Paving (24)	22.783	Pipe	29.764		0.6	100	40.201
PP23	Porous Paving (23)	6.957	Pipe	8.531		0.6	100	41.142
PP27	Porous Paving (27)	16.729	Pipe	43.340		0.6	100	41.706
PP28	Porous Paving (28)	5.774	Pipe	6.175		0.6	100	41.684
PP31	Porous Paving (31)	9.117	Pipe	7.610		0.6	100	41.909
Pipe (72)	Porous Paving (32)	3.909	Pipe	3.496		0.6	100	40.234
Pipe (73)	Porous Paving (33)	6.062	Pipe	6.920		0.6	100	40.241
Pipe (74)	Porous Paving (34)	6.071	Pipe	5.106		0.6	100	40.280
Pipe (75)	Porous Paving (36)	2.491	Pipe	1.602		0.6	100	40.153
Pipe (76)	Porous Paving (35)	3.613	Pipe	2.562		0.6	100	40.275
1800.002	SW1802	5.518	Pipe	80.000		0.6	225	42.900
Pipe (68)	Porous Paving (30)	9.800	Pipe	11.449		0.6	100	40.230
Pipe (77)	Porous Paving (37)	2.762	Pipe	4.879		0.6	100	40.252
1906.000	SW1906	5.882	Pipe	80.299		0.6	150	42.050
Pipe (64)	Swale (5)	6.293	Pipe	5.721		0.6	150	39.628
PP1b	Porous Paving (1)	9.047	Pipe	12.566		0.6	150	44.749
PP1c	Porous Paving (1)	2.831	Pipe	3.931		0.6	150	44.749
PP1a	Porous Paving (1)	16.961	Pipe	23.557		0.6	100	44.749
PP19a	Porous Paving (19)	30.230	Pipe	41.987		0.6	150	44.580
PP25	Porous Paving (25)	18.515	Pipe	18.600		0.6	100	40.807
1903.002	SW1905	8.605	Pipe	40.022		0.6	225	41.750
1200.001	SW1201	7.188	Pipe	79.999		0.6	150	41.600
Pipe (14) (1)	Manhole (4)	11.029	Pipe	76.877		0.6	225	42.700
Pipe (44)	Porous Paving (20)	2.496	Pipe	16.002		0.6	100	39.998
100.001	SW101	7.811	Pipe	80.000		0.6	150	44.550
PP41	Porous Paving (41)	12.921	Pipe	55.692		0.6	100	44.169
Pipe (54)	Swale 6	13.297	Pipe	33.599		0.6	150	40.000
1600.003	SW1603	10.567	Pipe	120.000		0.6	150	40.000

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Connections Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			

Pipe	Swale (3)	8.848	Pipe	7.979		0.6	150	40.150
Pipe (86)	Tank 7	1.901	Pipe	100.000		0.6	450	39.930
PP14	Porous Paving (14)	11.029	Pipe	10.063		0.6	150	45.042
Pipe (4)	Porous Paving (38)	9.377	Pipe	8.805		0.6	100	40.659
Pipe (3)	Porous Paving (6)	5.496	Pipe	3.053		0.6	100	44.751
Pipe (2)	SW60a	10.837	Pipe	80.000		0.6	225	44.500
Pipe (155) (1)	Manhole (156a)	26.884	Pipe	91.928		0.6	225	41.670
PP26	Porous Paving (26)	9.944	Pipe	8.910		0.6	100	43.591
PP29	Porous Paving (29)	8.923	Pipe	10.610		0.6	100	44.463

Name	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Part Family	Lock	Flow Restriction (L/s)
600.002	43.532	44.640	43.464		All	
600.003	43.383	44.620	43.259		All	
600.004	43.259	44.640	43.203		All	
600.007	43.079	44.780	42.937		All	
Pipe (5)	42.937	44.670	42.565		All	
Pipe (6)	42.565	44.500	42.372		All	
Pipe (9)	41.433	44.390	41.407		All	
Pipe (10)	41.407	44.380	41.360		All	
Pipe (12)	41.115	43.170	41.011		All	
Pipe (13)	41.011	42.620	40.769		All	7.3
Pipe (14)	40.694	42.700	40.410		All	
Pipe (15)	40.307	41.600	40.182		All	
Pipe (16)	38.965	41.530	38.747		All	
Pipe (17)	38.747	40.980	38.501		All	
Pipe (18)	38.351	40.680	38.310		All	
Pipe (19)	38.310	40.000	38.241		All	
Pipe (20)	38.241	39.900	38.178		All	65.5
Pipe (21)	38.178	40.000	38.145		All	
Pipe (22)	38.145	40.000	38.066		All	
Pipe (23)	38.066	40.000	38.021		All	
Pipe (24)	38.021	39.800	37.960		All	
Pipe (25)	37.960	40.030	37.913		All	
Pipe (26)	37.913	40.100	37.851		All	
Pipe (28)	37.824	39.580	37.640		All	63.0
610.002	43.120	44.780	43.012		All	
Pipe (30)	43.070	44.485	42.813		All	
Pipe (31)	42.813	44.670	42.640		All	
500.000	43.420	44.650	43.256		All	
500.003	43.109	44.790	43.050		All	
500.004	43.050	44.800	42.871		All	
500.005	42.871	44.640	42.755		All	
500.006	42.755	44.550	42.536		All	
508.003	42.461	44.500	42.372		All	
508.001	43.331	44.750	43.182		All	
508.002	43.182	44.550	42.536		All	
300.000	42.925	44.500	42.826		All	
508.000	43.440	44.790	43.331		All	
300.001	42.826	44.740	42.699		All	
300.002	42.699	44.650	42.432		All	
300.003	42.432	44.550	42.202		All	
Pipe (47)	42.202	44.400	41.875		All	
305.002	42.718	44.780	42.656		All	
305.003	42.581	44.650	42.462		All	
305.006	42.345	44.550	42.202		All	
100.002	43.263	44.470	43.116		All	
100.003	43.116	44.490	42.938		All	
100.004	42.938	44.450	42.762		All	
Pipe (1)	42.687	44.500	42.373		All	

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
Report Details: Type: Connections Storm Phase: Full Site		Company Address: 20 Market Street Altrincham WA14 1PF			

Pipe (60)	42.237	44.400	41.875	All	
200.001	43.118	44.610	42.910	All	
200.002	42.910	44.600	42.788	All	
200.003	42.788	44.400	42.312	All	
700.002	43.399	44.480	43.319	All	
700.003	43.319	44.470	43.158	All	
700.004	43.158	44.000	42.782	All	
700.005	42.782	43.970	42.592	All	
Pipe (71)	42.592	44.380	42.256	All	
707.000	42.830	43.960	42.755	All	
707.001	42.755	43.850	42.512	All	
1100.000	43.300	44.490	43.125	All	
1100.003	42.886	44.350	42.783	All	
1100.009	43.054	44.350	42.565	All	
1100.006	43.300	44.350	43.219	All	
1100.008	43.120	44.470	43.054	All	
1800.004	41.070	43.200	40.858	None	
1800.003	41.188	43.050	41.070	None	
1800.001	41.305	42.900	41.257	None	
1800.000	41.386	42.900	41.305	None	
1800.005	40.858	42.620	40.694	None	
1306.000	41.260	42.600	40.879	All	
2100.009	40.500	42.180	40.256	All	
1801.003	40.678	42.740	40.499	All	
1801.002	40.709	42.950	40.678	All	
1801.001	40.776	42.950	40.709	None	
1801.000	40.985	42.950	40.776	None	
Pipe (100)	40.424	41.950	40.266	All	
1900.000	41.000	42.300	40.937	All	
1900.001	40.937	42.200	40.805	All	
1900.002	40.730	42.740	40.499	All	
1300.000	40.450	41.600	40.235	All	
1300.002	40.186	42.700	40.146	All	
1300.003	40.146	42.700	39.947	All	
1300.004	39.947	42.550	39.797	All	
1300.005	39.797	41.600	39.115	All	
1306.001	40.804	42.620	40.694	All	
1401.000	40.450	41.350	40.211	All	
1401.001	40.211	41.350	40.157	All	
1401.002	40.157	41.520	39.880	All	
1401.003	39.880	41.600	39.813	All	
1500.000	40.430	41.480	40.326	All	
1500.001	40.326	41.530	40.151	All	
1200.000	40.870	41.600	40.401	All	
1200.002	40.311	41.270	40.138	All	
1300.001	40.235	41.800	40.186	All	
1200.006	39.776	41.040	39.700	All	
1200.004	40.072	41.150	39.971	All	
1200.005	39.971	41.000	39.851	All	
1200.007	39.700	41.200	39.446	All	
1200.008	39.446	39.950	39.041	All	
1200.009	39.041	40.020	38.750	All	
1700.004	38.675	40.980	38.501	All	
1400.000	39.840	41.200	39.521	All	
1606.000	39.169	39.950	39.041	None	
1700.000	39.200	40.150	39.149	All	
1700.001	39.149	40.150	38.973	All	
1700.002	38.973	40.100	38.885	All	
1700.003	38.885	40.020	38.825	All	
2200.000	39.167	40.460	39.104	All	
2300.000	39.300	40.460	39.104	All	
2200.001	39.104	40.470	38.943	All	
2200.002	38.868	40.400	38.781	All	
2200.003	38.781	40.700	38.661	All	

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
Report Details: Type: Connections Storm Phase: Full Site		Company Address: 20 Market Street Altrincham WA14 1PF			

2200.004	38.586	40.680	38.460	All	
1903.000	41.000	42.150	40.921	All	
1903.001	40.846	41.750	40.732	All	
1600.000	39.100	40.000	38.995	All	
1600.001	38.995	39.850	38.940	All	
1600.002	38.940	40.000	38.899	All	
1600.004	38.811	40.000	38.683	All	
1600.005	38.683	40.000	38.541	All	
2301.000	38.950	39.800	38.843	All	
Pipe (149)	43.320	44.520	43.142	All	
Pipe (150)	43.142	44.490	42.930	All	
Pipe (151)	42.930	44.370	42.639	All	
Pipe (152)	42.639	44.270	42.395	All	
Pipe (153)	42.395	43.130	41.800	All	
Pipe (154)	41.800	41.700	40.562	All	
Pipe (155)	40.487	41.670	40.339	All	
Pipe (156)	40.046	41.550	39.766	All	
2400.002	39.691	41.570	39.360	All	
2400.004	38.981	40.710	38.884	All	
Pipe (159)	38.884	40.450	38.663	All	
Pipe (160)	38.663	40.240	38.443	All	
Pipe (161)	38.443	40.340	38.226	All	
Pipe (162)	38.226	40.290	38.027	All	
Pipe (163)	38.027	40.030	37.988	All	
Pipe (164)	43.120	44.000	42.852	All	
Pipe (165)	42.852	44.320	42.719	All	
Pipe (166)	42.719	44.270	42.395	All	
2405.000	40.790	41.620	40.680	All	
2405.001	40.680	41.700	40.562	All	
2100.003	40.550	42.250	40.482	None	
2100.002	40.776	42.250	40.645	All	
2100.001	40.828	42.270	40.776	All	
2100.006	40.355	42.270	40.249	All	
2100.005	40.422	42.280	40.355	None	
2100.004	40.482	42.250	40.422	None	
2100.008	40.181	41.650	40.046	All	
2100.007	40.249	42.180	40.181	None	
2100.000	40.920	42.270	40.828	All	
2400.003	39.360	41.210	39.056	All	
2400.000	40.340	41.650	40.066	None	
2400.001	40.066	41.550	39.841	All	
2500.001	40.462	41.620	40.388	All	
2500.000	40.620	41.570	40.462	All	
2500.002	40.388	41.640	40.271	All	
2500.003	40.196	41.150	40.019	All	
2500.004	40.019	41.110	39.926	All	
2500.005	39.926	40.450	39.488	All	
2506.000	40.150	41.110	40.001	All	
Pipe (191)	39.018	40.340	38.451	All	
Pipe (192)	39.480	40.520	39.348	All	
Pipe (193)	39.348	40.530	39.100	All	
Pipe (194)	39.100	40.360	38.954	All	
Pipe (195)	38.954	40.290	38.252	All	
Pipe (196)	39.260	40.290	38.840	All	
Pipe (197)	39.210	40.290	39.119	All	
Pipe (198)	39.119	40.250	38.920	All	
Pipe (199)	38.920	40.310	38.761	All	
Pipe (200)	38.761	40.340	38.645	All	
Pipe (201)	38.645	40.360	38.607	All	
Pipe (202)	38.607	40.360	38.442	All	
Pipe (203)	38.442	40.270	38.296	All	
Pipe (204)	38.296	40.100	38.151	All	
Pipe (55)	38.350	40.680	38.310	None	
Pipe (90)	39.600	40.000	38.541	All	

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
Report Details: Type: Connections Storm Phase: Full Site		Designed by: Nour Rashdan	Checked by: Johnny Hunt		
		Approved By: Pedro Vicente			
		Company Address: 20 Market Street Altrincham WA14 1PF			

Pipe (88)	42.660	43.850	42.512	None	
1100.005	42.565	43.500	41.260	All	
Pipe (210)	41.260	43.260	41.115	All	
Pipe (211)	43.000	43.260	42.910	All	
Pipe (212)	42.429	44.500	42.429	All	
Pipe (85)	38.281	40.000	38.241	All	
Pipe (27)	37.851	39.600	37.851	All	
Pipe (7)	41.898	44.400	41.800	All	
Pipe (215)	42.297	44.390	41.898	All	
Pipe (57)	38.600	40.010	38.584	All	
Pipe (63)	37.851	39.600	37.824	All	
Pipe (62)	38.584	40.980	38.501	All	
305.001	42.849	44.650	42.718	All	
305.004	42.462	44.650	42.437	All	
305.005	42.437	44.650	42.345	All	
500.001	43.256	44.650	43.157	All	
500.002	43.157	44.780	43.109	All	
Pipe (8)	41.800	44.460	41.631	All	8.5
Pipe (9a)	41.631	44.350	41.610	All	
Pipe (9b)	41.535	44.250	41.433	All	
Pipe (11)	41.360	43.670	41.246	All	
Pipe (32)	41.246	43.260	41.115	All	
Pipe (33)	42.512	43.670	42.317	All	
305.000	43.100	44.650	42.849	All	
900.000	43.350	44.350	43.273	All	
900.001	43.273	44.120	43.115	All	
900.002	43.040	43.523	43.000	All	
1100.004	42.783	44.350	42.565	All	
1100.002	42.966	44.350	42.886	All	
1100.001	43.125	44.350	42.966	All	
1100.007	43.219	44.460	43.120	All	
PP2	44.026	44.500	42.279	All	
100.000	43.430	44.550	43.361	All	
200.000	43.320	44.680	43.118	All	
PP8	44.090	44.780	43.170	None	
PP15	44.080	44.780	43.170	None	
PP16	43.820	44.485	42.863	None	
PP21	44.456	44.700	43.240	None	
PP4	43.670	44.400	42.362	All	
PP3	44.001	44.400	41.850	All	
PP09	43.670	44.500	42.279	None	
PP11	43.670	44.400	41.850	All	
PP10	43.670	44.500	42.279	None	
PP12	44.026	44.500	42.279	None	
PP13	44.001	44.400	42.362	All	
PP1	43.790	44.485	42.813	None	
600.005	43.203	44.650	43.150	All	
600.006	43.150	44.630	43.079	All	
600.000	43.770	44.610	43.613	All	
601.000	43.640	44.610	43.613	All	
600.001	43.613	44.630	43.532	All	
610.001	43.190	44.780	43.120	All	
700.000	43.500	44.350	43.428	All	
700.001	43.428	44.460	43.399	All	
PP5	44.020	44.650	42.557	All	
PP	43.820	44.500	42.951	All	
PP7	43.715	44.400	41.850	All	
PP17	40.806	41.040	39.825	All	
1200.003	40.138	41.250	40.072	All	
PP18	40.806	41.400	40.361	All	
Pipe (58)	39.306	40.000	38.861	None	
Pipe (61)	39.486	40.000	38.733	None	
PP24	39.806	39.950	39.041	None	
PP23	39.856	39.950	39.041	None	

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
Report Details: Type: Connections Storm Phase: Full Site		Company Address: 20 Market Street Altrincham WA14 1PF			

PP27	41.226	41.620	40.840	All	
PP28	41.256	41.640	40.321	All	
PP31	39.916	40.450	38.718	All	
Pipe (72)	39.836	40.240	38.718	All	
Pipe (73)	39.846	40.250	38.970	None	
Pipe (74)	39.846	40.360	38.657	None	
Pipe (75)	39.756	40.100	38.201	None	
Pipe (76)	39.756	40.270	38.346	None	
1800.002	41.257	43.000	41.188	None	
Pipe (68)	39.826	40.250	38.970	None	
Pipe (77)	39.826	40.260	39.260	None	
1906.000	40.718	42.250	40.645	All	
Pipe (64)	39.251	40.100	38.151	All	
PP1b	43.790	44.490	43.070	None	
PP1c	43.790	44.490	43.070	None	
PP1a	43.790	44.490	43.070	None	
PP19a	43.790	44.490	43.070	None	
PP25	40.036	39.950	39.041	None	
1903.002	38.876	40.700	38.661	All	
1200.001	40.401	41.400	40.311	All	
Pipe (14) (1)	40.410	41.950	40.266	All	
Pipe (44)	39.306	39.850	39.150	None	
100.001	43.361	44.550	43.263	All	
PP41	43.220	44.490	42.988	All	
Pipe (54)	39.500	40.460	39.104	None	
1600.003	38.899	40.000	38.811	All	
Pipe	39.650	40.000	38.541	All	
Pipe (86)	38.300	40.000	38.281	All	
PP14	44.166	44.490	43.070	None	
Pipe (4)	39.656	40.000	38.591	All	
Pipe (3)	44.506	44.780	42.706	None	
Pipe (2)	42.373	44.400	42.237	All	
Pipe (155) (1)	40.339	41.650	40.046	All	
PP26	42.426	42.550	41.310	All	
PP29	43.956	44.120	43.115	All	

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
Report Details: Type: Inflow Summary Storm Phase: Full Site		Company Address: 20 Market Street Altrincham WA14 1PF			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	SW602		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (1)	SW604		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (2)	SW605		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (3)	SW608		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (4)	SW500		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (5)	SW305		Time of Concentration	0.007	100	0	100	0.007
Catchment Area (6)	SW300		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (7)	Porous Paving		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (8)	Porous Paving (1)		Time of Concentration	0.033	100	0	100	0.033
Catchment Area (9)	Porous Paving (19)		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (10)	SW2406		Time of Concentration	0.005	100	0	100	0.005
Catchment Area (11)	SW1900		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (12)	SW201		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (13)	SW202		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (14)	SW307		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (15)	SW305		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (16)	SW308		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (17)	SW311		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (18)	SW508		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (19)	Manhole (7)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (20)	Porous Paving (8)		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (21)	SW600		Time of Concentration	0.004	100	0	100	0.004
Catchment Area (22)	Porous Paving (15)		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (23)	Porous Paving (16)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (24)	Manhole (16)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (25)	Manhole (149)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (26)	Manhole (164)		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (27)	SW1304		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (28)	Porous Paving (14)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (29)	Manhole (151)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (30)	Porous Paving (9)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (31)	SW1100		Time of Concentration	0.005	100	0	100	0.005
Catchment Area (32)	Manhole (154)		Time of Concentration	0.041	100	0	100	0.041
Catchment Area (33)	Manhole (166)		Time of Concentration	0.005	100	0	100	0.005
Catchment Area (34)	Manhole (153)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (35)	Manhole (164)		Time of Concentration	0.012	100	0	100	0.012

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Inflow Summary Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			

Catchment Area (36)	SW1101	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (37)	SW1104	Time of Concentration	0.009	100	0	100	0.009
Catchment Area (38)	SW901	Time of Concentration	0.018	100	0	100	0.018
Catchment Area (39)	SW602	Time of Concentration	0.002	100	0	100	0.002
Catchment Area (40)	Manhole (155)	Time of Concentration	0.014	100	0	100	0.014
Catchment Area (41)	SW2405	Time of Concentration	0.025	100	0	100	0.025
Catchment Area (42)	SW1800	Time of Concentration	0.039	100	0	100	0.039
Catchment Area (43)	SW1804	Time of Concentration	0.009	100	0	100	0.009
Catchment Area (44)	SW2100	Time of Concentration	0.010	100	0	100	0.010
Catchment Area (45)	Porous Paving (37)	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (46)	Porous Paving (30)	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (47)	Porous Paving (33)	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (48)	Porous Paving (4)	Time of Concentration	0.020	100	0	100	0.020
Catchment Area (49)	Porous Paving (35)	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (50)	Porous Paving (36)	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (51)	Porous Paving (32)	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (52)	Porous Paving (29)	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (53)	SW902	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (54)	Porous Paving (20)	Time of Concentration	0.017	100	0	100	0.017
Catchment Area (55)	SW300	Time of Concentration	0.020	100	0	100	0.020
Catchment Area (56)	Porous Paving (31)	Time of Concentration	0.009	100	0	100	0.009
Catchment Area (57)	Manhole (160)	Time of Concentration	0.007	100	0	100	0.007
Catchment Area (58)	SW2404	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (59)	SW2402	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (60)	SW2401	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (61)	SW2402	Time of Concentration	0.002	100	0	100	0.002
Catchment Area (62)	Porous Paving (28)	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (63)	Manhole (156)	Time of Concentration	0.021	100	0	100	0.021
Catchment Area (64)	SW2404	Time of Concentration	0.009	100	0	100	0.009
Catchment Area (65)	Manhole (196)	Time of Concentration	0.023	100	0	100	0.023
Catchment Area (66)	Manhole (26)	Time of Concentration	0.017	100	0	100	0.017
Catchment Area (67)	Manhole (24)	Time of Concentration	0.011	100	0	100	0.011
Catchment Area (68)	Manhole (22)	Time of Concentration	0.014	100	0	100	0.014
Catchment Area (69)	Manhole (21)	Time of Concentration	0.012	100	0	100	0.012
Catchment Area (70)	Porous Paving (24)	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (71)	Swale (5)	Time of Concentration	0.035	100	0	100	0.035
Catchment Area (72)	Porous Paving (22)	Time of Concentration	0.004	100	0	100	0.004

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Inflow Summary Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			

Catchment Area (73)	Manhole (21)	Time of Concentration	0.010	100	0	100	0.010
Catchment Area (74)	SW2200	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (75)	SW2106	Time of Concentration	0.009	100	0	100	0.009
Catchment Area (76)	SW2202	Time of Concentration	0.007	100	0	100	0.007
Catchment Area (77)	SW2204	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (78)	SW2203	Time of Concentration	0.018	100	0	100	0.018
Catchment Area (79)	SW2107	Time of Concentration	0.009	100	0	100	0.009
Catchment Area (80)	SW2108	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (81)	SW2108	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (82)	SW305	Time of Concentration	0.002	100	0	100	0.002
Catchment Area (83)	SW500	Time of Concentration	0.013	100	0	100	0.013
Catchment Area (84)	Porous Paving (23)	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (85)	Porous Paving (25)	Time of Concentration	0.002	100	0	100	0.002
Catchment Area (86)	SW305	Time of Concentration	0.002	100	0	100	0.002
Catchment Area (87)	Porous Paving (17)	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (88)	Porous Paving (18)	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (89)	SW1200	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (90)	SW1209	Time of Concentration	0.018	100	0	100	0.018
Catchment Area (91)	SW1805	Time of Concentration	0.001	100	0	100	0.001
Catchment Area (92)	SW1804	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (93)	Manhole (15)	Time of Concentration	0.010	100	0	100	0.010
Catchment Area (94)	SW1303	Time of Concentration	0.002	100	0	100	0.002
Catchment Area (95)	SW1302	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (96)	Manhole (16)	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (97)	SW1301	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (98)	SW1700	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (99)	SW1209	Time of Concentration	0.007	100	0	100	0.007
Catchment Area (100)	SW1701	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (101)	SW1703	Time of Concentration	0.012	100	0	100	0.012
Catchment Area (102)	Manhole (18)	Time of Concentration	0.015	100	0	100	0.015
Catchment Area (103)	Manhole (19)	Time of Concentration	0.020	100	0	100	0.020
Catchment Area (104)	SW1403	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (105)	Manhole (17)	Time of Concentration	0.011	100	0	100	0.011
Catchment Area (106)	Porous Paving (27)	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (107)	SW1404	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (108)	Manhole (15)	Time of Concentration	0.012	100	0	100	0.012
Catchment Area (109)	SW1401	Time of Concentration	0.008	100	0	100	0.008

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
Report Details: Type: Inflow Summary Storm Phase: Full Site		Company Address: 20 Market Street Altrincham WA14 1PF			

Catchment Area (110)	SW1903	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (111)	SW2107	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (112)	SW201	Time of Concentration	0.001	100	0	100	0.001
Catchment Area (113)	SW1807	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (114)	Manhole (16)	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (115)	SW1807	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (116)	SW2102	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (117)	SW2103	Time of Concentration	0.007	100	0	100	0.007
Catchment Area (118)	SW2102	Time of Concentration	0.013	100	0	100	0.013
Catchment Area (119)	SW2104	Time of Concentration	0.014	100	0	100	0.014
Catchment Area (120)	SW707	Time of Concentration	0.001	100	0	100	0.001
Catchment Area (121)	SW706	Time of Concentration	0.022	100	0	100	0.022
Catchment Area (122)	Manhole (11)	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (123)	SW305	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (124)	SW1306	Time of Concentration	0.011	100	0	100	0.011
Catchment Area (125)	Manhole (12)	Time of Concentration	0.010	100	0	100	0.010
Catchment Area (126)	SW702	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (127)	SW704	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (128)	Manhole (9a)	Time of Concentration	0.020	100	0	100	0.020
Catchment Area (129)	Porous Paving (38)	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (130)	SW709	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (131)	Manhole (23)	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (132)	Manhole (11)	Time of Concentration	0.010	100	0	100	0.010
Catchment Area (133)	SW308	Time of Concentration	0.001	100	0	100	0.001
Catchment Area (134)	Porous Paving (29)	Time of Concentration	0.009	100	0	100	0.009
Catchment Area (135)	SW1109	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (136)	Porous Paving (41)	Time of Concentration	0.042	100	0	100	0.042
Catchment Area (137)	SW1104	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (138)	Manhole (191)	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (139)	Manhole (191)	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (140)	Manhole (192)	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (141)	Manhole (161)	Time of Concentration	0.007	100	0	100	0.007
Catchment Area (142)	Manhole (162)	Time of Concentration	0.017	100	0	100	0.017
Catchment Area (143)	Manhole (162)	Time of Concentration	0.007	100	0	100	0.007
Catchment Area (144)	Manhole (193)	Time of Concentration	0.002	100	0	100	0.002
Catchment Area (145)	Manhole (194)	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (146)	Manhole (193)	Time of Concentration	0.004	100	0	100	0.004

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Inflow Summary Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			

Catchment Area (147)	Manhole (162)	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (148)	Manhole (196)	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (149)	SW1209	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (150)	SW301	Time of Concentration	0.015	100	0	100	0.015
Catchment Area (151)	SW708	Time of Concentration	0.014	100	0	100	0.014
Catchment Area (152)	SW1104	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (153)	SW1108	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (154)	SW500	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (155)	Porous Paving (13)	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (156)	SW602	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (157)	SW1803	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (158)	SW600	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (159)	SW104	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (160)	Manhole (16)	Time of Concentration	0.013	100	0	100	0.013
Catchment Area (161)	SW600	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (162)	Manhole (150)	Time of Concentration	0.002	100	0	100	0.002
Catchment Area (163)	Manhole (164)	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (164)	Porous Paving (6)	Time of Concentration	0.001	100	0	100	0.001
Catchment Area (165)	SW200	Time of Concentration	0.007	100	0	100	0.007
Catchment Area (166)	Manhole (151)	Time of Concentration	0.007	100	0	100	0.007
Catchment Area (167)	Manhole (153)	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (168)	SW200	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (169)	Porous Paving (10)	Time of Concentration	0.014	100	0	100	0.014
Catchment Area (170)	Porous Paving (11)	Time of Concentration	0.029	100	0	100	0.029
Catchment Area (171)	Porous Paving (3)	Time of Concentration	0.012	100	0	100	0.012
Catchment Area (172)	Porous Paving (2)	Time of Concentration	0.007	100	0	100	0.007
Catchment Area (173)	Porous Paving (12)	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (174)	SW901	Time of Concentration	0.009	100	0	100	0.009
Catchment Area (175)	Porous Paving (9)	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (176)	Porous Paving (26)	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (177)	SW902	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (182)	SW705	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (185)	SW709	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (188)	Manhole (13)	Time of Concentration	0.017	100	0	100	0.017
Catchment Area (189)	SW1306	Time of Concentration	0.013	100	0	100	0.013
Catchment Area (190)	SW1200	Time of Concentration	0.015	100	0	100	0.015
Catchment Area (191)	SW600	Time of Concentration	0.007	100	0	100	0.007

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Inflow Summary Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			

Catchment Area (192)	SW1305		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (193)	Manhole (16)		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (194)	SW1500		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (195)	SW1501		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (196)	SW1209		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (197)	SW600		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (198)	Porous Paving (5)		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (199)	Manhole (18)		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (200)	SW300		Time of Concentration	0.001	100	0	100	0.001
Catchment Area (201)	Manhole (19)		Time of Concentration	0.007	100	0	100	0.007
Catchment Area (202)	SW1810		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (203)	SW1810		Time of Concentration	0.005	100	0	100	0.005
Catchment Area (204)	SW1810		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (205)	SW1806		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (206)	SW2100		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (207)	SW1906		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (208)	SW2203		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (209)	SW2201		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (210)	SW2203		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (211)	Porous Paving (7)		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (212)	Manhole (25)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (213)	Manhole (165)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (214)	Porous Paving (9)		Time of Concentration	0.023	100	0	100	0.023
Catchment Area (215)	SW2406		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (217)	Manhole (154)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (218)	Manhole (159)		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (219)	Porous Paving (34)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (220)	SW2400		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (221)	Manhole (156a)		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (222)	Swale (1)		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (223)	Swale (2)		Time of Concentration	0.019	100	0	100	0.019
Catchment Area (224)	Swale (3)		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (225)	Swale (4)		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (226)	SW610		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (227)	Porous Paving (14)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (228)	Swale 6		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (229)	Porous Paving (21)		Time of Concentration	0.001	100	0	100	0.001

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
	Report Details: Type: Inflow Summary Storm Phase: Full Site			
Company Address: 20 Market Street Altrincham WA14 1PF				

Catchment Area (230)	SW309		Time of Concentration	0.003	100	0	100	0.003
Catchment Area (231)	SW309		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (232)	Manhole (156)		Time of Concentration	0.005	100	0	100	0.005
Catchment Area (233)	SW509		Time of Concentration	0.006	100	0	100	0.006
Green Roof	SW603		Green Roof	0.014		0		0.014
Green Roof (1)	SW604		Green Roof	0.017		0		0.017
Green Roof (2)	SW607		Green Roof	0.013		0		0.013
Green Roof (3)	SW501		Green Roof	0.014		0		0.014
Green Roof (4)	SW510		Green Roof	0.022		0		0.022
Green Roof (5)	SW505		Green Roof	0.016		0		0.016
Green Roof (6)	SW306		Green Roof	0.019		0		0.019
Green Roof (7)	SW509		Green Roof	0.017		0		0.017
Green Roof (8)	SW306		Green Roof	0.010		0		0.010
Green Roof (9)	SW309		Green Roof	0.022		0		0.022
Green Roof (10)	SW310		Green Roof	0.016		0		0.016
Green Roof (11)	SW300		Green Roof	0.021		0		0.021
Green Roof (12)	SW100		Green Roof	0.021		0		0.021
Green Roof (13)	SW102		Green Roof	0.014		0		0.014
Green Roof (14)	SW103		Green Roof	0.014		0		0.014
Green Roof (15)	SW203		Green Roof	0.021		0		0.021
Green Roof (16)	SW700		Green Roof	0.014		0		0.014
Green Roof (17)	SW701		Green Roof	0.027		0		0.027
Green Roof (18)	SW704		Green Roof	0.010		0		0.010
Green Roof (19)	SW708		Green Roof	0.030		0		0.030
Green Roof (20)	Manhole (9a)		Green Roof	0.014		0		0.014
Green Roof (21)	Manhole (9b)		Green Roof	0.010		0		0.010
Green Roof (22)	SW900		Green Roof	0.022		0		0.022
Green Roof (23)	SW901		Green Roof	0.017		0		0.017
Green Roof (24)	SW1106		Green Roof	0.014		0		0.014
Green Roof (25)	SW1107		Green Roof	0.010		0		0.010
Green Roof (26)	SW1102		Green Roof	0.022		0		0.022
Green Roof (27)	SW1103		Green Roof	0.017		0		0.017
Green Roof (28)	Manhole (151)		Green Roof	0.031		0		0.031
Green Roof (29)	Manhole (164)		Green Roof	0.027		0		0.027
Green Roof (30)	Manhole (152)		Green Roof	0.029		0		0.029
Green Roof (31)	Manhole (164)		Green Roof	0.023		0		0.023
Green Roof (32)	Manhole (153)		Green Roof	0.028		0		0.028
Green Roof (33)	Manhole (166)		Green Roof	0.022		0		0.022
Green Roof (34)	Manhole (4)		Green Roof	0.017		0		0.017
Green Roof (35)	SW1307		Green Roof	0.021		0		0.021
Green Roof (36)	SW1303		Green Roof	0.021		0		0.021
Green Roof (38)	SW1301		Green Roof	0.021		0		0.021

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
	Report Details: Type: Inflow Summary Storm Phase: Full Site			
			Company Address: 20 Market Street Altrincham WA14 1PF	

Green Roof (39)	SW1201		Green Roof	0.020		0		0.020
Green Roof (40)	SW1203		Green Roof	0.014		0		0.014
Green Roof (41)	SW1205		Green Roof	0.017		0		0.017
Green Roof (42)	SW1206		Green Roof	0.021		0		0.021
Green Roof (44)	SW1400		Green Roof	0.021		0		0.021
Green Roof (45)	SW1500		Green Roof	0.027		0		0.027
Green Roof (47)	SW1800		Green Roof	0.014		0		0.014
Green Roof (48)	SW1801		Green Roof	0.015		0		0.015
Green Roof (50)	SW1606		Green Roof	0.026		0		0.026
Green Roof (51)	SW1600		Green Roof	0.015		0		0.015
Green Roof (52)	SW1601		Green Roof	0.014		0		0.014
Green Roof (53)	SW1701		Green Roof	0.026		0		0.026
Green Roof (55)	SW1605		Green Roof	0.015		0		0.015
Green Roof (56)	SW1702		Green Roof	0.014		0		0.014
Green Roof (57)	SW2202		Green Roof	0.014		0		0.014
Green Roof (58)	Manhole (22)		Green Roof	0.015		0		0.015
Green Roof (60)	SW2201		Green Roof	0.026		0		0.026
Green Roof (61)	Manhole (24)		Green Roof	0.017		0		0.017
Green Roof (62)	SW2301		Green Roof	0.015		0		0.015
Green Roof (64)	SW2300		Green Roof	0.026		0		0.026
Green Roof (65)	SW1901		Green Roof	0.014		0		0.014
Green Roof (66)	SW1900		Green Roof	0.010		0		0.010
Green Roof (68)	SW1903		Green Roof	0.022		0		0.022
Green Roof (69)	SW1904		Green Roof	0.016		0		0.016
Green Roof (70)	SW2104		Green Roof	0.011		0		0.011
Green Roof (71)	SW2106		Green Roof	0.018		0		0.018
Green Roof (72)	SW2101		Green Roof	0.014		0		0.014
Green Roof (73)	SW2102		Green Roof	0.015		0		0.015
Green Roof (74)	SW2104		Green Roof	0.012		0		0.012
Green Roof (76)	SW2105		Green Roof	0.015		0		0.015
Green Roof (78)	Manhole (156a)		Green Roof	0.026		0		0.026
Green Roof (79)	SW2500		Green Roof	0.015		0		0.015
Green Roof (80)	SW2501		Green Roof	0.014		0		0.014
Green Roof (81)	SW2503		Green Roof	0.017		0		0.017
Green Roof (82)	SW2506		Green Roof	0.015		0		0.015
Green Roof (84)	SW2403		Green Roof	0.026		0		0.026
Green Roof (85)	Manhole (196)		Green Roof	0.015		0		0.015

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01			Date: 23/01/2026					
Report Details: Type: Inflow Summary Storm Phase: Full Site			Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente			
			Company Address: 20 Market Street Altrincham WA14 1PF					

Green Roof (86)	Manhole (191)		Green Roof	0.014		0		0.014
Green Roof (87)	Manhole (159)		Green Roof	0.013		0		0.013
Green Roof (88)	Manhole (191)		Green Roof	0.013		0		0.013
Green Roof (89)	Manhole (160)		Green Roof	0.015		0		0.015
Green Roof (90)	Manhole (161)		Green Roof	0.017		0		0.017
Green Roof (91)	Manhole (195)		Green Roof	0.014		0		0.014
Green Roof (92)	Manhole (194)		Green Roof	0.015		0		0.015
Green Roof (93)	Manhole (203)		Green Roof	0.013		0		0.013
Green Roof (94)	Manhole (202)		Green Roof	0.013		0		0.013
Green Roof (95)	Manhole (193)		Green Roof	0.014		0		0.014
Green Roof (96)	Manhole (200)		Green Roof	0.015		0		0.015
Green Roof (97)	Manhole (192)		Green Roof	0.014		0		0.014
Green Roof (98)	Manhole (197)		Green Roof	0.012		0		0.012
Green Roof (99)	SW306		Green Roof	0.014		0		0.014
Green Roof (100)	SW502		Green Roof	0.010		0		0.010
Green Roof (101)	SW104		Green Roof	0.021		0		0.021
Green Roof (102)	SW606		Green Roof	0.015		0		0.015
Green Roof (103)	SW707		Green Roof	0.009		0		0.009
Green Roof (104)	SW1809		Green Roof	0.013		0		0.013
Green Roof (105)	SW1804		Green Roof	0.019		0		0.019
TOTAL		0.0		3.608				3.608

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
Report Details: Type: Outfall Details Storm Phase: Full Site		Company Address: 20 Market Street Altrincham WA14 1PF			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Manhole (29)	Free Discharge			

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
Report Title: Rainfall Analysis Criteria		Company Address: 20 Market Street Altrincham WA14 1PF			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH 2022		Type: FEH
Site Location	GB 385550 394000 SJ 85550 94000	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period	
Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	40.000
100.0	45.000

Storm Durations	
Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Junctions Summary Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			



FEH 2022: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW603	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.630	43.532	43.588	0.056	4.7	0.009	0.000	4.6	2.644	OK
SW604	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.640	43.383	43.437	0.054	5.8	0.009	0.000	5.6	3.606	OK
SW605	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.620	43.259	43.319	0.060	6.4	0.010	0.000	6.2	3.932	OK
SW606	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.640	43.203	43.265	0.062	6.7	0.010	0.000	6.5	4.489	OK
SW608	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.630	43.079	43.141	0.062	7.3	0.010	0.000	7.1	5.192	OK
SW609	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.780	42.937	42.982	0.045	8.3	0.051	0.000	8.0	5.945	OK
Manhole (6)	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.670	42.565	42.637	0.072	9.1	0.081	0.000	8.9	10.557	OK
Manhole (7)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.500	42.279	42.375	0.097	17.3	0.171	0.000	16.6	13.877	OK
Manhole (8)	FEH 2022: 2 years: +0 %: 240 mins: Winter	44.400	41.800	42.158	0.358	10.3	0.632	0.000	7.0	130.051	Surcharged
Manhole (9)	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.250	41.433	41.530	0.097	8.6	0.015	0.000	8.7	21.121	OK
Manhole (10)	FEH 2022: 2 years: +0 %: 480 mins: Winter	44.390	41.407	41.526	0.119	7.4	0.019	0.000	7.4	165.331	OK
Manhole (11a)	FEH 2022: 2 years: +0 %: 480 mins: Winter	44.380	41.360	41.523	0.163	8.9	0.184	0.000	8.9	185.421	OK
Manhole (12)	FEH 2022: 2 years: +0 %: 480 mins: Winter	43.260	41.115	41.516	0.401	12.6	0.709	0.000	6.7	309.556	Surcharged
Manhole (13)	FEH 2022: 2 years: +0 %: 480 mins: Winter	43.170	41.011	41.501	0.490	6.7	0.554	0.000	6.7	256.637	Surcharged
Manhole (14)	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.620	40.694	40.782	0.088	19.0	0.100	0.000	18.5	16.715	OK
Manhole (15)	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.950	40.266	40.432	0.166	27.8	0.188	0.000	26.4	22.216	OK
Manhole (16)	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.600	38.965	39.089	0.124	36.8	0.141	0.000	35.9	28.065	OK
Manhole (17)	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.530	38.747	38.873	0.126	38.8	0.142	0.000	36.3	29.600	OK
Manhole (18)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.980	38.351	38.581	0.230	52.5	0.407	0.000	45.4	42.237	OK
Manhole (19)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.680	38.310	38.568	0.258	61.0	0.456	0.000	46.0	51.557	OK
Manhole (20)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.000	38.241	38.551	0.310	48.8	1.404	0.000	28.2	41.786	OK
Manhole (21)	FEH 2022: 2 years: +0 %: 15 mins: Winter	39.900	38.178	38.309	0.130	30.0	0.147	0.000	27.3	22.492	OK
Manhole (22)	FEH 2022: 2 years: +0 %: 15 mins: Summer	40.000	38.145	38.269	0.124	26.9	0.141	0.000	28.1	22.314	OK
Manhole (23)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.000	38.066	38.237	0.170	27.5	0.192	0.000	30.2	23.490	OK
Manhole (24)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.000	38.021	38.223	0.202	31.3	0.228	0.000	33.7	24.621	OK
Manhole (25)	FEH 2022: 2 years: +0 %: 15 mins: Winter	39.800	37.960	38.212	0.252	34.3	0.285	0.000	34.0	24.771	OK
Manhole (26)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.030	37.913	38.208	0.295	92.2	0.333	0.000	96.2	71.750	OK
Manhole (27)	FEH 2022: 2 years: +0 %: 240 mins: Winter	40.100	37.851	38.200	0.349	50.0	0.616	0.000	49.6	538.882	OK
Manhole (28)	FEH 2022: 2 years: +0 %: 240 mins: Winter	39.600	37.824	38.192	0.368	42.2	2.107	0.000	42.2	499.828	OK
Manhole (29)	FEH 2022: 2 years: +0 %: 240 mins: Winter	39.580	37.640	37.765	0.125	42.2	0.000	0.000	42.2	499.654	OK
SW611	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.780	43.120	43.149	0.029	1.4	0.005	0.000	1.2	0.794	OK
Manhole (31)	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.490	43.070	43.091	0.021	0.9	0.024	0.000	0.9	0.942	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026							
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan		Checked by: Johnny Hunt					
				Company Address: 20 Market Street Altrincham WA14 1PF							

Manhole (32)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.485	42.813	42.842	0.029	1.2	0.033	0.000	1.4	0.929	OK
SW500	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.770	43.420	43.469	0.049	4.4	0.008	0.000	4.3	2.017	OK
SW501	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.650	43.256	43.309	0.053	4.8	0.008	0.000	4.7	2.590	OK
SW503	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.780	43.109	43.164	0.055	4.9	0.009	0.000	4.8	2.921	OK
SW504	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.790	43.050	43.101	0.051	4.8	0.008	0.000	4.7	2.903	OK
SW505	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.800	42.871	42.925	0.055	5.3	0.009	0.000	5.1	3.566	OK
SW506	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.640	42.755	42.807	0.051	5.1	0.008	0.000	4.8	3.533	OK
SW507	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.550	42.461	42.521	0.060	7.7	0.010	0.000	7.5	5.875	OK
SW509	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.790	43.331	43.366	0.035	2.3	0.006	0.000	2.2	1.478	OK
SW510	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.750	43.182	43.211	0.029	3.0	0.005	0.000	2.9	2.373	OK
SW300	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.380	42.925	42.974	0.049	5.5	0.008	0.000	5.4	3.035	OK
SW301	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.500	42.826	42.884	0.058	7.7	0.009	0.000	7.5	4.119	OK
SW508	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.790	43.440	43.460	0.020	0.8	0.003	0.000	0.8	0.376	OK
SW302	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.740	42.700	42.755	0.055	7.5	0.009	0.000	7.3	4.101	OK
SW303	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.650	42.432	42.487	0.055	7.6	0.009	0.000	7.2	4.244	OK
SW304	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.550	42.202	42.261	0.059	15.3	0.017	0.000	14.9	10.182	OK
SW305	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.450	43.100	43.137	0.037	2.7	0.006	0.000	2.6	1.257	OK
SW307	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.650	42.718	42.769	0.052	4.5	0.008	0.000	4.4	3.176	OK
SW308	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.780	42.581	42.632	0.051	5.5	0.008	0.000	5.4	3.676	OK
SW311	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.650	42.345	42.408	0.064	8.3	0.018	0.000	8.0	6.006	OK
SW100	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.680	43.430	43.452	0.022	0.9	0.003	0.000	0.9	1.545	OK
SW102	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.550	43.263	43.291	0.027	1.4	0.004	0.000	1.4	2.578	OK
SW103	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.470	43.116	43.149	0.032	2.0	0.005	0.000	2.0	3.614	OK
SW104	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.490	42.938	42.978	0.040	3.8	0.006	0.000	3.7	6.134	OK
SW059	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.450	42.687	42.725	0.038	3.7	0.068	0.000	3.6	6.090	OK
SW060	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.400	42.237	42.270	0.032	7.4	0.036	0.000	7.4	10.396	OK
SW200	FEH 2022: 2 years: +0 %: 15 mins: Summer	44.670	43.320	43.348	0.028	1.6	0.005	0.000	1.5	0.685	OK
SW201	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.680	43.118	43.156	0.038	2.9	0.006	0.000	2.7	1.332	OK
SW202	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.610	42.910	42.953	0.043	3.3	0.007	0.000	3.2	1.587	OK
SW203	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.600	42.788	42.823	0.035	3.9	0.006	0.000	3.8	2.447	OK
SW700	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.350	43.500	43.517	0.017	0.6	0.003	0.000	0.6	1.009	OK
SW702	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.460	43.399	43.434	0.035	2.2	0.006	0.000	2.2	3.469	OK
SW703	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.480	43.319	43.353	0.034	2.2	0.005	0.000	2.1	3.453	OK
SW704	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.470	43.158	43.192	0.034	3.1	0.005	0.000	3.0	2.688	OK
SW705	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.000	42.782	42.817	0.035	3.4	0.006	0.000	3.3	2.857	OK
SW706	FEH 2022: 2 years: +0 %: 15 mins: Winter	43.970	42.592	42.642	0.050	6.3	0.008	0.000	6.1	4.214	OK
SW707	FEH 2022: 2 years: +0 %: 30 mins: Summer	43.980	42.830	42.845	0.015	0.5	0.002	0.000	0.5	0.698	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by:	Checked by:	Approved By:				
				Nour Rashdan	Johnny Hunt	Pedro Vicente				
				Company Address: 20 Market Street Altrincham WA14 1PF						

SW708	FEH 2022: 2 years: +0 %: 15 mins: Winter	43.960	42.755	42.797	0.041	3.4	0.007	0.000	3.3	2.524	OK
SW709	FEH 2022: 2 years: +0 %: 15 mins: Winter	43.850	42.512	42.563	0.051	5.1	0.091	0.000	4.6	3.577	OK
SW1100	FEH 2022: 2 years: +0 %: 15 mins: Summer	44.350	43.300	43.318	0.018	0.6	0.003	0.000	0.6	0.256	OK
SW1101	FEH 2022: 2 years: +0 %: 15 mins: Summer	44.490	43.125	43.148	0.023	1.0	0.004	0.000	1.0	0.449	OK
SW1103	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.350	42.886	42.921	0.036	2.4	0.006	0.000	2.3	3.581	OK
SW1104	FEH 2022: 2 years: +0 %: 15 mins: Summer	44.350	42.783	42.833	0.050	4.5	0.008	0.000	4.3	2.886	OK
SW1109	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.470	43.054	43.082	0.028	2.1	0.004	0.000	2.1	1.571	OK
SW1105	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.350	42.565	42.604	0.040	6.4	0.006	0.000	6.2	4.635	OK
SW1106	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.350	43.300	43.317	0.017	0.6	0.003	0.000	0.6	1.008	OK
SW1107	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.350	43.219	43.242	0.023	1.0	0.004	0.000	1.0	1.761	OK
SW1108	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.460	43.120	43.150	0.030	1.6	0.005	0.000	1.6	1.333	OK
SW1800	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.900	41.386	41.437	0.052	5.9	0.015	0.000	5.8	3.059	OK
SW1802	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.900	41.257	41.310	0.054	6.3	0.015	0.000	6.2	3.671	OK
SW1803	FEH 2022: 2 years: +0 %: 15 mins: Winter	43.000	41.188	41.242	0.054	6.9	0.015	0.000	6.7	3.976	OK
SW1804	FEH 2022: 2 years: +0 %: 15 mins: Winter	43.050	41.070	41.132	0.062	9.1	0.017	0.000	8.8	5.517	OK
SW1805	FEH 2022: 2 years: +0 %: 15 mins: Winter	43.200	40.858	40.919	0.061	9.0	0.017	0.000	8.7	5.569	OK
SW1306	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.550	41.260	41.295	0.035	3.2	0.005	0.000	3.1	1.414	OK
SW1806	FEH 2022: 2 years: +0 %: 15 mins: Summer	43.100	40.985	41.005	0.020	0.8	0.003	0.000	0.7	0.331	OK
SW1807	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.950	40.776	40.806	0.030	1.6	0.005	0.000	1.5	0.704	OK
SW1808	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.950	40.709	40.739	0.030	1.5	0.005	0.000	1.5	0.701	OK
SW1809	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.950	40.678	40.710	0.032	1.9	0.005	0.000	1.9	1.275	OK
SW1810	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.740	40.424	40.475	0.051	6.6	0.058	0.000	6.4	3.799	OK
SW1900	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.150	41.000	41.025	0.025	1.2	0.004	0.000	1.1	0.784	OK
SW1901	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.300	40.937	40.966	0.030	1.7	0.005	0.000	1.6	1.353	OK
SW1902	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.200	40.730	40.752	0.022	1.6	0.003	0.000	1.5	1.339	OK
SW1300	FEH 2022: 2 years: +0 %: 15 mins: Summer	41.500	40.450	40.450	0.000	0.0	0.000	0.000	0.0	0.000	OK
SW1302	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.800	40.186	40.216	0.030	1.5	0.005	0.000	1.4	1.192	OK
SW1303	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.700	40.146	40.181	0.035	2.5	0.006	0.000	2.4	2.169	OK
SW1304	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.700	39.947	39.987	0.040	2.8	0.006	0.000	2.7	2.333	OK
SW1305	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.550	39.797	39.823	0.026	3.0	0.004	0.000	2.9	2.468	OK
SW1307	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.600	40.804	40.836	0.032	3.9	0.005	0.000	3.8	2.359	OK
SW1401	FEH 2022: 2 years: +0 %: 15 mins: Summer	41.500	40.450	40.473	0.023	1.0	0.004	0.000	0.9	0.424	OK
SW1402	FEH 2022: 2 years: +0 %: 15 mins: Summer	41.350	40.211	40.234	0.023	0.9	0.004	0.000	0.9	0.422	OK
SW1403	FEH 2022: 2 years: +0 %: 15 mins: Summer	41.350	40.157	40.184	0.027	1.4	0.004	0.000	1.3	0.647	OK
SW1404	FEH 2022: 2 years: +0 %: 15 mins: Summer	41.520	39.880	39.916	0.036	2.4	0.006	0.000	2.2	1.091	OK
SW1500	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.480	40.430	40.457	0.027	1.3	0.004	0.000	1.3	2.163	OK
SW1501	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.480	40.326	40.354	0.028	1.5	0.004	0.000	1.5	2.310	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
				Company Address: 20 Market Street Altrincham WA14 1PF						

SW1200	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.100	40.870	40.898	0.028	3.0	0.004	0.000	3.0	1.293	OK
SW1202	FEH 2022: 2 years: +0 %: 15 mins: Summer	41.400	40.311	40.357	0.046	3.6	0.007	0.000	3.5	2.096	OK
SW1203	FEH 2022: 2 years: +0 %: 15 mins: Summer	41.270	40.138	40.188	0.051	4.0	0.008	0.000	3.8	2.593	OK
SW1206	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.000	39.776	39.825	0.049	4.9	0.008	0.000	4.9	7.164	OK
SW1204	FEH 2022: 2 years: +0 %: 15 mins: Summer	41.250	40.072	40.121	0.049	3.8	0.008	0.000	3.7	2.572	OK
SW1205	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.150	39.971	40.022	0.051	4.3	0.008	0.000	4.1	3.432	OK
SW1207	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.040	39.700	39.746	0.046	4.9	0.007	0.000	4.9	7.141	OK
SW1208	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.200	39.446	39.480	0.034	5.7	0.005	0.000	5.7	8.668	OK
SW1209	FEH 2022: 2 years: +0 %: 30 mins: Winter	39.950	39.041	39.110	0.069	10.4	0.078	0.000	10.1	13.834	OK
SW1704	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.020	38.675	38.754	0.079	13.8	0.090	0.000	13.6	18.621	OK
SW1400	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.300	39.840	39.858	0.018	0.9	0.003	0.000	0.9	1.547	OK
SW1606	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.000	39.169	39.193	0.024	1.1	0.004	0.000	1.1	1.948	OK
SW1700	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.100	39.200	39.221	0.021	0.8	0.003	0.000	0.8	0.387	OK
SW1701	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.150	39.149	39.186	0.037	2.4	0.006	0.000	2.3	1.756	OK
SW1702	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.150	38.973	39.014	0.041	2.9	0.007	0.000	2.7	2.339	OK
SW1703	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.100	38.885	38.939	0.054	4.3	0.009	0.000	4.2	3.062	OK
SW2200	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.460	39.167	39.187	0.020	0.8	0.003	0.000	0.8	0.372	OK
SW2300	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.350	39.300	39.325	0.025	1.1	0.004	0.000	1.1	1.948	OK
SW2201	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.460	39.104	39.146	0.042	3.0	0.007	0.000	2.9	5.079	OK
SW2202	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.470	38.868	38.913	0.045	4.1	0.013	0.000	4.1	6.744	OK
SW2203	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.400	38.781	38.853	0.072	9.6	0.020	0.000	9.1	6.333	OK
SW2204	FEH 2022: 2 years: +0 %: 15 mins: Summer	40.700	38.586	38.661	0.075	11.7	0.085	0.000	11.5	7.824	OK
SW1903	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.150	41.000	41.028	0.028	1.5	0.005	0.000	1.4	1.220	OK
SW1904	FEH 2022: 2 years: +0 %: 30 mins: Winter	42.150	40.846	40.875	0.029	2.0	0.005	0.000	2.0	3.252	OK
SW1600	FEH 2022: 2 years: +0 %: 30 mins: Winter	39.850	39.100	39.122	0.022	0.8	0.004	0.000	0.8	1.247	OK
SW1601	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.000	38.995	39.025	0.030	1.4	0.005	0.000	1.3	2.304	OK
SW1602	FEH 2022: 2 years: +0 %: 30 mins: Winter	39.850	38.940	38.971	0.031	1.3	0.005	0.000	1.3	2.288	OK
SW1604	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.000	38.811	38.841	0.031	1.5	0.005	0.000	1.5	2.437	OK
SW1605	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.000	38.683	38.723	0.040	2.2	0.006	0.000	2.2	3.671	OK
SW2301	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.000	38.950	38.969	0.019	0.6	0.003	0.000	0.6	1.138	OK
Manhole (149)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.460	43.320	43.336	0.016	0.5	0.018	0.000	0.4	0.220	OK
Manhole (150)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.520	43.142	43.160	0.018	0.7	0.021	0.000	0.7	0.354	OK
Manhole (151)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.490	42.930	42.978	0.048	4.6	0.055	0.000	4.3	2.927	OK
Manhole (152)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.370	42.639	42.691	0.052	5.4	0.058	0.000	5.0	4.056	OK
Manhole (153)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.270	42.395	42.476	0.081	16.2	0.091	0.000	15.2	11.942	OK
Manhole (154)	FEH 2022: 2 years: +0 %: 15 mins: Winter	43.130	41.800	41.884	0.084	21.5	0.095	0.000	20.2	14.705	OK
Manhole (155)	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.700	40.487	40.604	0.117	26.3	0.019	0.000	25.9	17.595	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026							
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan		Checked by: Johnny Hunt					
				Company Address: 20 Market Street Altrincham WA14 1PF							

Manhole (156)	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.650	40.046	40.167	0.121	44.4	0.137	0.000	42.3	30.070	OK
SW2402	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.550	39.691	39.793	0.102	45.0	0.115	0.000	44.5	31.330	OK
SW2404	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.210	38.981	39.131	0.150	46.3	0.169	0.000	45.2	33.003	OK
Manhole (159)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.710	38.884	39.027	0.143	47.2	0.161	0.000	44.4	33.997	OK
Manhole (160)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.450	38.663	38.809	0.146	48.1	0.165	0.000	47.7	58.720	OK
Manhole (161)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.240	38.443	38.591	0.148	49.2	0.167	0.000	48.7	60.432	OK
Manhole (162)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.340	38.226	38.376	0.150	53.2	0.170	0.000	52.8	65.341	OK
Manhole (163)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.290	38.027	38.236	0.208	57.0	0.236	0.000	57.6	46.728	OK
Manhole (164)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.370	43.120	43.185	0.065	7.6	0.073	0.000	7.3	4.706	OK
Manhole (165)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.000	42.852	42.921	0.069	8.0	0.078	0.000	7.6	4.974	OK
Manhole (166)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.320	42.719	42.789	0.070	9.1	0.080	0.000	8.6	6.160	OK
SW2405	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.620	40.790	40.835	0.045	3.5	0.007	0.000	3.5	1.666	OK
SW2406	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.620	40.680	40.730	0.050	4.3	0.008	0.000	4.2	2.067	OK
SW1906	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.050	40.718	40.757	0.039	2.7	0.006	0.000	2.7	1.176	OK
SW2102	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.270	40.776	40.838	0.062	6.0	0.010	0.000	5.8	3.559	OK
SW2104	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.250	40.482	40.564	0.082	11.8	0.023	0.000	11.6	6.949	OK
SW2106	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.280	40.355	40.448	0.093	13.6	0.026	0.000	13.2	8.750	OK
SW2107	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.270	40.249	40.347	0.098	14.6	0.028	0.000	14.1	8.781	OK
SW2105	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.250	40.422	40.506	0.084	12.1	0.024	0.000	11.9	7.556	OK
SW2108	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.180	40.181	40.276	0.094	15.0	0.027	0.000	14.4	9.152	OK
SW2109	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.280	40.500	40.500	0.000	0.0	0.000	0.000	0.0	0.000	OK
SW2400	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.690	40.340	40.361	0.021	0.9	0.003	0.000	0.8	0.403	OK
SW2403	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.570	39.360	39.465	0.105	45.5	0.030	0.000	44.7	32.365	OK
SW2401	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.650	40.066	40.093	0.027	1.5	0.004	0.000	1.4	0.706	OK
SW2500	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.570	40.620	40.639	0.019	0.6	0.003	0.000	0.6	1.142	OK
SW2501	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.570	40.462	40.489	0.026	1.2	0.004	0.000	1.2	2.197	OK
SW2502	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.620	40.388	40.413	0.026	1.2	0.004	0.000	1.2	2.183	OK
SW2503	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.640	40.196	40.225	0.029	2.0	0.005	0.000	2.0	3.542	OK
SW2504	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.150	40.019	40.049	0.030	2.0	0.005	0.000	2.0	3.526	OK
SW2505	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.110	39.926	39.952	0.026	2.6	0.004	0.000	2.6	4.651	OK
SW2506	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.550	40.150	40.167	0.017	0.6	0.003	0.000	0.6	1.142	OK
Manhole (191)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.620	39.018	39.046	0.028	2.3	0.032	0.000	2.1	1.700	OK
Manhole (192)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.530	39.480	39.508	0.028	1.6	0.032	0.000	1.6	1.080	OK
Manhole (193)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.520	39.348	39.385	0.037	2.8	0.042	0.000	2.6	1.990	OK
Manhole (194)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.530	39.100	39.148	0.048	4.1	0.054	0.000	3.9	3.022	OK
Manhole (195)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.360	38.954	38.987	0.034	4.4	0.038	0.000	4.2	3.590	OK
Manhole (196)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.310	39.260	39.299	0.039	4.2	0.045	0.000	4.0	2.313	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
				Company Address: 20 Market Street Altrincham WA14 1PF						

Manhole (197)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.260	39.210	39.228	0.018	0.6	0.021	0.000	0.6	0.995	OK
Manhole (198)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.290	39.119	39.136	0.018	0.6	0.020	0.000	0.6	0.982	OK
Manhole (199)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.250	38.920	38.941	0.021	0.7	0.024	0.000	0.7	1.120	OK
Manhole (200)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.310	38.761	38.789	0.028	1.4	0.032	0.000	1.3	2.237	OK
Manhole (201)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.340	38.645	38.674	0.029	1.3	0.033	0.000	1.3	2.216	OK
Manhole (202)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.360	38.607	38.640	0.033	1.9	0.038	0.000	1.9	3.251	OK
Manhole (203)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.360	38.442	38.481	0.039	2.4	0.044	0.000	2.5	4.204	OK
Manhole (204)	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.270	38.296	38.330	0.034	2.5	0.039	0.000	2.5	4.264	OK
SW309	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.650	42.462	42.525	0.064	6.9	0.010	0.000	6.7	4.887	OK
SW306	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.650	42.849	42.896	0.047	4.1	0.008	0.000	4.0	2.964	OK
SW310	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.650	42.437	42.497	0.060	7.3	0.010	0.000	7.2	5.540	OK
SW502	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.650	43.157	43.214	0.057	5.0	0.009	0.000	4.9	2.939	OK
Manhole (9a)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.460	41.631	41.723	0.092	9.3	0.015	0.000	9.1	9.593	OK
Manhole (9b)	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.350	41.535	41.608	0.073	9.5	0.012	0.000	9.4	9.954	OK
Manhole (11)	FEH 2022: 2 years: +0 %: 480 mins: Winter	43.670	41.246	41.520	0.274	10.5	0.310	0.000	10.4	205.571	Surcharged
SW900	FEH 2022: 2 years: +0 %: 60 mins: Winter	44.350	43.350	43.372	0.022	0.9	0.003	0.000	0.9	2.370	OK
SW901	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.350	43.273	43.326	0.053	5.1	0.008	0.000	4.9	3.335	OK
SW902	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.120	43.040	43.104	0.064	7.2	0.010	0.000	7.1	4.476	OK
SW1102	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.350	42.966	42.997	0.031	1.8	0.005	0.000	1.7	1.401	OK
SW600	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.700	43.770	43.808	0.038	2.6	0.006	0.000	2.5	1.194	OK
SW602	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.620	43.640	43.676	0.036	1.9	0.006	0.000	1.8	0.882	OK
SW601	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.610	43.613	43.666	0.053	4.4	0.015	0.000	4.2	2.072	OK
SW607	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.650	43.150	43.213	0.062	7.0	0.010	0.000	6.9	5.017	OK
SW610	FEH 2022: 2 years: +0 %: 15 mins: Winter	44.700	43.190	43.213	0.023	0.9	0.004	0.000	0.8	0.405	OK
SW701	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.350	43.428	43.461	0.033	1.7	0.005	0.000	1.7	3.000	OK
SW2101	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.270	40.828	40.871	0.042	2.9	0.007	0.000	2.8	1.694	OK
SW2100	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.270	40.920	40.958	0.038	2.4	0.006	0.000	2.4	1.121	OK
SW1801	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.900	41.305	41.360	0.056	6.4	0.016	0.000	6.3	3.689	OK
SW2103	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.250	40.550	40.622	0.072	9.4	0.021	0.000	9.2	4.879	OK
SW1905	FEH 2022: 2 years: +0 %: 30 mins: Winter	41.750	38.876	38.901	0.025	2.0	0.028	0.000	2.0	3.235	OK
SW1201	FEH 2022: 2 years: +0 %: 15 mins: Summer	41.600	40.401	40.446	0.045	3.6	0.007	0.000	3.6	2.048	OK
SW1301	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.600	40.235	40.261	0.026	1.2	0.004	0.000	1.2	1.059	OK
Manhole (4)	FEH 2022: 2 years: +0 %: 15 mins: Winter	42.700	40.410	40.499	0.089	19.1	0.014	0.000	18.6	17.318	OK
SW101	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.550	43.361	43.382	0.021	0.9	0.003	0.000	0.8	1.533	OK
SW1603	FEH 2022: 2 years: +0 %: 30 mins: Winter	40.000	38.899	38.928	0.029	1.3	0.005	0.000	1.3	2.273	OK
Manhole (18a)	FEH 2022: 2 years: +0 %: 15 mins: Summer	40.010	38.584	38.592	0.008	0.0	0.009	0.000	0.1	0.174	OK
Manhole (20a)	FEH 2022: 2 years: +0 %: 15 mins: Winter	40.000	38.281	38.550	0.269	37.5	0.305	0.000	0.0	19.965	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01					Date: 23/01/2026								
Report Details: Type: Junctions Summary Storm Phase: Full Site					Designed by: Nour Rashdan		Checked by: Johnny Hunt		Approved By: Pedro Vicente				
					Company Address: 20 Market Street Altrincham WA14 1PF								
SW60a	FEH 2022: 2 years: +0 %: 30 mins: Winter	44.500	42.373	42.412	0.039	3.6	0.011	0.000	3.6	6.056	OK		
Manhole (156a)	FEH 2022: 2 years: +0 %: 15 mins: Winter	41.670	40.339	40.457	0.118	27.6	0.019	0.000	26.5	18.914	OK		

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Junctions Summary Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			



FEH 2022: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW603	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.630	43.532	43.646	0.114	14.6	0.018	0.000	14.2	8.203	OK
SW604	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.640	43.383	43.487	0.104	18.0	0.017	0.000	17.7	11.192	OK
SW605	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.620	43.259	43.378	0.119	20.0	0.019	0.000	19.4	12.228	OK
SW606	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.640	43.203	43.326	0.123	21.0	0.020	0.000	20.6	13.984	OK
SW608	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.630	43.079	43.195	0.116	23.1	0.019	0.000	22.5	16.220	OK
SW609	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.780	42.937	43.024	0.087	27.3	0.098	0.000	26.5	18.736	OK
Manhole (6)	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.670	42.565	42.811	0.246	8.4	0.278	0.000	8.4	82.499	Surcharged
Manhole (7)	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.500	42.279	42.810	0.531	17.3	0.939	0.000	16.5	184.951	Surcharged
Manhole (8)	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.400	41.800	42.810	1.010	19.8	1.784	0.000	7.4	347.501	Surcharged
Manhole (9)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.250	41.433	42.355	0.922	8.3	0.147	0.000	8.3	646.329	Surcharged
Manhole (10)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.390	41.407	42.354	0.947	8.3	0.151	0.000	8.2	646.311	Surcharged
Manhole (11a)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.380	41.360	42.353	0.993	10.3	1.123	0.000	10.2	716.744	Surcharged
Manhole (12)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	43.260	41.115	42.349	1.234	15.1	2.180	0.000	6.7	1218.064	Surcharged
Manhole (13)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	43.170	41.011	42.338	1.327	6.7	1.501	0.000	6.7	972.004	Surcharged
Manhole (14)	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.620	40.694	40.849	0.155	45.6	0.176	0.000	39.8	34.471	OK
Manhole (15)	FEH 2022: 30 years: +40 %: 15 mins: Winter	41.950	40.266	40.651	0.385	66.1	0.436	0.000	64.0	52.638	Surcharged
Manhole (16)	FEH 2022: 30 years: +40 %: 15 mins: Winter	41.600	38.965	39.212	0.247	96.6	0.279	0.000	93.6	71.126	OK
Manhole (17)	FEH 2022: 30 years: +40 %: 15 mins: Winter	41.530	38.747	39.061	0.314	102.5	0.356	0.000	89.7	77.073	Surcharged
Manhole (18)	FEH 2022: 30 years: +40 %: 15 mins: Summer	40.980	38.351	38.851	0.500	137.0	0.883	0.000	129.5	108.116	Surcharged
Manhole (19)	FEH 2022: 30 years: +40 %: 240 mins: Winter	40.680	38.310	38.840	0.531	75.2	0.938	0.000	43.5	724.510	Surcharged
Manhole (20)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.000	38.241	38.839	0.598	58.1	2.705	0.000	40.0	465.556	Surcharged

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
				Company Address: 20 Market Street Altrincham WA14 1PF						

Manhole (21)	FEH 2022: 30 years: +40 %: 120 mins: Winter	39.900	38.178	38.708	0.529	40.2	0.599	0.000	40.5	373.180	Surcharged
Manhole (22)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.000	38.145	38.707	0.562	40.6	0.636	0.000	41.0	384.017	Surcharged
Manhole (23)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.000	38.066	38.707	0.640	41.0	0.724	0.000	41.4	383.870	Surcharged
Manhole (24)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.000	38.021	38.706	0.685	41.4	0.775	0.000	41.6	393.954	Surcharged
Manhole (25)	FEH 2022: 30 years: +40 %: 120 mins: Winter	39.800	37.960	38.705	0.745	41.6	0.843	0.000	41.8	398.844	Surcharged
Manhole (26)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.030	37.913	38.705	0.792	136.2	0.896	0.000	135.5	796.491	Surcharged
Manhole (27)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.100	37.851	38.695	0.844	145.6	1.492	0.000	145.0	832.172	Surcharged
Manhole (28)	FEH 2022: 30 years: +40 %: 120 mins: Winter	39.600	37.824	38.682	0.858	64.0	4.911	0.000	63.0	704.710	Surcharged
Manhole (29)	FEH 2022: 30 years: +40 %: 360 mins: Winter	39.580	37.640	37.793	0.153	63.0	0.000	0.000	63.0	1365.395	OK
SW611	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.780	43.120	43.180	0.060	5.1	0.010	0.000	4.8	2.594	OK
Manhole (31)	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.490	43.070	43.110	0.040	3.8	0.045	0.000	3.2	2.056	OK
Manhole (32)	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.485	42.813	42.868	0.055	5.3	0.062	0.000	4.8	3.105	OK
SW500	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.770	43.420	43.518	0.098	13.5	0.016	0.000	13.3	6.216	OK
SW501	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.650	43.256	43.368	0.112	14.8	0.018	0.000	14.5	8.013	OK
SW503	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.780	43.109	43.223	0.114	15.1	0.018	0.000	14.8	9.080	OK
SW504	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.790	43.050	43.154	0.104	14.8	0.017	0.000	14.5	9.050	OK
SW505	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.800	42.871	42.984	0.114	16.3	0.018	0.000	15.9	11.125	OK
SW506	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.640	42.755	42.859	0.103	15.9	0.016	0.000	15.3	11.056	OK
SW507	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.550	42.461	42.810	0.349	7.3	0.056	0.000	7.3	66.802	Surcharged
SW509	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.790	43.331	43.396	0.065	7.0	0.010	0.000	6.8	4.581	OK
SW510	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.750	43.182	43.235	0.053	9.3	0.008	0.000	9.0	7.358	OK
SW300	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.380	42.925	43.020	0.095	16.9	0.015	0.000	16.7	9.373	OK
SW301	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.500	42.826	42.937	0.111	24.0	0.018	0.000	23.6	12.766	OK
SW508	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.790	43.440	43.476	0.036	2.5	0.006	0.000	2.5	1.161	OK
SW302	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.740	42.700	42.810	0.110	4.5	0.018	0.000	4.5	41.265	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026						
				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
Report Details: Type: Junctions Summary Storm Phase: Full Site				Company Address: 20 Market Street Altrincham WA14 1PF						

SW303	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.650	42.432	42.810	0.378	4.7	0.060	0.000	4.7	43.996	Surcharged
SW304	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.550	42.202	42.810	0.608	11.9	0.172	0.000	11.4	111.854	Surcharged
SW305	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.450	43.100	43.168	0.068	8.4	0.011	0.000	8.2	3.866	OK
SW307	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.650	42.718	42.822	0.104	14.0	0.017	0.000	13.7	9.861	OK
SW308	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.780	42.581	42.810	0.229	4.4	0.036	0.000	4.4	40.264	Surcharged
SW311	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.650	42.345	42.810	0.465	7.5	0.132	0.000	7.2	68.282	Surcharged
SW100	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.680	43.430	43.469	0.039	2.7	0.006	0.000	2.7	4.824	OK
SW102	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.550	43.263	43.313	0.050	4.5	0.008	0.000	4.5	8.091	OK
SW103	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.470	43.116	43.176	0.059	6.3	0.009	0.000	6.2	11.348	OK
SW104	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.490	42.938	43.018	0.081	12.6	0.013	0.000	12.4	19.578	OK
SW059	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.450	42.687	42.810	0.123	5.0	0.217	0.000	5.0	47.634	OK
SW060	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.400	42.237	42.810	0.573	8.3	0.648	0.000	7.7	81.558	Surcharged
SW200	FEH 2022: 30 years: +40 %: 15 mins: Summer	44.670	43.320	43.370	0.050	4.9	0.008	0.000	4.8	2.117	OK
SW201	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.680	43.118	43.190	0.072	8.9	0.011	0.000	8.6	4.123	OK
SW202	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.610	42.910	42.991	0.081	10.3	0.013	0.000	10.0	4.908	OK
SW203	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.600	42.788	42.853	0.066	12.3	0.010	0.000	12.0	7.575	OK
SW700	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.350	43.500	43.530	0.030	1.8	0.005	0.000	1.8	3.159	OK
SW702	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.460	43.399	43.465	0.066	6.8	0.010	0.000	6.8	10.860	OK
SW703	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.480	43.319	43.382	0.063	6.8	0.010	0.000	6.8	10.832	OK
SW704	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.470	43.158	43.220	0.062	9.8	0.010	0.000	9.5	8.429	OK
SW705	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.000	42.782	42.851	0.069	10.8	0.011	0.000	10.6	8.985	OK
SW706	FEH 2022: 30 years: +40 %: 15 mins: Winter	43.970	42.592	42.692	0.100	19.8	0.016	0.000	19.3	13.190	OK
SW707	FEH 2022: 30 years: +40 %: 30 mins: Summer	43.980	42.830	42.857	0.027	1.4	0.004	0.000	1.4	2.173	OK
SW708	FEH 2022: 30 years: +40 %: 15 mins: Winter	43.960	42.755	42.834	0.079	10.5	0.013	0.000	10.2	7.808	OK
SW709	FEH 2022: 30 years: +40 %: 15 mins: Winter	43.850	42.512	42.619	0.107	16.6	0.189	0.000	15.3	11.311	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026							
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente					
				Company Address: 20 Market Street Altrincham WA14 1PF							

SW1100	FEH 2022: 30 years: +40 %: 15 mins: Summer	44.350	43.300	43.331	0.031	1.8	0.005	0.000	1.8	0.796	OK
SW1101	FEH 2022: 30 years: +40 %: 15 mins: Summer	44.490	43.125	43.165	0.040	3.2	0.006	0.000	3.1	1.393	OK
SW1103	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.350	42.886	42.955	0.069	7.3	0.011	0.000	7.3	11.225	OK
SW1104	FEH 2022: 30 years: +40 %: 15 mins: Summer	44.350	42.783	42.882	0.099	14.0	0.016	0.000	13.7	8.991	OK
SW1109	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.470	43.054	43.103	0.050	6.7	0.008	0.000	6.6	4.927	OK
SW1105	FEH 2022: 30 years: +40 %: 15 mins: Summer	44.350	42.565	42.633	0.069	19.8	0.011	0.000	19.5	13.353	OK
SW1106	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.350	43.300	43.331	0.031	1.8	0.005	0.000	1.8	3.159	OK
SW1107	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.350	43.219	43.261	0.041	3.1	0.007	0.000	3.1	5.518	OK
SW1108	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.460	43.120	43.175	0.056	5.1	0.009	0.000	5.0	4.171	OK
SW1800	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.900	41.386	41.486	0.101	18.2	0.029	0.000	18.0	9.461	OK
SW1802	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.900	41.257	41.362	0.105	19.5	0.030	0.000	19.2	11.406	OK
SW1803	FEH 2022: 30 years: +40 %: 15 mins: Winter	43.000	41.188	41.294	0.106	21.4	0.030	0.000	21.0	12.369	OK
SW1804	FEH 2022: 30 years: +40 %: 15 mins: Winter	43.050	41.070	41.189	0.119	28.3	0.034	0.000	27.6	17.150	OK
SW1805	FEH 2022: 30 years: +40 %: 15 mins: Winter	43.200	40.858	40.982	0.124	28.2	0.035	0.000	27.2	17.336	OK
SW1306	FEH 2022: 30 years: +40 %: 15 mins: Summer	42.550	41.260	41.324	0.064	10.0	0.010	0.000	9.8	4.367	OK
SW1806	FEH 2022: 30 years: +40 %: 15 mins: Summer	43.100	40.985	41.019	0.035	2.4	0.006	0.000	2.3	1.030	OK
SW1807	FEH 2022: 30 years: +40 %: 15 mins: Summer	42.950	40.776	40.832	0.056	5.0	0.009	0.000	4.9	2.196	OK
SW1808	FEH 2022: 30 years: +40 %: 15 mins: Summer	42.950	40.709	40.767	0.058	4.9	0.009	0.000	4.8	2.193	OK
SW1809	FEH 2022: 30 years: +40 %: 15 mins: Summer	42.950	40.678	40.734	0.056	6.1	0.009	0.000	6.1	3.682	OK
SW1810	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.740	40.424	40.681	0.257	20.6	0.291	0.000	17.3	12.546	Surcharged
SW1900	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.150	41.000	41.047	0.047	3.7	0.008	0.000	3.6	2.432	OK
SW1901	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.300	40.937	40.991	0.054	5.2	0.009	0.000	5.0	4.218	OK
SW1902	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.200	40.730	40.766	0.036	5.0	0.006	0.000	5.0	4.193	OK
SW1300	FEH 2022: 30 years: +40 %: 15 mins: Summer	41.500	40.450	40.450	0.000	0.0	0.000	0.000	0.0	0.000	OK
SW1302	FEH 2022: 30 years: +40 %: 15 mins: Winter	41.800	40.186	40.244	0.058	4.6	0.009	0.000	4.5	3.726	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026							
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by:	Checked by:	Approved By:					
				Nour Rashdan	Johnny Hunt	Pedro Vicente					
				Company Address: 20 Market Street Altrincham WA14 1PF							

SW1303	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.700	40.146	40.212	0.066	7.7	0.011	0.000	7.5	6.780	OK
SW1304	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.700	39.947	40.022	0.074	8.8	0.012	0.000	8.5	7.324	OK
SW1305	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.550	39.797	39.843	0.046	9.5	0.007	0.000	9.4	7.758	OK
SW1307	FEH 2022: 30 years: +40 %: 15 mins: Summer	42.600	40.804	40.865	0.061	11.9	0.010	0.000	11.9	6.762	OK
SW1401	FEH 2022: 30 years: +40 %: 15 mins: Summer	41.500	40.450	40.490	0.040	3.0	0.006	0.000	3.0	1.311	OK
SW1402	FEH 2022: 30 years: +40 %: 15 mins: Summer	41.350	40.211	40.253	0.042	3.0	0.007	0.000	2.8	1.309	OK
SW1403	FEH 2022: 30 years: +40 %: 15 mins: Summer	41.350	40.157	40.205	0.048	4.4	0.008	0.000	4.3	2.002	OK
SW1404	FEH 2022: 30 years: +40 %: 15 mins: Summer	41.520	39.880	39.949	0.069	7.5	0.011	0.000	7.2	3.377	OK
SW1500	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.480	40.430	40.478	0.048	4.1	0.008	0.000	4.1	6.760	OK
SW1501	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.480	40.326	40.377	0.051	4.6	0.008	0.000	4.6	7.247	OK
SW1200	FEH 2022: 30 years: +40 %: 15 mins: Summer	42.100	40.870	40.919	0.049	9.2	0.008	0.000	9.1	4.003	OK
SW1202	FEH 2022: 30 years: +40 %: 15 mins: Summer	41.400	40.311	40.403	0.092	11.4	0.015	0.000	11.0	6.525	OK
SW1203	FEH 2022: 30 years: +40 %: 15 mins: Summer	41.270	40.138	40.242	0.104	12.5	0.016	0.000	12.0	8.095	OK
SW1206	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.000	39.776	39.868	0.092	15.4	0.015	0.000	15.4	22.520	OK
SW1204	FEH 2022: 30 years: +40 %: 15 mins: Summer	41.250	40.072	40.172	0.100	12.0	0.016	0.000	11.8	8.058	OK
SW1205	FEH 2022: 30 years: +40 %: 15 mins: Winter	41.150	39.971	40.075	0.104	13.6	0.017	0.000	13.0	10.732	OK
SW1207	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.040	39.700	39.784	0.084	15.4	0.013	0.000	15.3	22.472	OK
SW1208	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.200	39.446	39.507	0.061	18.0	0.010	0.000	17.9	27.281	OK
SW1209	FEH 2022: 30 years: +40 %: 15 mins: Winter	39.950	39.041	39.182	0.141	36.2	0.160	0.000	33.2	26.537	OK
SW1704	FEH 2022: 30 years: +40 %: 15 mins: Summer	40.020	38.675	38.889	0.214	44.5	0.242	0.000	40.3	32.617	OK
SW1400	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.300	39.840	39.872	0.032	2.7	0.005	0.000	2.7	4.848	OK
SW1606	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.000	39.169	39.211	0.042	3.4	0.007	0.000	3.4	6.089	OK
SW1700	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.100	39.200	39.237	0.037	2.6	0.006	0.000	2.6	1.200	OK
SW1701	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.150	39.149	39.219	0.070	7.5	0.011	0.000	7.3	5.444	OK
SW1702	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.150	38.973	39.054	0.081	8.9	0.013	0.000	8.6	7.268	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01					Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site					Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
					Company Address: 20 Market Street Altrincham WA14 1PF						

SW1703	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.100	38.885	38.996	0.111	13.6	0.018	0.000	13.2	9.528	OK
SW2200	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.460	39.167	39.202	0.035	2.5	0.006	0.000	2.4	1.146	OK
SW2300	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.350	39.300	39.344	0.044	3.4	0.007	0.000	3.4	6.092	OK
SW2201	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.460	39.104	39.192	0.087	10.7	0.014	0.000	10.4	16.673	OK
SW2202	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.470	38.868	38.961	0.093	14.3	0.026	0.000	14.3	21.919	OK
SW2203	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.400	38.781	38.929	0.148	29.9	0.042	0.000	28.9	20.424	OK
SW2204	FEH 2022: 30 years: +40 %: 15 mins: Summer	40.700	38.586	38.843	0.257	37.5	0.291	0.000	33.1	25.262	OK
SW1903	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.150	41.000	41.052	0.052	4.6	0.008	0.000	4.5	3.784	OK
SW1904	FEH 2022: 30 years: +40 %: 30 mins: Winter	42.150	40.846	40.899	0.053	6.4	0.008	0.000	6.4	10.180	OK
SW1600	FEH 2022: 30 years: +40 %: 30 mins: Winter	39.850	39.100	39.139	0.039	2.4	0.006	0.000	2.4	3.917	OK
SW1601	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.000	38.995	39.051	0.056	4.3	0.009	0.000	4.2	7.258	OK
SW1602	FEH 2022: 30 years: +40 %: 30 mins: Winter	39.850	38.940	38.997	0.057	4.2	0.009	0.000	4.2	7.231	OK
SW1604	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.000	38.811	38.866	0.055	4.7	0.009	0.000	4.7	7.751	OK
SW1605	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.000	38.683	38.841	0.158	5.3	0.025	0.000	5.3	20.449	Surcharged
SW2301	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.000	38.950	38.983	0.033	2.0	0.005	0.000	2.0	3.572	OK
Manhole (149)	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.460	43.320	43.524	0.204	1.0	0.231	0.000	1.0	1.067	Surcharged
Manhole (150)	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.520	43.142	43.523	0.381	3.9	0.431	0.000	3.1	2.157	Surcharged
Manhole (151)	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.490	42.930	43.521	0.591	10.1	0.668	0.000	9.7	14.615	Surcharged
Manhole (152)	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.370	42.639	43.475	0.836	12.2	0.946	0.000	13.7	20.704	Surcharged
Manhole (153)	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.270	42.395	43.388	0.993	33.9	1.123	0.000	34.7	60.301	Surcharged
Manhole (154)	FEH 2022: 30 years: +40 %: 30 mins: Winter	43.130	41.800	42.606	0.806	42.5	0.912	0.000	41.0	72.202	Surcharged
Manhole (155)	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.700	40.487	40.966	0.479	53.0	0.076	0.000	52.3	84.446	Surcharged
Manhole (156)	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.650	40.046	40.442	0.396	100.2	0.447	0.000	99.9	144.628	Surcharged
SW2402	FEH 2022: 30 years: +40 %: 15 mins: Winter	41.550	39.691	39.870	0.179	106.8	0.203	0.000	105.9	97.973	OK
SW2404	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.210	38.981	39.255	0.274	112.5	0.309	0.000	112.1	159.083	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01					Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site					Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
					Company Address: 20 Market Street Altrincham WA14 1PF						

Manhole (159)	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.710	38.884	39.147	0.263	117.0	0.297	0.000	116.4	164.744	OK
Manhole (160)	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.450	38.663	38.954	0.291	123.2	0.329	0.000	126.7	117.414	OK
Manhole (161)	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.240	38.443	38.791	0.348	129.7	0.394	0.000	137.0	120.392	OK
Manhole (162)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.340	38.226	38.722	0.496	97.9	0.561	0.000	95.1	345.494	Surcharged
Manhole (163)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.290	38.027	38.711	0.684	108.5	0.774	0.000	108.1	393.282	Surcharged
Manhole (164)	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.370	43.120	43.799	0.679	18.6	0.768	0.000	16.0	22.597	Surcharged
Manhole (165)	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.000	42.852	43.703	0.851	17.5	0.962	0.000	16.6	23.882	Flood Risk
Manhole (166)	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.320	42.719	43.635	0.916	20.0	1.037	0.000	17.7	30.302	Surcharged
SW2405	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.620	40.790	41.010	0.220	7.6	0.035	0.000	7.4	6.994	Surcharged
SW2406	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.620	40.680	40.992	0.312	9.2	0.050	0.000	9.1	8.656	Surcharged
SW1906	FEH 2022: 30 years: +40 %: 15 mins: Summer	42.050	40.718	40.794	0.076	8.4	0.012	0.000	8.0	3.630	OK
SW2102	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.270	40.776	40.917	0.141	18.5	0.022	0.000	17.7	10.971	OK
SW2104	FEH 2022: 30 years: +40 %: 30 mins: Winter	42.250	40.482	40.761	0.279	27.3	0.079	0.000	26.9	32.281	Surcharged
SW2106	FEH 2022: 30 years: +40 %: 30 mins: Winter	42.280	40.355	40.703	0.348	33.0	0.098	0.000	32.5	41.924	Surcharged
SW2107	FEH 2022: 30 years: +40 %: 30 mins: Winter	42.270	40.249	40.625	0.376	35.5	0.107	0.000	35.1	44.647	Surcharged
SW2105	FEH 2022: 30 years: +40 %: 30 mins: Winter	42.250	40.422	40.735	0.313	28.8	0.089	0.000	28.4	35.780	Surcharged
SW2108	FEH 2022: 30 years: +40 %: 30 mins: Winter	42.180	40.181	40.560	0.379	37.0	0.107	0.000	36.3	46.432	Surcharged
SW2109	FEH 2022: 30 years: +40 %: 30 mins: Winter	42.280	40.500	40.560	0.060	0.4	0.010	0.000	0.0	0.085	OK
SW2400	FEH 2022: 30 years: +40 %: 15 mins: Winter	41.690	40.340	40.377	0.037	2.7	0.006	0.000	2.6	1.246	OK
SW2403	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.570	39.360	39.547	0.188	109.2	0.053	0.000	109.0	156.077	OK
SW2401	FEH 2022: 30 years: +40 %: 15 mins: Winter	41.650	40.066	40.115	0.049	4.7	0.008	0.000	4.4	2.186	OK
SW2500	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.570	40.620	40.652	0.032	2.0	0.005	0.000	2.0	3.581	OK
SW2501	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.570	40.462	40.510	0.048	3.9	0.008	0.000	3.8	6.924	OK
SW2502	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.620	40.388	40.434	0.046	3.8	0.007	0.000	3.8	6.899	OK
SW2503	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.640	40.196	40.248	0.052	6.4	0.008	0.000	6.3	11.159	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026							
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente					
				Company Address: 20 Market Street Altrincham WA14 1PF							

SW2504	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.150	40.019	40.072	0.053	6.3	0.008	0.000	6.3	11.128	OK
SW2505	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.110	39.926	39.972	0.046	8.3	0.007	0.000	8.2	14.676	OK
SW2506	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.550	40.150	40.180	0.030	2.0	0.005	0.000	2.0	3.583	OK
Manhole (191)	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.620	39.018	39.068	0.050	7.0	0.057	0.000	6.8	5.239	OK
Manhole (192)	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.530	39.480	39.532	0.052	5.0	0.059	0.000	4.8	3.345	OK
Manhole (193)	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.520	39.348	39.417	0.069	8.7	0.078	0.000	8.3	6.174	OK
Manhole (194)	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.530	39.100	39.193	0.093	12.9	0.105	0.000	12.3	9.407	OK
Manhole (195)	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.360	38.954	39.014	0.060	13.9	0.068	0.000	13.7	11.181	OK
Manhole (196)	FEH 2022: 30 years: +40 %: 15 mins: Winter	40.310	39.260	39.334	0.074	13.0	0.084	0.000	12.6	7.156	OK
Manhole (197)	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.260	39.210	39.242	0.032	1.9	0.037	0.000	1.9	3.126	OK
Manhole (198)	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.290	39.119	39.149	0.031	1.9	0.035	0.000	1.8	3.102	OK
Manhole (199)	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.250	38.920	38.957	0.037	2.4	0.042	0.000	2.3	3.575	OK
Manhole (200)	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.310	38.761	38.812	0.052	4.3	0.059	0.000	4.2	7.085	OK
Manhole (201)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.340	38.645	38.709	0.064	3.2	0.073	0.000	3.2	12.603	OK
Manhole (202)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.360	38.607	38.707	0.100	4.7	0.113	0.000	4.7	18.357	OK
Manhole (203)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.360	38.442	38.703	0.261	6.0	0.295	0.000	6.0	23.710	Surcharged
Manhole (204)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.270	38.296	38.698	0.402	6.2	0.455	0.000	5.7	24.244	Surcharged
SW309	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.650	42.462	42.810	0.348	6.0	0.055	0.000	6.0	54.966	Surcharged
SW306	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.650	42.849	42.945	0.096	12.9	0.015	0.000	12.4	9.181	OK
SW310	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.650	42.437	42.810	0.373	6.9	0.059	0.000	7.0	63.852	Surcharged
SW502	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.650	43.157	43.279	0.122	15.5	0.019	0.000	15.1	9.112	OK
Manhole (9a)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.460	41.631	42.359	0.728	8.2	0.116	0.000	8.1	638.062	Surcharged
Manhole (9b)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.350	41.535	42.356	0.821	8.4	0.131	0.000	8.3	646.353	Surcharged
Manhole (11)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	43.670	41.246	42.351	1.105	12.3	1.250	0.000	12.3	787.452	Surcharged
SW900	FEH 2022: 30 years: +40 %: 60 mins: Winter	44.350	43.350	43.388	0.038	2.9	0.006	0.000	2.9	7.470	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026							
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente					
				Company Address: 20 Market Street Altrincham WA14 1PF							

SW901	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.350	43.273	43.380	0.107	15.6	0.017	0.000	15.2	10.333	OK
SW902	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.120	43.040	43.159	0.119	22.8	0.019	0.000	22.6	13.983	OK
SW1102	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.350	42.966	43.025	0.059	5.6	0.009	0.000	5.4	4.358	OK
SW600	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.700	43.770	43.840	0.070	8.0	0.011	0.000	7.9	3.691	OK
SW602	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.620	43.640	43.728	0.088	5.9	0.014	0.000	5.6	2.723	OK
SW601	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.610	43.613	43.723	0.110	13.5	0.031	0.000	13.0	6.408	OK
SW607	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.650	43.150	43.272	0.121	22.1	0.019	0.000	21.7	15.645	OK
SW610	FEH 2022: 30 years: +40 %: 15 mins: Winter	44.700	43.190	43.231	0.041	2.7	0.007	0.000	2.7	1.276	OK
SW701	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.350	43.428	43.493	0.064	5.3	0.010	0.000	5.2	9.383	OK
SW2101	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.270	40.828	40.928	0.100	9.0	0.016	0.000	8.5	5.252	OK
SW2100	FEH 2022: 30 years: +40 %: 15 mins: Summer	42.270	40.920	40.993	0.073	7.5	0.012	0.000	7.4	3.240	OK
SW1801	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.900	41.305	41.414	0.109	19.7	0.031	0.000	19.5	11.438	OK
SW2103	FEH 2022: 30 years: +40 %: 30 mins: Winter	42.250	40.550	40.778	0.228	21.1	0.064	0.000	20.3	23.281	Surcharged
SW1905	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.750	38.876	38.918	0.042	6.4	0.048	0.000	6.3	10.147	OK
SW1201	FEH 2022: 30 years: +40 %: 15 mins: Summer	41.600	40.401	40.491	0.090	11.3	0.014	0.000	11.0	6.348	OK
SW1301	FEH 2022: 30 years: +40 %: 15 mins: Winter	41.600	40.235	40.285	0.049	3.7	0.008	0.000	3.6	3.298	OK
Manhole (4)	FEH 2022: 30 years: +40 %: 15 mins: Winter	42.700	40.410	40.737	0.327	41.8	0.052	0.000	39.8	36.573	Surcharged
SW101	FEH 2022: 30 years: +40 %: 30 mins: Winter	44.550	43.361	43.399	0.038	2.7	0.006	0.000	2.7	4.805	OK
SW1603	FEH 2022: 30 years: +40 %: 30 mins: Winter	40.000	38.899	38.953	0.054	4.2	0.009	0.000	4.1	7.204	OK
Manhole (18a)	FEH 2022: 30 years: +40 %: 15 mins: Summer	40.010	38.584	38.849	0.265	3.6	0.299	0.000	1.1	1.707	OK
Manhole (20a)	FEH 2022: 30 years: +40 %: 120 mins: Winter	40.000	38.281	38.839	0.558	35.6	0.631	0.000	9.4	151.268	Surcharged
SW60a	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.500	42.373	42.810	0.437	5.0	0.124	0.000	4.8	47.623	Surcharged
Manhole (156a)	FEH 2022: 30 years: +40 %: 30 mins: Winter	41.670	40.339	40.805	0.467	57.1	0.074	0.000	56.6	91.776	Surcharged

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Junctions Summary Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			



FEH 2022: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW603	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.630	43.532	43.681	0.149	18.0	0.024	0.000	17.6	10.733	OK
SW604	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.640	43.383	43.503	0.120	22.5	0.019	0.000	22.4	14.654	OK
SW605	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.620	43.259	43.401	0.142	25.4	0.023	0.000	24.9	16.011	OK
SW606	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.640	43.203	43.349	0.146	27.0	0.023	0.000	26.6	18.312	OK
SW608	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.630	43.079	43.216	0.137	29.9	0.022	0.000	29.3	21.248	OK
SW609	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.780	42.937	43.198	0.261	7.8	0.295	0.000	7.8	96.003	Surcharged
Manhole (6)	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.670	42.565	43.198	0.633	9.4	0.716	0.000	9.4	121.663	Surcharged
Manhole (7)	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.500	42.279	43.197	0.918	18.8	1.623	0.000	15.9	271.947	Surcharged
Manhole (8)	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.400	41.800	43.197	1.397	22.2	2.468	0.000	7.4	477.901	Surcharged
Manhole (9)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.250	41.433	43.046	1.613	8.5	0.256	0.000	8.5	842.458	Surcharged
Manhole (10)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.390	41.407	43.045	1.638	8.5	0.260	0.000	8.4	841.762	Surcharged
Manhole (11a)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.380	41.360	43.044	1.684	11.2	1.905	0.000	11.1	935.407	Surcharged
Manhole (12)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.260	41.115	43.039	1.924	17.6	3.399	0.000	7.3	1323.868	Flood Risk
Manhole (13)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.170	41.011	43.024	2.013	7.3	2.277	0.000	7.3	1056.984	Flood Risk
Manhole (14)	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.620	40.694	41.073	0.379	46.7	0.428	0.000	46.0	70.941	Surcharged
Manhole (15)	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.950	40.266	40.753	0.487	76.6	0.551	0.000	76.2	108.430	Surcharged
Manhole (16)	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.600	38.965	39.613	0.648	118.8	0.733	0.000	113.6	84.732	Surcharged
Manhole (17)	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.530	38.747	39.329	0.582	124.8	0.658	0.000	121.2	91.834	Surcharged
Manhole (18)	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.980	38.351	39.296	0.945	76.0	1.669	0.000	69.7	767.303	Surcharged
Manhole (19)	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.680	38.310	39.294	0.985	89.7	1.740	0.000	50.7	947.477	Surcharged
Manhole (20)	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.000	38.241	39.292	1.051	56.3	4.756	0.000	56.7	951.966	Surcharged

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
				Company Address: 20 Market Street Altrincham WA14 1PF						

Manhole (21)	FEH 2022: 100 years: +45 %: 120 mins: Winter	39.900	38.178	39.297	1.118	57.7	1.265	0.000	56.6	468.366	Surcharged
Manhole (22)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.000	38.145	39.302	1.157	56.7	1.309	0.000	56.8	474.425	Surcharged
Manhole (23)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.000	38.066	39.312	1.245	56.8	1.409	0.000	57.0	468.535	Surcharged
Manhole (24)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.000	38.021	39.318	1.297	57.0	1.467	0.000	57.2	476.521	Surcharged
Manhole (25)	FEH 2022: 100 years: +45 %: 120 mins: Winter	39.800	37.960	39.325	1.365	57.2	1.544	0.000	57.3	475.652	Surcharged
Manhole (26)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.030	37.913	39.330	1.417	159.6	1.603	0.000	159.1	931.962	Surcharged
Manhole (27)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.100	37.851	39.321	1.470	171.7	2.598	0.000	171.1	925.354	Surcharged
Manhole (28)	FEH 2022: 100 years: +45 %: 120 mins: Winter	39.600	37.824	39.311	1.487	64.9	8.514	0.000	63.0	706.948	Flood Risk
Manhole (29)	FEH 2022: 100 years: +45 %: 960 mins: Winter	39.580	37.640	37.793	0.153	63.0	0.000	0.000	63.0	2786.757	OK
SW611	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.780	43.120	43.198	0.078	1.0	0.012	0.000	1.0	14.995	OK
Manhole (31)	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.490	43.070	43.198	0.128	1.2	0.145	0.000	1.2	18.320	OK
Manhole (32)	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.485	42.813	43.198	0.385	1.6	0.435	0.000	1.6	25.986	Surcharged
SW500	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.770	43.420	43.542	0.122	17.6	0.019	0.000	16.9	8.141	OK
SW501	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.650	43.256	43.428	0.172	19.0	0.027	0.000	18.0	10.492	Surcharged
SW503	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.780	43.109	43.249	0.140	18.3	0.022	0.000	17.9	11.902	OK
SW504	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.790	43.050	43.198	0.148	3.6	0.024	0.000	3.6	42.708	OK
SW505	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.800	42.871	43.197	0.327	4.7	0.052	0.000	4.7	55.378	Surcharged
SW506	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.640	42.755	43.198	0.443	4.7	0.070	0.000	4.7	55.328	Surcharged
SW507	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.550	42.461	43.197	0.736	8.0	0.117	0.000	7.8	94.948	Surcharged
SW509	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.790	43.331	43.407	0.076	9.2	0.012	0.000	9.0	5.998	OK
SW510	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.750	43.182	43.244	0.062	12.2	0.010	0.000	12.0	9.630	OK
SW300	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.380	42.925	43.197	0.272	3.7	0.043	0.000	3.7	43.103	Surcharged
SW301	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.500	42.826	43.197	0.371	4.9	0.059	0.000	4.9	59.519	Surcharged
SW508	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.790	43.440	43.481	0.041	3.3	0.006	0.000	3.2	1.521	OK
SW302	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.740	42.700	43.197	0.497	4.9	0.079	0.000	4.9	59.518	Surcharged

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026							
				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente					
Report Details: Type: Junctions Summary Storm Phase: Full Site				Company Address: 20 Market Street Altrincham WA14 1PF							

SW303	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.650	42.432	43.197	0.765	5.2	0.122	0.000	4.9	63.604	Surcharged
SW304	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.550	42.202	43.197	0.995	12.5	0.282	0.000	12.4	158.727	Surcharged
SW305	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.450	43.100	43.197	0.097	1.4	0.015	0.000	1.4	15.558	OK
SW307	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.650	42.718	43.197	0.479	4.3	0.076	0.000	4.3	50.591	Surcharged
SW308	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.780	42.581	43.197	0.616	4.8	0.098	0.000	4.8	57.459	Surcharged
SW311	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.650	42.345	43.197	0.852	7.8	0.241	0.000	7.7	96.322	Surcharged
SW100	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.680	43.430	43.476	0.046	3.6	0.007	0.000	3.6	6.382	OK
SW102	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.550	43.263	43.322	0.058	6.0	0.009	0.000	5.9	10.708	OK
SW103	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.470	43.116	43.198	0.082	3.2	0.013	0.000	3.2	38.168	OK
SW104	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.490	42.938	43.197	0.259	5.5	0.041	0.000	5.5	69.600	Surcharged
SW059	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.450	42.687	43.197	0.510	5.5	0.901	0.000	5.5	69.612	Surcharged
SW060	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.400	42.237	43.197	0.960	9.0	1.086	0.000	8.9	118.264	Surcharged
SW200	FEH 2022: 100 years: +45 %: 15 mins: Summer	44.670	43.320	43.379	0.059	6.4	0.009	0.000	6.3	2.768	OK
SW201	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.680	43.118	43.203	0.085	11.6	0.014	0.000	11.2	5.397	OK
SW202	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.610	42.910	43.197	0.287	1.7	0.046	0.000	1.7	19.796	Surcharged
SW203	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.600	42.788	43.197	0.409	3.1	0.065	0.000	3.1	35.929	Surcharged
SW700	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.350	43.500	43.534	0.034	2.3	0.005	0.000	2.3	4.177	OK
SW702	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.460	43.399	43.477	0.078	9.1	0.012	0.000	9.0	14.376	OK
SW703	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.480	43.319	43.393	0.075	9.0	0.012	0.000	8.9	14.344	OK
SW704	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.470	43.158	43.231	0.073	12.8	0.012	0.000	12.5	11.068	OK
SW705	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.000	42.782	43.044	0.262	2.0	0.042	0.000	2.0	70.657	Surcharged
SW706	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.970	42.592	43.044	0.452	2.8	0.072	0.000	2.8	94.821	Surcharged
SW707	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.980	42.830	43.042	0.212	0.3	0.034	0.000	0.3	10.203	Surcharged
SW708	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.960	42.755	43.042	0.287	1.7	0.046	0.000	1.7	58.603	Surcharged
SW709	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.850	42.512	43.041	0.530	5.3	0.936	0.000	2.3	113.675	Surcharged

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
				Company Address: 20 Market Street Altrincham WA14 1PF						

SW1100	FEH 2022: 100 years: +45 %: 15 mins: Summer	44.350	43.300	43.335	0.035	2.4	0.006	0.000	2.4	1.045	OK
SW1101	FEH 2022: 100 years: +45 %: 15 mins: Summer	44.490	43.125	43.171	0.046	4.2	0.007	0.000	4.0	1.825	OK
SW1103	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.350	42.886	43.039	0.153	1.5	0.024	0.000	1.5	52.000	Surcharged
SW1104	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.350	42.783	43.039	0.256	2.0	0.041	0.000	2.0	69.519	Surcharged
SW1109	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.470	43.054	43.111	0.057	8.8	0.009	0.000	8.6	6.472	OK
SW1105	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.350	42.565	43.038	0.474	3.1	0.075	0.000	3.1	106.673	Surcharged
SW1106	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.350	43.300	43.336	0.036	2.3	0.006	0.000	2.3	4.177	OK
SW1107	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.350	43.219	43.268	0.049	4.1	0.008	0.000	4.0	7.298	OK
SW1108	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.460	43.120	43.184	0.065	6.7	0.010	0.000	6.6	5.481	OK
SW1800	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.900	41.386	41.507	0.121	23.8	0.034	0.000	23.5	12.381	OK
SW1802	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.900	41.257	41.383	0.126	25.5	0.036	0.000	25.1	14.937	OK
SW1803	FEH 2022: 100 years: +45 %: 15 mins: Winter	43.000	41.188	41.316	0.128	28.0	0.036	0.000	27.6	16.202	OK
SW1804	FEH 2022: 100 years: +45 %: 15 mins: Winter	43.050	41.070	41.211	0.141	37.0	0.040	0.000	38.3	22.447	OK
SW1805	FEH 2022: 100 years: +45 %: 30 mins: Winter	43.200	40.858	41.129	0.271	30.1	0.077	0.000	29.3	34.964	Surcharged
SW1306	FEH 2022: 100 years: +45 %: 15 mins: Summer	42.550	41.260	41.332	0.072	13.1	0.011	0.000	13.1	5.668	OK
SW1806	FEH 2022: 100 years: +45 %: 15 mins: Summer	43.100	40.985	41.024	0.040	3.1	0.006	0.000	3.0	1.348	OK
SW1807	FEH 2022: 100 years: +45 %: 15 mins: Summer	42.950	40.776	40.843	0.067	6.6	0.011	0.000	6.3	2.870	OK
SW1808	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.950	40.709	40.804	0.095	4.5	0.015	0.000	4.2	4.068	OK
SW1809	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.950	40.678	40.802	0.124	6.4	0.020	0.000	5.9	8.100	OK
SW1810	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.740	40.424	40.783	0.359	20.6	0.406	0.000	20.0	25.431	Surcharged
SW1900	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.150	41.000	41.055	0.055	4.8	0.009	0.000	4.7	3.182	OK
SW1901	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.300	40.937	41.000	0.063	6.8	0.010	0.000	6.6	5.521	OK
SW1902	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.200	40.730	40.789	0.059	6.3	0.009	0.000	6.0	9.383	OK
SW1300	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.500	40.450	40.450	0.000	0.0	0.000	0.000	0.0	0.000	OK
SW1302	FEH 2022: 100 years: +45 %: 15 mins: Winter	41.800	40.186	40.255	0.069	6.0	0.011	0.000	5.9	4.880	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026							
Report Details: Type: Junctions Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente					
				Company Address: 20 Market Street Altrincham WA14 1PF							

SW1303	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.700	40.146	40.224	0.078	10.0	0.012	0.000	9.8	8.881	OK
SW1304	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.700	39.947	40.035	0.088	11.5	0.014	0.000	11.2	9.603	OK
SW1305	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.550	39.797	39.849	0.052	12.5	0.008	0.000	12.4	10.178	OK
SW1307	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.600	40.804	41.077	0.273	12.6	0.043	0.000	11.9	14.699	Surcharged
SW1401	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.500	40.450	40.496	0.046	4.0	0.007	0.000	3.9	1.716	OK
SW1402	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.350	40.211	40.260	0.049	3.9	0.008	0.000	3.7	1.713	OK
SW1403	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.350	40.157	40.212	0.055	5.8	0.009	0.000	5.6	2.613	OK
SW1404	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.520	39.880	39.961	0.081	9.8	0.013	0.000	9.4	4.408	OK
SW1500	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.480	40.430	40.487	0.057	5.4	0.009	0.000	5.4	8.939	OK
SW1501	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.480	40.326	40.385	0.059	6.1	0.009	0.000	6.1	9.594	OK
SW1200	FEH 2022: 100 years: +45 %: 15 mins: Summer	42.100	40.870	40.927	0.057	12.1	0.009	0.000	12.0	5.239	OK
SW1202	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.400	40.311	40.422	0.111	15.0	0.018	0.000	14.5	8.551	OK
SW1203	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.270	40.138	40.271	0.133	16.4	0.021	0.000	15.7	10.611	OK
SW1206	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.000	39.776	39.884	0.108	20.3	0.017	0.000	20.3	29.787	OK
SW1204	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.250	40.072	40.197	0.125	15.7	0.020	0.000	15.3	10.567	OK
SW1205	FEH 2022: 100 years: +45 %: 15 mins: Winter	41.150	39.971	40.103	0.132	17.7	0.021	0.000	16.9	14.067	OK
SW1207	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.040	39.700	39.798	0.098	20.3	0.016	0.000	20.2	29.731	OK
SW1208	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.200	39.446	39.518	0.072	23.7	0.011	0.000	23.6	36.085	OK
SW1209	FEH 2022: 100 years: +45 %: 240 mins: Winter	39.950	39.041	39.299	0.259	18.1	0.293	0.000	18.1	118.450	Surcharged
SW1704	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.020	38.675	39.297	0.622	24.4	0.703	0.000	23.9	158.790	Surcharged
SW1400	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.300	39.840	39.877	0.037	3.6	0.006	0.000	3.6	6.401	OK
SW1606	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.000	39.169	39.300	0.131	2.5	0.021	0.000	2.5	16.727	OK
SW1700	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.100	39.200	39.299	0.099	0.7	0.016	0.000	0.7	3.948	OK
SW1701	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.150	39.149	39.299	0.150	3.7	0.024	0.000	3.7	23.456	OK
SW1702	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.150	38.973	39.298	0.325	5.0	0.052	0.000	5.0	32.657	Surcharged

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01					Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site					Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
					Company Address: 20 Market Street Altrincham WA14 1PF						

SW1703	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.100	38.885	39.297	0.412	6.3	0.066	0.000	6.3	40.249	Surcharged
SW2200	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.460	39.167	39.299	0.132	0.7	0.021	0.000	0.7	3.838	OK
SW2300	FEH 2022: 100 years: +45 %: 30 mins: Winter	40.350	39.300	39.351	0.051	4.5	0.008	0.000	4.5	8.066	OK
SW2201	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.460	39.104	39.299	0.195	7.1	0.031	0.000	7.1	45.931	Surcharged
SW2202	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.470	38.868	39.296	0.428	9.3	0.121	0.000	9.3	59.796	Surcharged
SW2203	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.400	38.781	39.296	0.515	13.6	0.146	0.000	13.6	85.555	Surcharged
SW2204	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.700	38.586	39.295	0.709	18.6	0.802	0.000	17.8	117.912	Surcharged
SW1903	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.150	41.000	41.061	0.061	6.0	0.010	0.000	5.9	4.952	OK
SW1904	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.150	40.846	40.907	0.061	8.5	0.010	0.000	8.4	13.451	OK
SW1600	FEH 2022: 100 years: +45 %: 240 mins: Winter	39.850	39.100	39.295	0.195	1.6	0.031	0.000	1.6	10.725	Surcharged
SW1601	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.000	38.995	39.295	0.300	3.0	0.048	0.000	3.0	19.904	Surcharged
SW1602	FEH 2022: 100 years: +45 %: 240 mins: Winter	39.850	38.940	39.295	0.355	3.0	0.056	0.000	3.0	19.915	Surcharged
SW1604	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.000	38.811	39.294	0.483	3.3	0.077	0.000	3.2	21.550	Surcharged
SW1605	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.000	38.683	39.294	0.611	4.9	0.097	0.000	4.6	32.593	Surcharged
SW2301	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.000	38.950	39.326	0.376	2.1	0.060	0.000	2.1	8.203	Surcharged
Manhole (149)	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.460	43.320	44.080	0.760	3.2	0.859	0.000	1.3	1.754	Surcharged
Manhole (150)	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.520	43.142	44.079	0.937	5.1	1.060	0.000	3.9	3.914	Surcharged
Manhole (151)	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.490	42.930	44.076	1.146	13.3	1.297	0.000	10.1	20.048	Surcharged
Manhole (152)	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.370	42.639	44.006	1.367	14.8	1.546	0.000	15.2	27.381	Surcharged
Manhole (153)	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.270	42.395	43.872	1.477	37.9	1.671	0.000	38.8	79.827	Surcharged
Manhole (154)	FEH 2022: 100 years: +45 %: 30 mins: Winter	43.130	41.800	43.130	1.330	48.4	1.554	0.050	45.6	95.629	Flood
Manhole (155)	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.700	40.487	41.257	0.770	59.1	0.122	0.000	58.4	111.827	Surcharged
Manhole (156)	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.650	40.046	40.608	0.562	115.8	0.635	0.000	115.3	191.478	Surcharged
SW2402	FEH 2022: 100 years: +45 %: 15 mins: Winter	41.550	39.691	39.902	0.211	120.4	0.238	0.000	119.8	127.935	OK
SW2404	FEH 2022: 100 years: +45 %: 120 mins: Winter	41.210	38.981	39.655	0.674	93.6	0.762	0.000	93.5	344.788	Surcharged

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01					Date: 23/01/2026						
Report Details: Type: Junctions Summary Storm Phase: Full Site					Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente				
					Company Address: 20 Market Street Altrincham WA14 1PF						

Manhole (159)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.710	38.884	39.627	0.742	97.2	0.840	0.000	97.0	357.685	Surcharged
Manhole (160)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.450	38.663	39.571	0.908	108.6	1.027	0.000	105.3	405.150	Surcharged
Manhole (161)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.240	38.443	39.501	1.058	109.0	1.197	0.000	108.0	418.174	Surcharged
Manhole (162)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.340	38.226	39.428	1.202	117.7	1.360	0.000	117.2	449.540	Surcharged
Manhole (163)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.290	38.027	39.363	1.336	134.8	1.511	0.000	134.4	511.269	Surcharged
Manhole (164)	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.370	43.120	44.370	1.250	24.5	1.414	0.001	23.9	29.917	Flood
Manhole (165)	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.000	42.852	44.005	1.153	25.8	6.698	5.399	20.4	31.660	Flood
Manhole (166)	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.320	42.719	43.983	1.264	22.9	1.430	0.000	23.2	40.159	Surcharged
SW2405	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.620	40.790	41.302	0.512	10.0	0.081	0.000	7.1	9.499	Surcharged
SW2406	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.620	40.680	41.285	0.605	9.3	0.096	0.000	9.0	11.462	Surcharged
SW1906	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.050	40.718	41.067	0.349	7.1	0.056	0.000	6.9	6.500	Surcharged
SW2102	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.270	40.776	41.176	0.400	17.1	0.064	0.000	16.5	21.979	Surcharged
SW2104	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.250	40.482	41.037	0.555	34.8	0.157	0.000	31.9	28.212	Surcharged
SW2106	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.280	40.355	40.960	0.605	38.2	0.171	0.000	38.7	35.599	Surcharged
SW2107	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.270	40.249	40.852	0.603	41.3	0.171	0.000	41.6	38.162	Surcharged
SW2105	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.250	40.422	41.004	0.582	34.1	0.165	0.000	33.5	30.719	Surcharged
SW2108	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.180	40.181	40.765	0.583	43.5	0.165	0.000	42.4	61.657	Surcharged
SW2109	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.280	40.500	40.764	0.264	2.4	0.042	0.000	1.1	0.387	Surcharged
SW2400	FEH 2022: 100 years: +45 %: 15 mins: Winter	41.690	40.340	40.382	0.042	3.5	0.007	0.000	3.4	1.626	OK
SW2403	FEH 2022: 100 years: +45 %: 120 mins: Winter	41.570	39.360	39.710	0.351	91.4	0.099	0.000	91.4	338.258	Surcharged
SW2401	FEH 2022: 100 years: +45 %: 15 mins: Winter	41.650	40.066	40.123	0.057	6.1	0.009	0.000	5.7	2.819	OK
SW2500	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.570	40.620	40.657	0.037	2.7	0.006	0.000	2.6	4.737	OK
SW2501	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.570	40.462	40.518	0.056	5.1	0.009	0.000	5.1	9.152	OK
SW2502	FEH 2022: 100 years: +45 %: 60 mins: Winter	41.620	40.388	40.442	0.054	5.1	0.009	0.000	5.1	13.209	OK
SW2503	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.640	40.196	40.256	0.060	8.4	0.010	0.000	8.4	14.772	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026							
				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente					
Report Details: Type: Junctions Summary Storm Phase: Full Site				Company Address: 20 Market Street Altrincham WA14 1PF							

SW2504	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.150	40.019	40.081	0.061	8.4	0.010	0.000	8.3	14.736	OK
SW2505	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.110	39.926	39.979	0.053	10.9	0.008	0.000	10.8	19.433	OK
SW2506	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.550	40.150	40.185	0.035	2.7	0.005	0.000	2.6	4.738	OK
Manhole (191)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.620	39.018	39.440	0.422	5.2	0.477	0.000	5.2	19.359	Surcharged
Manhole (192)	FEH 2022: 100 years: +45 %: 15 mins: Winter	40.530	39.480	39.542	0.062	6.5	0.070	0.000	6.3	4.374	OK
Manhole (193)	FEH 2022: 100 years: +45 %: 15 mins: Winter	40.520	39.348	39.430	0.082	11.3	0.093	0.000	10.9	8.089	OK
Manhole (194)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.530	39.100	39.411	0.311	9.2	0.352	0.000	9.2	34.095	Surcharged
Manhole (195)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.360	38.954	39.393	0.439	11.1	0.497	0.000	11.1	41.746	Surcharged
Manhole (196)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.310	39.260	39.372	0.112	6.8	0.127	0.000	6.8	22.455	OK
Manhole (197)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.260	39.210	39.370	0.160	1.8	0.181	0.000	1.8	7.246	Surcharged
Manhole (198)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.290	39.119	39.369	0.250	2.5	0.283	0.000	1.8	7.456	Surcharged
Manhole (199)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.250	38.920	39.368	0.448	2.1	0.506	0.000	2.1	9.441	Surcharged
Manhole (200)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.310	38.761	39.365	0.605	4.2	0.684	0.000	4.2	18.095	Surcharged
Manhole (201)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.340	38.645	39.360	0.715	4.2	0.809	0.000	4.2	18.699	Surcharged
Manhole (202)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.360	38.607	39.358	0.751	6.1	0.849	0.000	6.1	26.852	Surcharged
Manhole (203)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.360	38.442	39.344	0.902	7.9	1.020	0.000	7.3	33.697	Surcharged
Manhole (204)	FEH 2022: 100 years: +45 %: 120 mins: Winter	40.270	38.296	39.330	1.034	7.5	1.169	0.000	7.1	34.498	Surcharged
SW309	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.650	42.462	43.197	0.735	6.6	0.117	0.000	6.4	78.165	Surcharged
SW306	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.650	42.849	43.197	0.348	4.0	0.055	0.000	4.0	47.650	Surcharged
SW310	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.650	42.437	43.197	0.760	7.4	0.121	0.000	7.3	90.587	Surcharged
SW502	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.650	43.157	43.323	0.166	19.3	0.026	0.000	18.3	11.938	Surcharged
Manhole (9a)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.460	41.631	43.051	1.420	8.3	0.226	0.000	8.3	832.582	Surcharged
Manhole (9b)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.350	41.535	43.047	1.512	8.6	0.240	0.000	8.5	843.216	Surcharged
Manhole (11)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.670	41.246	43.042	1.796	13.9	2.031	0.000	13.8	1043.390	Surcharged
SW900	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.350	43.350	43.416	0.066	3.3	0.010	0.000	3.3	3.788	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Junctions Summary Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			

SW901	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.350	43.273	43.410	0.138	20.3	0.022	0.000	19.5	13.543	OK
SW902	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.120	43.040	43.181	0.141	29.4	0.022	0.000	29.1	18.340	OK
SW1102	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.350	42.966	43.039	0.073	1.0	0.012	0.000	1.0	32.986	OK
SW600	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.700	43.770	43.852	0.082	10.4	0.013	0.000	10.3	4.817	OK
SW602	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.620	43.640	43.766	0.126	7.7	0.020	0.000	6.8	3.571	OK
SW601	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.610	43.613	43.762	0.149	17.1	0.042	0.000	16.0	8.383	OK
SW607	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.650	43.150	43.294	0.144	28.5	0.023	0.000	28.1	20.489	OK
SW610	FEH 2022: 100 years: +45 %: 15 mins: Winter	44.700	43.190	43.238	0.048	3.6	0.008	0.000	3.5	1.665	OK
SW701	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.350	43.428	43.505	0.077	7.0	0.012	0.000	6.9	12.411	OK
SW2101	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.270	40.828	41.191	0.363	8.7	0.058	0.000	8.5	6.873	Surcharged
SW2100	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.270	40.920	41.199	0.279	6.7	0.044	0.000	6.6	6.182	Surcharged
SW1801	FEH 2022: 100 years: +45 %: 15 mins: Winter	42.900	41.305	41.436	0.131	25.8	0.037	0.000	25.5	14.973	OK
SW2103	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.250	40.550	41.058	0.508	25.9	0.144	0.000	23.0	30.786	Surcharged
SW1905	FEH 2022: 100 years: +45 %: 240 mins: Winter	41.750	38.876	39.295	0.419	4.2	0.474	0.000	4.2	27.513	Surcharged
SW1201	FEH 2022: 100 years: +45 %: 15 mins: Summer	41.600	40.401	40.511	0.111	14.8	0.018	0.000	14.4	8.314	OK
SW1301	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.600	40.235	40.294	0.058	4.8	0.009	0.000	4.8	7.497	OK
Manhole (4)	FEH 2022: 100 years: +45 %: 30 mins: Winter	42.700	40.410	40.884	0.475	49.0	0.076	0.000	48.6	76.170	Surcharged
SW101	FEH 2022: 100 years: +45 %: 30 mins: Winter	44.550	43.361	43.406	0.045	3.6	0.007	0.000	3.5	6.359	OK
SW1603	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.000	38.899	39.295	0.396	3.0	0.063	0.000	3.0	19.947	Surcharged
Manhole (18a)	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.010	38.584	39.296	0.712	59.8	0.805	0.000	27.8	320.878	Surcharged
Manhole (20a)	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.000	38.281	39.292	1.011	30.0	1.144	0.000	12.7	265.725	Surcharged
SW60a	FEH 2022: 100 years: +45 %: 480 mins: Winter	44.500	42.373	43.197	0.824	5.5	0.233	0.000	5.3	68.814	Surcharged
Manhole (156a)	FEH 2022: 100 years: +45 %: 30 mins: Winter	41.670	40.339	41.063	0.724	64.9	0.115	0.000	64.2	121.545	Surcharged

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026				
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente		
				Company Address: 20 Market Street Altrincham WA14 1PF				



FEH 2022: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Tank 5	FEH 2022: 2 years: +0 %: 240 mins: Winter	38.518	38.518	0.168	0.168	14.4	45.706	0.000	0.000	3.9	33.806	79.066	OK
Swale (3)	FEH 2022: 2 years: +0 %: 60 mins: Summer	39.668	39.662	0.003	0.012	1.1	0.621	0.000	0.000	0.8	1.290	98.914	OK
Swale (4)	FEH 2022: 2 years: +0 %: 30 mins: Summer	39.628	39.611	0.003	0.011	1.3	0.622	0.000	0.000	0.9	1.009	98.509	OK
Swale (1)	FEH 2022: 2 years: +0 %: 30 mins: Summer	42.677	42.674	0.004	0.014	0.8	0.304	0.000	0.000	0.5	0.606	98.998	OK
Tank 3	FEH 2022: 2 years: +0 %: 480 mins: Winter	41.516	41.516	0.256	0.256	8.2	78.083	0.000	0.000	5.7	76.380	78.523	OK
Swale (2)	FEH 2022: 2 years: +0 %: 60 mins: Winter	43.050	43.050	0.027	0.050	5.8	3.974	0.000	0.000	3.8	10.473	94.562	OK
Tank 1	FEH 2022: 2 years: +0 %: 240 mins: Winter	42.158	42.158	0.260	0.260	12.1	53.348	0.000	0.000	6.0	63.165	83.795	OK
Tank 2	FEH 2022: 2 years: +0 %: 15 mins: Summer	42.280	42.280	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000	100.000	OK
Swale (5)	FEH 2022: 2 years: +0 %: 30 mins: Winter	39.283	39.266	0.003	0.015	3.2	2.073	0.000	0.000	1.5	2.286	98.130	OK
Porous Paving (4)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	43.798	43.675	0.068	0.005	0.2	2.945	0.000	0.000	0.1	5.617	91.541	OK
Porous Paving (3)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	44.227	44.004	0.060	0.003	0.1	1.969	0.000	0.000	0.0	2.528	81.435	OK
Porous Paving (2)	FEH 2022: 2 years: +0 %: 1440 mins: Summer	44.249	44.028	0.050	0.002	0.1	1.016	0.000	0.000	0.0	1.867	86.280	OK
Porous Paving (1)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	44.155	43.791	0.086	0.001	0.3	7.888	0.000	0.000	0.1	4.027	85.961	OK
Tank 4	FEH 2022: 2 years: +0 %: 15 mins: Winter	38.600	38.600	0.000	0.000	0.0	0.076	0.000	0.000	0.0	0.000	99.973	OK
Porous Paving (9)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	43.943	43.674	0.110	0.004	0.3	6.904	0.000	0.000	0.1	5.724	82.636	OK
Porous Paving (10)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	43.840	43.673	0.067	0.003	0.1	2.429	0.000	0.000	0.0	2.836	90.134	OK
Porous Paving (11)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	43.911	43.673	0.063	0.003	0.2	5.865	0.000	0.000	0.1	4.007	89.324	OK
Porous Paving (12)	FEH 2022: 2 years: +0 %: 1440 mins: Summer	44.206	44.028	0.052	0.002	0.1	0.676	0.000	0.000	0.0	1.535	86.001	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
		Company Address: 20 Market Street Altrincham WA14 1PF			

Porous Paving (13)	FEH 2022: 2 years: +0 %: 1440 mins: Summer	44.196	44.004	0.062	0.003	0.1	0.866	0.000	0.000	0.0	1.468	84.064	OK
Swale 6	FEH 2022: 2 years: +0 %: 120 mins: Summer	39.513	39.512	0.011	0.012	0.8	0.915	0.000	0.000	0.5	1.609	98.269	OK
Porous Paving	FEH 2022: 2 years: +0 %: 1440 mins: Winter	44.037	43.823	0.066	0.003	0.1	1.823	0.000	0.000	0.0	2.591	89.481	OK
Porous Paving (5)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	44.165	44.023	0.143	0.003	0.1	2.193	0.000	0.000	0.0	2.143	83.171	OK
Porous Paving (7)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	44.077	43.717	0.057	0.002	0.1	2.472	0.000	0.000	0.0	3.633	89.610	OK
Porous Paving (8)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	44.197	44.093	0.104	0.003	0.1	3.004	0.000	0.000	0.0	1.989	87.318	OK
Porous Paving (15)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	44.187	44.083	0.104	0.003	0.1	3.116	0.000	0.000	0.0	2.148	87.406	OK
Porous Paving (16)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	44.105	43.824	0.067	0.004	0.1	2.126	0.000	0.000	0.0	2.658	88.950	OK
Porous Paving (17)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	40.902	40.794	0.094	0.138	0.1	2.550	0.000	0.000	0.0	0.000	64.663	OK
Porous Paving (18)	FEH 2022: 2 years: +0 %: 480 mins: Winter	41.656	40.810	0.034	0.004	0.1	0.382	0.000	0.000	0.0	0.733	87.885	OK
Porous Paving (22)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	39.644	39.488	0.084	0.002	0.0	0.735	0.000	0.000	0.0	1.045	83.406	OK
Porous Paving (23)	FEH 2022: 2 years: +0 %: 480 mins: Summer	40.927	39.858	0.030	0.002	0.1	0.293	0.000	0.000	0.0	0.539	75.087	OK
Porous Paving (24)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	39.906	39.809	0.098	0.003	0.0	0.601	0.000	0.000	0.0	0.825	79.852	OK
Porous Paving (25)	FEH 2022: 2 years: +0 %: 360 mins: Winter	40.595	40.039	0.032	0.003	0.1	0.188	0.000	0.000	0.0	0.370	77.529	OK
Porous Paving (27)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	41.383	41.229	0.071	0.003	0.0	0.620	0.000	0.000	0.0	1.167	82.795	OK
Porous Paving (28)	FEH 2022: 2 years: +0 %: 1440 mins: Summer	41.377	41.258	0.087	0.002	0.1	1.141	0.000	0.000	0.0	0.990	79.010	OK
Porous Paving (31)	FEH 2022: 2 years: +0 %: 960 mins: Winter	41.539	39.920	0.024	0.004	0.1	1.320	0.000	0.000	0.0	2.564	83.890	OK
Porous Paving (32)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	39.944	39.837	0.104	0.001	0.1	1.829	0.000	0.000	0.0	0.780	73.659	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01			Date: 23/01/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site			Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
			Company Address: 20 Market Street Altrincham WA14 1PF			

Porous Paving (33)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	39.947	39.847	0.099	0.001	0.0	0.556	0.000	0.000	0.0	0.756	79.740	OK
Porous Paving (35)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	39.964	39.757	0.083	0.001	0.0	1.241	0.000	0.000	0.0	0.962	75.303	OK
Porous Paving (36)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	39.865	39.757	0.107	0.001	0.0	1.206	0.000	0.000	0.0	0.792	75.297	OK
Porous Paving (30)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	39.945	39.827	0.109	0.001	0.0	0.759	0.000	0.000	0.0	0.639	74.972	OK
Porous Paving (37)	FEH 2022: 2 years: +0 %: 960 mins: Winter	39.946	39.827	0.088	0.001	0.0	0.494	0.000	0.000	0.0	0.542	80.793	OK
Porous Paving (34)	FEH 2022: 2 years: +0 %: 1440 mins: Summer	39.977	39.848	0.091	0.002	0.1	1.155	0.000	0.000	0.0	0.797	77.535	OK
Porous Paving (19)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	43.976	43.794	0.076	0.004	0.1	2.441	0.000	0.000	0.0	2.776	88.877	OK
Porous Paving (20)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	39.604	39.308	0.100	0.002	0.2	4.404	0.000	0.000	0.0	1.575	78.933	OK
Porous Paving (41)	FEH 2022: 2 years: +0 %: 1440 mins: Winter	43.548	43.228	0.059	0.008	0.4	8.455	0.000	0.000	0.1	6.458	89.200	OK
Tank 6	FEH 2022: 2 years: +0 %: 240 mins: Winter	38.194	38.194	0.343	0.343	49.6	108.482	0.000	0.000	42.2	500.710	57.296	OK
Tank 7	FEH 2022: 2 years: +0 %: 240 mins: Winter	38.513	38.513	0.213	0.213	7.3	39.246	0.000	0.000	2.7	23.193	73.463	OK
Porous Paving (14)	FEH 2022: 2 years: +0 %: 240 mins: Winter	44.837	44.172	0.039	0.006	0.4	0.986	0.000	0.000	0.2	1.859	73.366	OK
Porous Paving (21)	FEH 2022: 2 years: +0 %: 480 mins: Winter	44.627	44.458	0.054	0.002	0.0	0.120	0.000	0.000	0.0	0.331	81.766	OK
Porous Paving (6)	FEH 2022: 2 years: +0 %: 360 mins: Winter	44.567	44.507	0.061	0.001	0.0	0.113	0.000	0.000	0.0	0.216	79.410	OK
Porous Paving (38)	FEH 2022: 2 years: +0 %: 960 mins: Winter	40.459	39.658	0.044	0.002	0.1	0.628	0.000	0.000	0.0	1.043	64.558	OK
Porous Paving (26)	FEH 2022: 2 years: +0 %: 960 mins: Winter	43.383	42.428	0.036	0.002	0.1	0.825	0.000	0.000	0.0	1.304	63.451	OK
Porous Paving (29)	FEH 2022: 2 years: +0 %: 960 mins: Winter	44.202	43.962	0.133	0.006	0.2	1.361	0.000	0.000	0.1	4.518	76.953	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site	Company Address: 20 Market Street Altrincham WA14 1PF			



FEH 2022: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Tank 5	FEH 2022: 30 years: +40 %: 240 mins: Winter	38.841	38.841	0.491	0.491	30.5	133.304	0.000	0.000	13.7	116.989	38.944	OK
Swale (3)	FEH 2022: 30 years: +40 %: 30 mins: Summer	39.673	39.671	0.008	0.021	3.9	1.437	0.000	0.000	2.8	3.194	97.487	OK
Swale (4)	FEH 2022: 30 years: +40 %: 30 mins: Summer	39.632	39.621	0.007	0.021	4.1	1.388	0.000	0.000	3.4	3.410	96.675	OK
Swale (1)	FEH 2022: 30 years: +40 %: 30 mins: Summer	42.687	42.686	0.014	0.026	2.3	0.719	0.000	0.000	1.9	1.977	97.631	OK
Tank 3	FEH 2022: 30 years: +40 %: 1440 mins: Winter	42.349	42.349	1.089	1.089	11.0	331.877	0.000	0.000	6.0	331.741	8.715	OK
Swale (2)	FEH 2022: 30 years: +40 %: 30 mins: Winter	43.109	43.109	0.086	0.109	23.1	10.598	0.000	0.000	13.6	22.829	85.495	OK
Tank 1	FEH 2022: 30 years: +40 %: 360 mins: Winter	42.810	42.810	0.912	0.912	28.6	187.164	0.000	0.000	6.7	146.050	43.148	OK
Tank 2	FEH 2022: 30 years: +40 %: 360 mins: Winter	42.810	42.810	0.530	0.530	11.8	25.195	0.000	0.000	1.1	17.250	56.576	OK
Swale (5)	FEH 2022: 30 years: +40 %: 30 mins: Winter	39.286	39.279	0.007	0.028	9.9	4.693	0.000	0.000	6.7	8.376	95.766	OK
Porous Paving (4)	FEH 2022: 30 years: +40 %: 960 mins: Winter	43.890	43.679	0.160	0.009	0.6	6.466	0.000	0.000	0.3	12.606	81.430	OK
Porous Paving (3)	FEH 2022: 30 years: +40 %: 1440 mins: Summer	44.328	44.005	0.162	0.004	0.4	4.584	0.000	0.000	0.1	6.772	56.775	OK
Porous Paving (2)	FEH 2022: 30 years: +40 %: 1440 mins: Summer	44.332	44.029	0.133	0.003	0.3	2.395	0.000	0.000	0.1	4.815	67.659	OK
Porous Paving (1)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.294	43.793	0.225	0.003	0.8	19.116	0.000	0.000	0.2	12.051	65.980	OK
Tank 4	FEH 2022: 30 years: +40 %: 240 mins: Winter	38.842	38.842	0.242	0.242	32.1	56.265	0.000	0.000	9.7	53.836	79.891	OK
Porous Paving (9)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.116	43.677	0.283	0.007	0.8	15.656	0.000	0.000	0.2	16.856	60.621	OK
Porous Paving (10)	FEH 2022: 30 years: +40 %: 1440 mins: Summer	43.946	43.676	0.173	0.006	0.5	5.615	0.000	0.000	0.2	8.124	77.196	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
		Company Address: 20 Market Street Altrincham WA14 1PF			

Porous Paving (11)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.018	43.675	0.170	0.005	0.6	13.943	0.000	0.000	0.2	11.949	74.616	OK
Porous Paving (12)	FEH 2022: 30 years: +40 %: 1440 mins: Summer	44.291	44.030	0.136	0.004	0.2	1.541	0.000	0.000	0.1	3.739	68.064	OK
Porous Paving (13)	FEH 2022: 30 years: +40 %: 1440 mins: Summer	44.293	44.005	0.160	0.004	0.2	2.011	0.000	0.000	0.1	3.834	62.999	OK
Swale 6	FEH 2022: 30 years: +40 %: 60 mins: Summer	39.527	39.526	0.025	0.026	3.2	1.976	0.000	0.000	2.1	3.698	96.261	OK
Porous Paving	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.145	43.824	0.174	0.004	0.2	4.141	0.000	0.000	0.1	6.848	76.102	OK
Porous Paving (5)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.338	44.025	0.316	0.005	0.3	4.812	0.000	0.000	0.1	6.928	63.065	OK
Porous Paving (7)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.178	43.718	0.159	0.003	0.3	5.874	0.000	0.000	0.1	9.539	75.314	OK
Porous Paving (8)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.341	44.096	0.249	0.006	0.3	6.922	0.000	0.000	0.1	6.811	70.779	OK
Porous Paving (15)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.326	44.085	0.243	0.005	0.3	7.055	0.000	0.000	0.1	7.228	71.484	OK
Porous Paving (16)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.218	43.826	0.179	0.006	0.3	4.966	0.000	0.000	0.1	7.140	74.191	OK
Porous Paving (17)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	41.054	40.808	0.245	0.152	0.2	5.591	0.000	0.000	0.0	1.694	22.523	OK
Porous Paving (18)	FEH 2022: 30 years: +40 %: 480 mins: Winter	41.712	40.812	0.090	0.006	0.2	0.934	0.000	0.000	0.1	1.899	70.394	OK
Porous Paving (22)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	39.755	39.490	0.196	0.004	0.1	1.613	0.000	0.000	0.0	2.854	63.565	OK
Porous Paving (23)	FEH 2022: 30 years: +40 %: 480 mins: Summer	40.975	39.859	0.078	0.003	0.2	0.698	0.010	0.000	0.1	1.340	40.723	OK
Porous Paving (24)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	40.002	39.810	0.195	0.004	0.1	1.187	0.000	0.000	0.0	2.212	60.200	OK
Porous Paving (25)	FEH 2022: 30 years: +40 %: 480 mins: Winter	40.642	40.040	0.079	0.004	0.1	0.437	0.005	0.000	0.1	1.074	47.724	OK
Porous Paving (27)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	41.480	41.232	0.168	0.006	0.1	1.349	0.000	0.000	0.1	2.986	62.578	OK
Porous Paving (28)	FEH 2022: 30 years: +40 %: 1440 mins: Summer	41.491	41.260	0.201	0.004	0.2	2.522	0.000	0.000	0.1	3.040	53.609	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01	Date: 23/01/2026			
	Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
	Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site			
Company Address: 20 Market Street Altrincham WA14 1PF				

Porous Paving (31)	FEH 2022: 30 years: +40 %: 480 mins: Winter	41.602	39.921	0.087	0.005	0.5	3.265	0.000	0.000	0.1	4.517	60.160	OK
Porous Paving (32)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	40.106	39.839	0.266	0.003	0.2	4.440	0.000	0.000	0.0	2.700	36.064	OK
Porous Paving (33)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	40.040	39.849	0.193	0.003	0.1	1.080	0.000	0.000	0.0	2.001	60.653	OK
Porous Paving (35)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	40.090	39.759	0.209	0.003	0.1	2.787	0.000	0.000	0.0	2.792	44.532	OK
Porous Paving (36)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	40.006	39.758	0.247	0.002	0.1	2.689	0.000	0.000	0.0	2.606	44.903	OK
Porous Paving (30)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	40.063	39.829	0.227	0.003	0.1	1.537	0.000	0.000	0.0	1.848	49.296	OK
Porous Paving (37)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	40.054	39.829	0.196	0.003	0.1	1.059	0.000	0.000	0.0	1.877	58.832	OK
Porous Paving (34)	FEH 2022: 30 years: +40 %: 1440 mins: Summer	40.102	39.850	0.216	0.004	0.2	2.557	0.000	0.000	0.1	2.452	50.280	OK
Porous Paving (19)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	44.095	43.797	0.195	0.007	0.3	5.621	0.000	0.000	0.1	7.999	74.386	OK
Porous Paving (20)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	39.756	39.310	0.252	0.004	0.4	10.742	0.000	0.000	0.1	4.647	48.620	OK
Porous Paving (41)	FEH 2022: 30 years: +40 %: 1440 mins: Winter	43.646	43.232	0.157	0.012	0.9	20.018	0.000	0.000	0.2	18.390	74.430	OK
Tank 6	FEH 2022: 30 years: +40 %: 120 mins: Winter	38.686	38.686	0.835	0.835	145.0	252.913	0.000	0.000	64.0	707.263	0.439	OK
Tank 7	FEH 2022: 30 years: +40 %: 120 mins: Winter	38.839	38.839	0.539	0.539	35.1	99.119	0.000	0.000	9.3	51.530	32.978	OK
Porous Paving (14)	FEH 2022: 30 years: +40 %: 240 mins: Winter	44.905	44.177	0.107	0.011	0.9	2.255	0.064	0.000	0.6	4.945	39.058	OK
Porous Paving (21)	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.695	44.459	0.122	0.003	0.1	0.272	0.000	0.000	0.1	0.724	58.607	OK
Porous Paving (6)	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.628	44.509	0.122	0.003	0.1	0.226	0.000	0.000	0.0	0.565	58.697	OK
Porous Paving (38)	FEH 2022: 30 years: +40 %: 480 mins: Winter	40.538	39.660	0.122	0.004	0.2	1.299	0.039	0.000	0.1	1.664	26.718	OK
Porous Paving (26)	FEH 2022: 30 years: +40 %: 480 mins: Winter	43.460	42.431	0.113	0.005	0.3	1.762	0.051	0.000	0.1	2.081	21.986	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01					Date: 23/01/2026										
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site					Designed by: Nour Rashdan		Checked by: Johnny Hunt		Approved By: Pedro Vicente						
					Company Address: 20 Market Street Altrincham WA14 1PF										

Porous Paving (29)	FEH 2022: 30 years: +40 %: 360 mins: Winter	44.368	43.969	0.299	0.013	1.0	3.038	0.000	0.000	0.6	7.869	48.546	OK
--------------------	---	--------	--------	-------	-------	-----	-------	-------	-------	-----	-------	--------	----

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026				
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site				Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente		
				Company Address: 20 Market Street Altrincham WA14 1PF				



FEH 2022: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Tank 5	FEH 2022: 100 years: +45 %: 240 mins: Winter	39.295	39.295	0.945	0.945	43.7	217.593	0.000	0.000	21.6	184.776	0.338	OK
Swale (3)	FEH 2022: 100 years: +45 %: 30 mins: Summer	39.676	39.675	0.011	0.025	5.1	1.782	0.000	0.000	3.7	4.260	96.884	OK
Swale (4)	FEH 2022: 100 years: +45 %: 30 mins: Summer	39.634	39.624	0.009	0.024	5.4	1.678	0.000	0.000	4.7	4.540	95.980	OK
Swale (1)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.042	43.042	0.369	0.382	5.2	20.382	0.000	0.000	1.3	27.526	32.855	OK
Tank 3	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.039	43.039	1.779	1.779	15.0	366.463	0.000	0.000	3.1	164.218	-0.798	OK
Swale (2)	FEH 2022: 100 years: +45 %: 30 mins: Winter	43.137	43.137	0.114	0.137	30.4	13.982	0.000	0.000	17.1	30.594	80.864	OK
Tank 1	FEH 2022: 100 years: +45 %: 480 mins: Winter	43.197	43.197	1.299	1.299	27.5	266.569	0.000	0.000	6.3	186.192	19.028	OK
Tank 2	FEH 2022: 100 years: +45 %: 480 mins: Winter	43.197	43.197	0.917	0.917	13.5	43.575	0.000	0.000	1.0	27.615	24.896	OK
Swale (5)	FEH 2022: 100 years: +45 %: 120 mins: Winter	39.293	39.293	0.014	0.042	8.9	8.112	0.000	0.000	8.6	21.582	92.682	OK
Porous Paving (4)	FEH 2022: 100 years: +45 %: 960 mins: Winter	43.936	43.681	0.206	0.011	0.9	8.211	0.000	0.000	0.4	17.331	76.419	OK
Porous Paving (3)	FEH 2022: 100 years: +45 %: 1440 mins: Summer	44.385	44.006	0.219	0.005	0.5	5.952	0.000	0.000	0.2	9.365	43.878	OK
Porous Paving (2)	FEH 2022: 100 years: +45 %: 1440 mins: Summer	44.377	44.030	0.179	0.004	0.3	3.110	0.000	0.000	0.1	6.570	58.004	OK
Porous Paving (1)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.375	43.793	0.306	0.003	1.1	25.178	0.000	0.000	0.3	17.245	55.190	OK
Tank 4	FEH 2022: 100 years: +45 %: 240 mins: Winter	39.296	39.296	0.696	0.696	59.5	161.948	0.000	0.000	27.7	157.490	42.120	OK
Porous Paving (9)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.212	43.679	0.378	0.009	1.0	20.325	0.000	0.000	0.3	24.059	48.878	OK
Porous Paving (10)	FEH 2022: 100 years: +45 %: 1440 mins: Summer	44.003	43.676	0.230	0.006	0.6	7.258	0.000	0.000	0.2	11.319	70.522	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01		Date: 23/01/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site		Designed by: Nour Rashdan	Checked by: Johnny Hunt		Approved By: Pedro Vicente
		Company Address: 20 Market Street Altrincham WA14 1PF			

Porous Paving (11)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.079	43.676	0.231	0.006	0.8	18.156	0.000	0.000	0.2	17.014	66.947	OK
Porous Paving (12)	FEH 2022: 100 years: +45 %: 960 mins: Summer	44.333	44.030	0.179	0.004	0.3	1.970	0.000	0.000	0.1	4.155	59.190	OK
Porous Paving (13)	FEH 2022: 100 years: +45 %: 1440 mins: Summer	44.345	44.005	0.211	0.004	0.3	2.589	0.000	0.000	0.1	5.197	52.380	OK
Swale 6	FEH 2022: 100 years: +45 %: 60 mins: Summer	39.532	39.530	0.030	0.030	4.3	2.359	0.000	0.000	3.0	5.043	95.538	OK
Porous Paving	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.204	43.825	0.234	0.005	0.3	5.346	0.000	0.000	0.1	9.543	69.145	OK
Porous Paving (5)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.420	44.026	0.398	0.006	0.4	6.046	0.000	0.000	0.2	9.687	53.600	OK
Porous Paving (7)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.238	43.719	0.218	0.004	0.4	7.634	0.000	0.000	0.2	12.961	67.917	OK
Porous Paving (8)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.412	44.096	0.319	0.006	0.5	8.872	0.000	0.000	0.1	9.911	62.550	OK
Porous Paving (15)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.395	44.085	0.313	0.005	0.5	9.095	0.000	0.000	0.2	10.538	63.240	OK
Porous Paving (16)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.281	43.827	0.243	0.007	0.4	6.440	0.000	0.000	0.1	9.817	66.535	OK
Porous Paving (17)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	41.204	40.809	0.395	0.153	0.3	6.675	0.166	0.000	0.1	3.386	7.500	Flood
Porous Paving (18)	FEH 2022: 100 years: +45 %: 480 mins: Winter	41.743	40.813	0.121	0.007	0.2	1.212	0.000	0.000	0.1	2.518	61.588	OK
Porous Paving (22)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	39.811	39.490	0.251	0.004	0.1	2.039	0.000	0.000	0.1	3.834	53.953	OK
Porous Paving (23)	FEH 2022: 100 years: +45 %: 360 mins: Summer	41.004	39.861	0.106	0.005	0.3	0.827	0.022	0.000	0.1	1.492	29.733	OK
Porous Paving (24)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	40.053	39.810	0.246	0.004	0.1	1.498	0.000	0.000	0.1	3.186	49.772	OK
Porous Paving (25)	FEH 2022: 100 years: +45 %: 240 mins: Winter	40.687	40.042	0.124	0.006	0.2	0.532	0.016	0.000	0.1	1.030	36.334	OK
Porous Paving (27)	FEH 2022: 100 years: +45 %: 960 mins: Winter	41.529	41.233	0.217	0.007	0.2	1.714	0.000	0.000	0.1	3.299	52.469	OK
Porous Paving (28)	FEH 2022: 100 years: +45 %: 1440 mins: Summer	41.550	41.261	0.260	0.005	0.3	3.238	0.000	0.000	0.1	4.297	40.433	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01			Date: 23/01/2026			
			Designed by: Nour Rashdan	Checked by: Johnny Hunt	Approved By: Pedro Vicente	
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site			Company Address: 20 Market Street Altrincham WA14 1PF			

Porous Paving (31)	FEH 2022: 100 years: +45 %: 480 mins: Winter	41.631	39.922	0.116	0.006	0.6	4.246	0.000	0.000	0.2	5.935	48.188	OK
Porous Paving (32)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	40.238	39.839	0.398	0.003	0.2	5.693	0.216	0.000	0.1	4.197	18.018	Flood
Porous Paving (33)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	40.095	39.850	0.248	0.004	0.1	1.389	0.000	0.000	0.1	2.965	49.398	OK
Porous Paving (35)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	40.166	39.759	0.285	0.003	0.2	3.669	0.000	0.000	0.1	4.078	26.957	OK
Porous Paving (36)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	40.156	39.759	0.397	0.003	0.2	3.459	0.042	0.000	0.1	3.817	29.123	Flood
Porous Paving (30)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	40.129	39.830	0.293	0.004	0.1	1.979	0.000	0.000	0.0	2.736	34.746	OK
Porous Paving (37)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	40.111	39.829	0.253	0.003	0.1	1.358	0.000	0.000	0.0	2.725	47.194	OK
Porous Paving (34)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	40.169	39.850	0.283	0.004	0.2	3.316	0.000	0.000	0.1	3.525	35.533	OK
Porous Paving (19)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	44.158	43.798	0.258	0.008	0.4	7.237	0.000	0.000	0.2	11.180	67.025	OK
Porous Paving (20)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	39.846	39.310	0.341	0.004	0.6	14.341	0.000	0.000	0.1	6.721	31.405	OK
Porous Paving (41)	FEH 2022: 100 years: +45 %: 1440 mins: Winter	43.704	43.234	0.215	0.014	1.2	26.077	0.000	0.000	0.3	25.758	66.692	OK
Tank 6	FEH 2022: 100 years: +45 %: 120 mins: Winter	39.314	39.314	1.463	1.463	171.1	253.510	0.000	0.000	64.9	711.034	0.204	OK
Tank 7	FEH 2022: 100 years: +45 %: 240 mins: Winter	39.292	39.292	0.992	0.992	29.8	147.393	0.000	0.000	12.7	116.746	0.336	OK
Porous Paving (14)	FEH 2022: 100 years: +45 %: 120 mins: Winter	45.043	44.181	0.245	0.015	2.0	2.691	0.116	0.000	1.1	4.550	27.277	Flood
Porous Paving (21)	FEH 2022: 100 years: +45 %: 240 mins: Winter	44.818	44.460	0.245	0.004	0.2	0.340	0.004	0.000	0.1	0.793	48.390	Flood
Porous Paving (6)	FEH 2022: 100 years: +45 %: 360 mins: Winter	44.751	44.509	0.245	0.003	0.1	0.284	0.004	0.000	0.1	0.791	48.222	Flood
Porous Paving (38)	FEH 2022: 100 years: +45 %: 360 mins: Winter	40.660	39.662	0.245	0.006	0.3	1.424	0.078	0.000	0.2	1.929	19.642	Flood
Porous Paving (26)	FEH 2022: 100 years: +45 %: 240 mins: Winter	43.496	42.434	0.149	0.008	0.6	1.918	0.105	0.000	0.3	1.812	15.063	OK

Project: UoM Residences DBFO Block 9 Proposed Surface Water Calculations UMRF-KRD-ZF09-XX-CA-C-00002 - C01				Date: 23/01/2026									
Report Details: Type: Stormwater Controls Summary Storm Phase: Full Site				Designed by:	Checked by:	Approved By:							
				Nour Rashdan	Johnny Hunt	Pedro Vicente							
				Company Address: 20 Market Street Altrincham WA14 1PF									
Porous Paving (29)	FEH 2022: 100 years: +45 %: 120 mins: Winter	44.469	43.976	0.400	0.020	3.0	3.335	0.200	0.000	1.6	6.610	43.509	Flood