

APPENDIX 8 – Micro Drainage Analysis / Storage Calculations

$$H5-GO = 18,00 \text{ mm}$$

$$R = 0,35$$

$$\text{Site location} = LL13 \text{ 9XN}$$

$$\text{Site Boundary} = 13593 \text{ m}^2$$

$$\text{Existing positively drained area} = 5005 \text{ m}^2$$

$$\text{Proposed positively drained area} = 8816 \text{ m}^2 \left(\begin{array}{l} 7038 \text{ m}^2 \\ \text{excl existing} \\ \text{roof} \end{array} \right)$$

$$\text{Existing roof catchment} = 1777 \text{ m}^2$$

Drainage strategy:

- * Attenuation to be provided for up to 1 in 100 + 40% CC
- * Existing roof water to discharge "as is"
- * Proposed roof water + existing / new yard to be attenuated, with Q_{bar} restricted flow.

Greenfield runoff based on:

$$A = 13593 - 1777 = 11816 = 1,182 \text{ ha}$$

$$Q_{\text{bar}} = 0,2 \text{ l/s} < 5,0 ; \text{ use } 5,0 \text{ l/s}$$

Attenuation required:

$$- \text{1 in 30} = 220 \text{ m}^3$$

$$- \text{1 in 100 + 40\% CC} = 488 \text{ m}^3$$

Integra Consulting Calculations						Job No	Date
						3340	13.08.22
						Sheet 01	By JS
Job Title Dragon Packaging							
Storm Water Flood Model M5-60 = 18.00 r = 0.35 Return, T = 30 Area (m²) = 7039 CC Factor = 0.00 Limit (l/s) = 5.0 Totals 220 220							
D (mins)	M5-D (mm)	MT-D (mm)	Rate (mm/hr)	Flow (l/s)	CC Flow (l/s)	Storage (m ³)	CC Storage (m ³)
10.00	9.04	13.33	80.00	155.41	155.41	90.25	90.25
15.00	10.86	16.31	65.23	126.73	126.73	109.56	109.56
20.00	12.22	18.42	55.26	107.35	107.35	122.82	122.82
25.00	13.32	20.17	48.41	94.05	94.05	133.57	133.57
30.00	14.24	21.65	43.29	84.11	84.11	142.39	142.39
35.00	15.04	22.93	39.30	76.36	76.36	149.85	149.85
40.00	15.75	24.06	36.09	70.12	70.12	156.28	156.28
45.00	16.39	25.08	33.44	64.97	64.97	161.92	161.92
50.00	16.97	26.01	31.21	60.64	60.64	166.91	166.91
55.00	17.50	26.86	29.31	56.93	56.93	171.38	171.38
60.00	18.00	27.65	27.65	53.72	53.72	175.41	175.41
65.00	18.46	28.39	26.21	50.91	50.91	179.06	179.06
70.00	18.90	29.08	24.93	48.42	48.42	182.38	182.38
75.00	19.31	29.73	23.78	46.21	46.21	185.43	185.43
80.00	19.70	30.34	22.76	44.21	44.21	188.22	188.22
85.00	20.07	30.93	21.83	42.41	42.41	190.80	190.80
90.00	20.43	31.48	20.99	40.77	40.77	193.18	193.18
95.00	20.77	32.01	20.22	39.28	39.28	195.37	195.37
100.00	21.09	32.52	19.51	37.90	37.90	197.41	197.41
105.00	21.41	33.00	18.86	36.63	36.63	199.30	199.30
110.00	21.71	33.46	18.25	35.46	35.46	201.05	201.05
115.00	22.00	33.91	17.69	34.37	34.37	202.68	202.68
120.00	22.28	34.34	17.17	33.36	33.36	204.20	204.20
125.00	22.55	34.76	16.68	32.41	32.41	205.61	205.61
130.00	22.81	35.16	16.23	31.53	31.53	206.92	206.92
135.00	23.07	35.55	15.80	30.70	30.70	208.14	208.14
140.00	23.32	35.93	15.40	29.91	29.91	209.27	209.27
145.00	23.56	36.29	15.02	29.18	29.18	210.32	210.32
150.00	23.80	36.65	14.66	28.48	28.48	211.30	211.30
155.00	24.03	36.99	14.32	27.82	27.82	212.21	212.21
160.00	24.25	37.33	14.00	27.19	27.19	213.05	213.05
165.00	24.47	37.65	13.69	26.60	26.60	213.83	213.83
170.00	24.68	37.97	13.40	26.03	26.03	214.54	214.54
175.00	24.89	38.28	13.12	25.50	25.50	215.20	215.20
180.00	25.10	38.58	12.86	24.98	24.98	215.81	215.81
185.00	25.30	38.87	12.61	24.49	24.49	216.37	216.37
190.00	25.49	39.16	12.37	24.02	24.02	216.87	216.87
195.00	25.68	39.44	12.13	23.58	23.58	217.33	217.33
200.00	25.87	39.71	11.91	23.15	23.15	217.75	217.75

205.00	26.06	39.98	11.70	22.73	22.73	218.12	218.12
210.00	26.24	40.24	11.50	22.34	22.34	218.45	218.45
215.00	26.42	40.50	11.30	21.96	21.96	218.75	218.75
220.00	26.59	40.75	11.11	21.59	21.59	219.00	219.00
225.00	26.77	41.00	10.93	21.24	21.24	219.22	219.22
230.00	26.93	41.24	10.76	20.90	20.90	219.41	219.41
235.00	27.10	41.47	10.59	20.57	20.57	219.56	219.56
240.00	27.27	41.70	10.43	20.26	20.26	219.68	219.68
245.00	27.43	41.93	10.27	19.95	19.95	219.77	219.77
250.00	27.59	42.16	10.12	19.66	19.66	219.83	219.83
255.00	27.74	42.37	9.97	19.37	19.37	219.86	219.86
260.00	27.90	42.59	9.83	19.09	19.09	219.87	219.87
265.00	28.05	42.80	9.69	18.83	18.83	219.84	219.84
270.00	28.20	43.01	9.56	18.57	18.57	219.80	219.80
275.00	28.35	43.21	9.43	18.32	18.32	219.72	219.72
280.00	28.49	43.41	9.30	18.07	18.07	219.63	219.63
285.00	28.64	43.61	9.18	17.84	17.84	219.51	219.51
290.00	28.78	43.80	9.06	17.61	17.61	219.36	219.36
295.00	28.92	43.99	8.95	17.38	17.38	219.20	219.20
300.00	29.06	44.18	8.84	17.17	17.17	219.01	219.01
305.00	29.19	44.37	8.73	16.96	16.96	218.80	218.80
310.00	29.33	44.55	8.62	16.75	16.75	218.58	218.58
315.00	29.46	44.73	8.52	16.55	16.55	218.33	218.33
320.00	29.59	44.90	8.42	16.36	16.36	218.06	218.06
325.00	29.72	45.08	8.32	16.17	16.17	217.78	217.78
330.00	29.85	45.25	8.23	15.98	15.98	217.48	217.48
335.00	29.98	45.42	8.13	15.80	15.80	217.16	217.16
340.00	30.11	45.59	8.04	15.63	15.63	216.82	216.82
345.00	30.23	45.75	7.96	15.46	15.46	216.47	216.47
350.00	30.35	45.91	7.87	15.29	15.29	216.10	216.10
355.00	30.47	46.07	7.79	15.13	15.13	215.71	215.71
360.00	30.60	46.23	7.70	14.97	14.97	215.31	215.31
365.00	30.71	46.38	7.62	14.81	14.81	214.90	214.90
370.00	30.83	46.54	7.55	14.66	14.66	214.47	214.47
375.00	30.95	46.69	7.47	14.51	14.51	214.02	214.02
380.00	31.07	46.94	7.41	14.40	14.40	214.28	214.28
385.00	31.18	47.10	7.34	14.26	14.26	213.89	213.89
390.00	31.29	47.25	7.27	14.12	14.12	213.49	213.49
395.00	31.41	47.41	7.20	13.99	13.99	213.07	213.07
400.00	31.52	47.56	7.13	13.86	13.86	212.65	212.65
405.00	31.63	47.72	7.07	13.73	13.73	212.22	212.22
410.00	31.74	47.87	7.00	13.61	13.61	211.77	211.77
415.00	31.85	48.02	6.94	13.49	13.49	211.32	211.32
420.00	31.95	48.16	6.88	13.37	13.37	210.85	210.85
425.00	32.06	48.31	6.82	13.25	13.25	210.38	210.38
430.00	32.17	48.46	6.76	13.14	13.14	209.90	209.90
435.00	32.27	48.60	6.70	13.02	13.02	209.40	209.40
440.00	32.37	48.74	6.65	12.91	12.91	208.90	208.90
445.00	32.48	48.88	6.59	12.80	12.80	208.39	208.39
450.00	32.58	49.02	6.54	12.70	12.70	207.87	207.87

455.00	32.68	49.16	6.48	12.59	12.59	207.34	207.34
460.00	32.78	49.30	6.43	12.49	12.49	206.80	206.80
465.00	32.88	49.44	6.38	12.39	12.39	206.26	206.26
470.00	32.98	49.57	6.33	12.29	12.29	205.71	205.71
475.00	33.08	49.71	6.28	12.20	12.20	205.15	205.15
480.00	33.17	49.84	6.23	12.10	12.10	204.58	204.58
485.00	33.27	49.97	6.18	12.01	12.01	204.00	204.00
490.00	33.37	50.10	6.14	11.92	11.92	203.42	203.42
495.00	33.46	50.23	6.09	11.83	11.83	202.83	202.83
500.00	33.56	50.36	6.04	11.74	11.74	202.23	202.23
505.00	33.65	50.49	6.00	11.65	11.65	201.62	201.62
510.00	33.74	50.62	5.95	11.57	11.57	201.01	201.01
515.00	33.84	50.74	5.91	11.49	11.49	200.39	200.39
520.00	33.93	50.87	5.87	11.40	11.40	199.76	199.76
525.00	34.02	50.99	5.83	11.32	11.32	199.13	199.13
530.00	34.11	51.11	5.79	11.24	11.24	198.49	198.49
535.00	34.20	51.24	5.75	11.16	11.16	197.85	197.85
540.00	34.29	51.36	5.71	11.09	11.09	197.20	197.20
545.00	34.38	51.48	5.67	11.01	11.01	196.54	196.54
550.00	34.46	51.60	5.63	10.94	10.94	195.87	195.87
555.00	34.55	51.72	5.59	10.86	10.86	195.20	195.20
560.00	34.64	51.83	5.55	10.79	10.79	194.53	194.53
565.00	34.72	51.95	5.52	10.72	10.72	193.85	193.85
570.00	34.81	52.07	5.48	10.65	10.65	193.16	193.16
575.00	34.89	52.18	5.45	10.58	10.58	192.47	192.47
580.00	34.98	52.30	5.41	10.51	10.51	191.77	191.77
585.00	35.06	52.41	5.38	10.44	10.44	191.06	191.06
590.00	35.15	52.52	5.34	10.38	10.38	190.35	190.35
595.00	35.23	52.64	5.31	10.31	10.31	189.64	189.64
600.00	35.31	52.75	5.27	10.25	10.25	188.92	188.92
605.00	35.39	52.86	5.24	10.18	10.18	188.20	188.20
610.00	35.48	52.97	5.21	10.12	10.12	187.47	187.47
615.00	35.56	53.08	5.18	10.06	10.06	186.73	186.73
620.00	35.64	53.19	5.15	10.00	10.00	185.99	185.99
625.00	35.72	53.30	5.12	9.94	9.94	185.25	185.25
630.00	35.80	53.40	5.09	9.88	9.88	184.50	184.50
635.00	35.87	53.51	5.06	9.82	9.82	183.74	183.74
640.00	35.95	53.62	5.03	9.77	9.77	182.99	182.99
645.00	36.03	53.72	5.00	9.71	9.71	182.22	182.22
650.00	36.11	53.83	4.97	9.65	9.65	181.45	181.45
655.00	36.19	53.93	4.94	9.60	9.60	180.68	180.68
660.00	36.26	54.03	4.91	9.54	9.54	179.91	179.91
665.00	36.34	54.14	4.88	9.49	9.49	179.13	179.13
670.00	36.42	54.24	4.86	9.44	9.44	178.34	178.34
675.00	36.49	54.34	4.83	9.38	9.38	177.55	177.55
680.00	36.57	54.44	4.80	9.33	9.33	176.76	176.76
685.00	36.64	54.54	4.78	9.28	9.28	175.96	175.96
690.00	36.72	54.64	4.75	9.23	9.23	175.16	175.16
695.00	36.79	54.74	4.73	9.18	9.18	174.35	174.35
700.00	36.86	54.84	4.70	9.13	9.13	173.54	173.54

705.00	36.94	54.94	4.68	9.08	9.08	172.73	172.73
710.00	37.01	55.04	4.65	9.04	9.04	171.91	171.91
715.00	37.08	55.13	4.63	8.99	8.99	171.09	171.09
720.00	37.15	55.23	4.60	8.94	8.94	170.27	170.27
725.00	37.22	55.33	4.58	8.90	8.90	169.44	169.44
730.00	37.30	55.42	4.56	8.85	8.85	168.61	168.61
735.00	37.37	55.52	4.53	8.80	8.80	167.77	167.77
740.00	37.44	55.61	4.51	8.76	8.76	166.94	166.94
745.00	37.51	55.70	4.49	8.72	8.72	166.09	166.09
750.00	37.58	55.80	4.46	8.67	8.67	165.25	165.25
755.00	37.65	55.89	4.44	8.63	8.63	164.40	164.40
760.00	37.72	55.98	4.42	8.59	8.59	163.54	163.54
765.00	37.79	56.08	4.40	8.54	8.54	162.69	162.69
770.00	37.85	56.17	4.38	8.50	8.50	161.83	161.83
775.00	37.92	56.26	4.36	8.46	8.46	160.97	160.97
780.00	37.99	56.35	4.33	8.42	8.42	160.10	160.10
785.00	38.06	56.44	4.31	8.38	8.38	159.23	159.23
790.00	38.12	56.53	4.29	8.34	8.34	158.36	158.36
795.00	38.19	56.62	4.27	8.30	8.30	157.48	157.48
800.00	38.26	56.71	4.25	8.26	8.26	156.61	156.61
805.00	38.32	56.80	4.23	8.22	8.22	155.72	155.72
810.00	38.39	56.88	4.21	8.19	8.19	154.84	154.84
815.00	38.46	56.97	4.19	8.15	8.15	153.95	153.95
820.00	38.52	57.06	4.17	8.11	8.11	153.06	153.06
825.00	38.59	57.14	4.16	8.07	8.07	152.17	152.17
830.00	38.65	57.23	4.14	8.04	8.04	151.27	151.27
835.00	38.72	57.32	4.12	8.00	8.00	150.37	150.37
840.00	38.78	57.40	4.10	7.97	7.97	149.47	149.47
845.00	38.84	57.49	4.08	7.93	7.93	148.56	148.56
850.00	38.91	57.57	4.06	7.90	7.90	147.66	147.66
855.00	38.97	57.66	4.05	7.86	7.86	146.75	146.75
860.00	39.03	57.74	4.03	7.83	7.83	145.83	145.83
865.00	39.10	57.82	4.01	7.79	7.79	144.92	144.92
870.00	39.16	57.91	3.99	7.76	7.76	144.00	144.00
875.00	39.22	57.99	3.98	7.73	7.73	143.08	143.08
880.00	39.28	58.07	3.96	7.69	7.69	142.16	142.16
885.00	39.35	58.15	3.94	7.66	7.66	141.23	141.23
890.00	39.41	58.24	3.93	7.63	7.63	140.30	140.30
895.00	39.47	58.32	3.91	7.60	7.60	139.37	139.37
900.00	39.53	58.40	3.89	7.56	7.56	138.44	138.44
905.00	39.59	58.48	3.88	7.53	7.53	137.50	137.50
910.00	39.65	58.56	3.86	7.50	7.50	136.56	136.56
915.00	39.71	58.64	3.85	7.47	7.47	135.62	135.62
920.00	39.77	58.72	3.83	7.44	7.44	134.68	134.68
925.00	39.83	58.80	3.81	7.41	7.41	133.73	133.73
930.00	39.89	58.88	3.80	7.38	7.38	132.78	132.78
935.00	39.95	58.96	3.78	7.35	7.35	131.83	131.83
940.00	40.01	59.03	3.77	7.32	7.32	130.88	130.88
945.00	40.07	59.11	3.75	7.29	7.29	129.92	129.92
950.00	40.13	59.19	3.74	7.26	7.26	128.97	128.97

955.00	40.19	59.27	3.72	7.23	7.23	128.01	128.01
960.00	40.25	59.34	3.71	7.21	7.21	127.04	127.04
965.00	40.30	59.42	3.69	7.18	7.18	126.08	126.08
970.00	40.36	59.50	3.68	7.15	7.15	125.11	125.11
975.00	40.42	59.57	3.67	7.12	7.12	124.14	124.14
980.00	40.48	59.65	3.65	7.09	7.09	123.17	123.17
985.00	40.53	59.72	3.64	7.07	7.07	122.20	122.20
990.00	40.59	59.80	3.62	7.04	7.04	121.23	121.23
995.00	40.65	59.87	3.61	7.01	7.01	120.25	120.25
1000.00	40.70	59.95	3.60	6.99	6.99	119.27	119.27
1005.00	40.76	60.02	3.58	6.96	6.96	118.29	118.29
1010.00	40.82	60.10	3.57	6.94	6.94	117.31	117.31
1015.00	40.87	60.17	3.56	6.91	6.91	116.32	116.32
1020.00	40.93	60.24	3.54	6.88	6.88	115.33	115.33
1025.00	40.98	60.32	3.53	6.86	6.86	114.34	114.34
1030.00	41.04	60.39	3.52	6.83	6.83	113.35	113.35
1035.00	41.09	60.46	3.50	6.81	6.81	112.36	112.36
1040.00	41.15	60.53	3.49	6.78	6.78	111.37	111.37
1045.00	41.20	60.61	3.48	6.76	6.76	110.37	110.37
1050.00	41.26	60.68	3.47	6.74	6.74	109.37	109.37
1055.00	41.31	60.75	3.45	6.71	6.71	108.37	108.37
1060.00	41.37	60.82	3.44	6.69	6.69	107.37	107.37
1065.00	41.42	60.89	3.43	6.66	6.66	106.36	106.36
1070.00	41.47	60.96	3.42	6.64	6.64	105.36	105.36
1075.00	41.53	61.03	3.41	6.62	6.62	104.35	104.35
1080.00	41.58	61.10	3.39	6.59	6.59	103.34	103.34
1085.00	41.63	61.17	3.38	6.57	6.57	102.33	102.33
1090.00	41.69	61.24	3.37	6.55	6.55	101.31	101.31
1095.00	41.74	61.31	3.36	6.53	6.53	100.30	100.30
1100.00	41.79	61.38	3.35	6.50	6.50	99.28	99.28
1105.00	41.85	61.45	3.34	6.48	6.48	98.26	98.26
1110.00	41.90	61.52	3.33	6.46	6.46	97.24	97.24
1115.00	41.95	61.58	3.31	6.44	6.44	96.22	96.22
1120.00	42.00	61.65	3.30	6.42	6.42	95.20	95.20
1125.00	42.05	61.72	3.29	6.40	6.40	94.17	94.17
1130.00	42.11	61.79	3.28	6.37	6.37	93.14	93.14
1135.00	42.16	61.86	3.27	6.35	6.35	92.12	92.12
1140.00	42.21	61.92	3.26	6.33	6.33	91.08	91.08
1145.00	42.26	61.99	3.25	6.31	6.31	90.05	90.05
1150.00	42.31	62.06	3.24	6.29	6.29	89.02	89.02
1155.00	42.36	62.12	3.23	6.27	6.27	87.98	87.98
1160.00	42.41	62.19	3.22	6.25	6.25	86.95	86.95
1165.00	42.46	62.26	3.21	6.23	6.23	85.91	85.91
1170.00	42.51	62.32	3.20	6.21	6.21	84.87	84.87
1175.00	42.56	62.39	3.19	6.19	6.19	83.83	83.83
1180.00	42.61	62.45	3.18	6.17	6.17	82.78	82.78
1185.00	42.66	62.52	3.17	6.15	6.15	81.74	81.74
1190.00	42.71	62.58	3.16	6.13	6.13	80.69	80.69
1195.00	42.76	62.65	3.15	6.11	6.11	79.65	79.65
1200.00	42.81	62.71	3.14	6.09	6.09	78.60	78.60

1205.00	42.86	62.78	3.13	6.07	6.07	77.55	77.55
1210.00	42.91	62.84	3.12	6.05	6.05	76.50	76.50
1215.00	42.96	62.90	3.11	6.03	6.03	75.44	75.44
1220.00	43.01	62.97	3.10	6.02	6.02	74.39	74.39
1225.00	43.06	63.03	3.09	6.00	6.00	73.33	73.33
1230.00	43.11	63.09	3.08	5.98	5.98	72.27	72.27
1235.00	43.15	63.16	3.07	5.96	5.96	71.21	71.21
1240.00	43.20	63.22	3.06	5.94	5.94	70.15	70.15
1245.00	43.25	63.28	3.05	5.92	5.92	69.09	69.09
1250.00	43.30	63.34	3.04	5.91	5.91	68.03	68.03
1255.00	43.35	63.41	3.03	5.89	5.89	66.96	66.96
1260.00	43.39	63.47	3.02	5.87	5.87	65.90	65.90
1265.00	43.44	63.53	3.01	5.85	5.85	64.83	64.83
1270.00	43.49	63.59	3.00	5.84	5.84	63.76	63.76
1275.00	43.54	63.65	3.00	5.82	5.82	62.69	62.69
1280.00	43.58	63.71	2.99	5.80	5.80	61.62	61.62
1285.00	43.63	63.78	2.98	5.79	5.79	60.55	60.55
1290.00	43.68	63.84	2.97	5.77	5.77	59.47	59.47
1295.00	43.72	63.90	2.96	5.75	5.75	58.40	58.40
1300.00	43.77	63.96	2.95	5.73	5.73	57.32	57.32
1305.00	43.82	64.02	2.94	5.72	5.72	56.24	56.24
1310.00	43.86	64.08	2.93	5.70	5.70	55.16	55.16
1315.00	43.91	64.14	2.93	5.69	5.69	54.08	54.08
1320.00	43.96	64.20	2.92	5.67	5.67	53.00	53.00
1325.00	44.00	64.26	2.91	5.65	5.65	51.92	51.92
1330.00	44.05	64.32	2.90	5.64	5.64	50.83	50.83
1335.00	44.09	64.38	2.89	5.62	5.62	49.75	49.75
1340.00	44.14	64.44	2.89	5.61	5.61	48.66	48.66
1345.00	44.19	64.49	2.88	5.59	5.59	47.57	47.57
1350.00	44.23	64.55	2.87	5.57	5.57	46.48	46.48
1355.00	44.28	64.61	2.86	5.56	5.56	45.39	45.39
1360.00	44.32	64.67	2.85	5.54	5.54	44.30	44.30
1365.00	44.37	64.73	2.85	5.53	5.53	43.21	43.21
1370.00	44.41	64.79	2.84	5.51	5.51	42.11	42.11
1375.00	44.46	64.84	2.83	5.50	5.50	41.02	41.02
1380.00	44.50	64.90	2.82	5.48	5.48	39.92	39.92
1385.00	44.54	64.96	2.81	5.47	5.47	38.83	38.83
1390.00	44.59	65.02	2.81	5.45	5.45	37.73	37.73
1395.00	44.63	65.07	2.80	5.44	5.44	36.63	36.63
1400.00	44.68	65.13	2.79	5.42	5.42	35.53	35.53
1405.00	44.72	65.19	2.78	5.41	5.41	34.43	34.43
1410.00	44.77	65.25	2.78	5.39	5.39	33.32	33.32
1415.00	44.81	65.30	2.77	5.38	5.38	32.22	32.22
1420.00	44.85	65.36	2.76	5.37	5.37	31.11	31.11
1425.00	44.90	65.41	2.75	5.35	5.35	30.01	30.01
1430.00	44.94	65.47	2.75	5.34	5.34	28.90	28.90
1435.00	44.98	65.53	2.74	5.32	5.32	27.79	27.79
1440.00	45.03	65.58	2.73	5.31	5.31	26.68	26.68
1445.00	45.07	65.64	2.73	5.29	5.29	25.57	25.57
1450.00	45.11	65.69	2.72	5.28	5.28	24.46	24.46

1455.00	45.16	65.75	2.71	5.27	5.27	23.35	23.35
1460.00	45.20	65.80	2.70	5.25	5.25	22.23	22.23
1465.00	45.24	65.86	2.70	5.24	5.24	21.12	21.12
1470.00	45.28	65.91	2.69	5.23	5.23	20.00	20.00
1475.00	45.33	65.97	2.68	5.21	5.21	18.88	18.88
1480.00	45.37	66.02	2.68	5.20	5.20	17.77	17.77
1485.00	45.41	66.08	2.67	5.19	5.19	16.65	16.65
1490.00	45.45	66.13	2.66	5.17	5.17	15.53	15.53
1495.00	45.50	66.19	2.66	5.16	5.16	14.41	14.41
1500.00	45.54	66.24	2.65	5.15	5.15	13.28	13.28
1505.00	45.58	66.29	2.64	5.13	5.13	12.16	12.16
1510.00	45.62	66.35	2.64	5.12	5.12	11.04	11.04
1515.00	45.66	66.40	2.63	5.11	5.11	9.91	9.91
1520.00	45.70	66.46	2.62	5.10	5.10	8.79	8.79
1525.00	45.75	66.51	2.62	5.08	5.08	7.66	7.66
1530.00	45.79	66.56	2.61	5.07	5.07	6.53	6.53
1535.00	45.83	66.61	2.60	5.06	5.06	5.40	5.40
1540.00	45.87	66.67	2.60	5.05	5.05	4.27	4.27
1545.00	45.91	66.72	2.59	5.03	5.03	3.14	3.14
1550.00	45.95	66.77	2.58	5.02	5.02	2.01	2.01
1555.00	45.99	66.83	2.58	5.01	5.01	0.88	0.88
1560.00	46.03	66.88	2.57	5.00	5.00	-0.26	-0.26
1565.00	46.07	66.93	2.57	4.99	4.99	-1.39	-1.39
1570.00	46.12	66.98	2.56	4.97	4.97	-2.53	-2.53
1575.00	46.16	67.03	2.55	4.96	4.96	-3.66	-3.66
1580.00	46.20	67.09	2.55	4.95	4.95	-4.80	-4.80
1585.00	46.24	67.14	2.54	4.94	4.94	-5.94	-5.94
1590.00	46.28	67.19	2.54	4.93	4.93	-7.08	-7.08
1595.00	46.32	67.24	2.53	4.91	4.91	-8.22	-8.22
1600.00	46.36	67.29	2.52	4.90	4.90	-9.36	-9.36
1605.00	46.40	67.34	2.52	4.89	4.89	-10.50	-10.50
1610.00	46.44	67.39	2.51	4.88	4.88	-11.64	-11.64
1615.00	46.48	67.45	2.51	4.87	4.87	-12.79	-12.79
1620.00	46.52	67.50	2.50	4.86	4.86	-13.93	-13.93
1625.00	46.56	67.55	2.49	4.85	4.85	-15.08	-15.08
1630.00	46.60	67.60	2.49	4.83	4.83	-16.22	-16.22
1635.00	46.63	67.65	2.48	4.82	4.82	-17.37	-17.37
1640.00	46.67	67.70	2.48	4.81	4.81	-18.52	-18.52
1645.00	46.71	67.75	2.47	4.80	4.80	-19.67	-19.67
1650.00	46.75	67.80	2.47	4.79	4.79	-20.82	-20.82
1655.00	46.79	67.85	2.46	4.78	4.78	-21.97	-21.97
1660.00	46.83	67.90	2.45	4.77	4.77	-23.12	-23.12
1665.00	46.87	67.95	2.45	4.76	4.76	-24.27	-24.27
1670.00	46.91	68.00	2.44	4.75	4.75	-25.42	-25.42
1675.00	46.95	68.05	2.44	4.74	4.74	-26.58	-26.58
1680.00	46.99	68.10	2.43	4.72	4.72	-27.73	-27.73
1685.00	47.02	68.15	2.43	4.71	4.71	-28.89	-28.89
1690.00	47.06	68.20	2.42	4.70	4.70	-30.04	-30.04
1695.00	47.10	68.24	2.42	4.69	4.69	-31.20	-31.20
1700.00	47.14	68.29	2.41	4.68	4.68	-32.36	-32.36

1705.00	47.18	68.34	2.41	4.67	4.67	-33.52	-33.52
1710.00	47.22	68.39	2.40	4.66	4.66	-34.67	-34.67
1715.00	47.25	68.44	2.39	4.65	4.65	-35.84	-35.84
1720.00	47.29	68.49	2.39	4.64	4.64	-37.00	-37.00
1725.00	47.33	68.54	2.38	4.63	4.63	-38.16	-38.16
1730.00	47.37	68.58	2.38	4.62	4.62	-39.32	-39.32
1735.00	47.41	68.63	2.37	4.61	4.61	-40.48	-40.48
1740.00	47.44	68.68	2.37	4.60	4.60	-41.65	-41.65
1745.00	47.48	68.73	2.36	4.59	4.59	-42.81	-42.81
1750.00	47.52	68.78	2.36	4.58	4.58	-43.98	-43.98
1755.00	47.56	68.82	2.35	4.57	4.57	-45.14	-45.14
1760.00	47.59	68.87	2.35	4.56	4.56	-46.31	-46.31
1765.00	47.63	68.92	2.34	4.55	4.55	-47.48	-47.48
1770.00	47.67	68.97	2.34	4.54	4.54	-48.65	-48.65
1775.00	47.70	69.01	2.33	4.53	4.53	-49.82	-49.82
1780.00	47.74	69.06	2.33	4.52	4.52	-50.99	-50.99
1785.00	47.78	69.11	2.32	4.51	4.51	-52.16	-52.16
1790.00	47.82	69.16	2.32	4.50	4.50	-53.33	-53.33
1795.00	47.85	69.20	2.31	4.49	4.49	-54.50	-54.50
1800.00	47.89	69.25	2.31	4.48	4.48	-55.67	-55.67
1805.00	47.93	69.30	2.30	4.48	4.48	-56.85	-56.85
1810.00	47.96	69.34	2.30	4.47	4.47	-58.02	-58.02
1815.00	48.00	69.39	2.29	4.46	4.46	-59.20	-59.20
1820.00	48.04	69.44	2.29	4.45	4.45	-60.37	-60.37
1825.00	48.07	69.48	2.28	4.44	4.44	-61.55	-61.55
1830.00	48.11	69.53	2.28	4.43	4.43	-62.73	-62.73
1835.00	48.14	69.57	2.27	4.42	4.42	-63.90	-63.90
1840.00	48.18	69.62	2.27	4.41	4.41	-65.08	-65.08
1845.00	48.22	69.67	2.27	4.40	4.40	-66.26	-66.26
1850.00	48.25	69.71	2.26	4.39	4.39	-67.44	-67.44
1855.00	48.29	69.76	2.26	4.38	4.38	-68.62	-68.62
1860.00	48.32	69.80	2.25	4.37	4.37	-69.80	-69.80
1865.00	48.36	69.85	2.25	4.37	4.37	-70.99	-70.99
1870.00	48.40	69.89	2.24	4.36	4.36	-72.17	-72.17
1875.00	48.43	69.94	2.24	4.35	4.35	-73.35	-73.35
1880.00	48.47	69.98	2.23	4.34	4.34	-74.54	-74.54
1885.00	48.50	70.03	2.23	4.33	4.33	-75.72	-75.72
1890.00	48.54	70.07	2.22	4.32	4.32	-76.91	-76.91
1895.00	48.57	70.12	2.22	4.31	4.31	-78.09	-78.09
1900.00	48.61	70.16	2.22	4.30	4.30	-79.28	-79.28
1905.00	48.64	70.21	2.21	4.30	4.30	-80.47	-80.47
1910.00	48.68	70.25	2.21	4.29	4.29	-81.65	-81.65
1915.00	48.71	70.30	2.20	4.28	4.28	-82.84	-82.84
1920.00	48.75	70.34	2.20	4.27	4.27	-84.03	-84.03
1925.00	48.78	70.39	2.19	4.26	4.26	-85.22	-85.22
1930.00	48.82	70.43	2.19	4.25	4.25	-86.41	-86.41
1935.00	48.85	70.47	2.19	4.25	4.25	-87.60	-87.60
1940.00	48.89	70.52	2.18	4.24	4.24	-88.79	-88.79
1945.00	48.92	70.56	2.18	4.23	4.23	-89.99	-89.99
1950.00	48.96	70.61	2.17	4.22	4.22	-91.18	-91.18

1955.00	48.99	70.65	2.17	4.21	4.21	-92.37	-92.37
1960.00	49.03	70.69	2.16	4.20	4.20	-93.57	-93.57
1965.00	49.06	70.74	2.16	4.20	4.20	-94.76	-94.76
1970.00	49.10	70.78	2.16	4.19	4.19	-95.96	-95.96
1975.00	49.13	70.82	2.15	4.18	4.18	-97.15	-97.15
1980.00	49.17	70.87	2.15	4.17	4.17	-98.35	-98.35
1985.00	49.20	70.91	2.14	4.16	4.16	-99.55	-99.55
1990.00	49.23	70.95	2.14	4.16	4.16	-100.75	-100.75
1995.00	49.27	71.00	2.14	4.15	4.15	-101.95	-101.95
2000.00	49.30	71.04	2.13	4.14	4.14	-103.14	-103.14
2005.00	49.34	71.08	2.13	4.13	4.13	-104.34	-104.34
2010.00	49.37	71.13	2.12	4.12	4.12	-105.54	-105.54
2015.00	49.40	71.17	2.12	4.12	4.12	-106.75	-106.75
2020.00	49.44	71.21	2.12	4.11	4.11	-107.95	-107.95
2025.00	49.47	71.25	2.11	4.10	4.10	-109.15	-109.15
2030.00	49.50	71.30	2.11	4.09	4.09	-110.35	-110.35
2035.00	49.54	71.34	2.10	4.09	4.09	-111.55	-111.55
2040.00	49.57	71.38	2.10	4.08	4.08	-112.76	-112.76
2045.00	49.61	71.42	2.10	4.07	4.07	-113.96	-113.96
2050.00	49.64	71.47	2.09	4.06	4.06	-115.17	-115.17
2055.00	49.67	71.51	2.09	4.06	4.06	-116.37	-116.37
2060.00	49.71	71.55	2.08	4.05	4.05	-117.58	-117.58
2065.00	49.74	71.59	2.08	4.04	4.04	-118.79	-118.79
2070.00	49.77	71.63	2.08	4.03	4.03	-119.99	-119.99
2075.00	49.80	71.68	2.07	4.03	4.03	-121.20	-121.20
2080.00	49.84	71.72	2.07	4.02	4.02	-122.41	-122.41
2085.00	49.87	71.76	2.07	4.01	4.01	-123.62	-123.62
2090.00	49.90	71.80	2.06	4.00	4.00	-124.83	-124.83
2095.00	49.94	71.84	2.06	4.00	4.00	-126.04	-126.04
2100.00	49.97	71.88	2.05	3.99	3.99	-127.25	-127.25
2105.00	50.00	71.93	2.05	3.98	3.98	-128.46	-128.46
2110.00	50.04	71.97	2.05	3.98	3.98	-129.67	-129.67
2115.00	50.07	72.01	2.04	3.97	3.97	-130.88	-130.88
2120.00	50.10	72.05	2.04	3.96	3.96	-132.10	-132.10
2125.00	50.13	72.09	2.04	3.95	3.95	-133.31	-133.31
2130.00	50.17	72.13	2.03	3.95	3.95	-134.52	-134.52
2135.00	50.20	72.17	2.03	3.94	3.94	-135.74	-135.74
2140.00	50.23	72.21	2.02	3.93	3.93	-136.95	-136.95
2145.00	50.26	72.25	2.02	3.93	3.93	-138.17	-138.17
2150.00	50.30	72.29	2.02	3.92	3.92	-139.38	-139.38
2155.00	50.33	72.33	2.01	3.91	3.91	-140.60	-140.60
2160.00	50.36	72.37	2.01	3.91	3.91	-141.82	-141.82
2165.00	50.39	72.41	2.01	3.90	3.90	-143.04	-143.04
2170.00	50.42	72.46	2.00	3.89	3.89	-144.25	-144.25
2175.00	50.46	72.50	2.00	3.89	3.89	-145.47	-145.47
2180.00	50.49	72.54	2.00	3.88	3.88	-146.69	-146.69
2185.00	50.52	72.58	1.99	3.87	3.87	-147.91	-147.91
2190.00	50.55	72.62	1.99	3.87	3.87	-149.13	-149.13
2195.00	50.58	72.66	1.99	3.86	3.86	-150.35	-150.35
2200.00	50.61	72.70	1.98	3.85	3.85	-151.57	-151.57

2205.00	50.65	72.74	1.98	3.85	3.85	-152.79	-152.79
2210.00	50.68	72.77	1.98	3.84	3.84	-154.02	-154.02
2215.00	50.71	72.81	1.97	3.83	3.83	-155.24	-155.24
2220.00	50.74	72.85	1.97	3.83	3.83	-156.46	-156.46
2225.00	50.77	72.89	1.97	3.82	3.82	-157.68	-157.68
2230.00	50.80	72.93	1.96	3.81	3.81	-158.91	-158.91
2235.00	50.84	72.97	1.96	3.81	3.81	-160.13	-160.13
2240.00	50.87	73.01	1.96	3.80	3.80	-161.36	-161.36
2245.00	50.90	73.05	1.95	3.79	3.79	-162.58	-162.58
2250.00	50.93	73.09	1.95	3.79	3.79	-163.81	-163.81
2255.00	50.96	73.13	1.95	3.78	3.78	-165.04	-165.04
2260.00	50.99	73.17	1.94	3.77	3.77	-166.26	-166.26
2265.00	51.02	73.21	1.94	3.77	3.77	-167.49	-167.49
2270.00	51.05	73.25	1.94	3.76	3.76	-168.72	-168.72
2275.00	51.08	73.29	1.93	3.75	3.75	-169.95	-169.95
2280.00	51.12	73.32	1.93	3.75	3.75	-171.18	-171.18
2285.00	51.15	73.36	1.93	3.74	3.74	-172.41	-172.41
2290.00	51.18	73.40	1.92	3.74	3.74	-173.64	-173.64
2295.00	51.21	73.44	1.92	3.73	3.73	-174.87	-174.87
2300.00	51.24	73.48	1.92	3.72	3.72	-176.10	-176.10
2305.00	51.27	73.52	1.91	3.72	3.72	-177.33	-177.33
2310.00	51.30	73.56	1.91	3.71	3.71	-178.56	-178.56
2315.00	51.33	73.59	1.91	3.71	3.71	-179.79	-179.79
2320.00	51.36	73.63	1.90	3.70	3.70	-181.02	-181.02
2325.00	51.39	73.67	1.90	3.69	3.69	-182.26	-182.26
2330.00	51.42	73.71	1.90	3.69	3.69	-183.49	-183.49
2335.00	51.45	73.75	1.89	3.68	3.68	-184.72	-184.72
2340.00	51.48	73.78	1.89	3.68	3.68	-185.96	-185.96
2345.00	51.51	73.82	1.89	3.67	3.67	-187.19	-187.19
2350.00	51.54	73.86	1.89	3.66	3.66	-188.43	-188.43
2355.00	51.57	73.90	1.88	3.66	3.66	-189.66	-189.66
2360.00	51.60	73.94	1.88	3.65	3.65	-190.90	-190.90
2365.00	51.63	73.97	1.88	3.65	3.65	-192.14	-192.14
2370.00	51.66	74.01	1.87	3.64	3.64	-193.37	-193.37
2375.00	51.69	74.05	1.87	3.63	3.63	-194.61	-194.61
2380.00	51.72	74.09	1.87	3.63	3.63	-195.85	-195.85
2385.00	51.75	74.12	1.86	3.62	3.62	-197.09	-197.09
2390.00	51.78	74.16	1.86	3.62	3.62	-198.33	-198.33
2395.00	51.81	74.20	1.86	3.61	3.61	-199.57	-199.57
2400.00	51.84	74.23	1.86	3.61	3.61	-200.81	-200.81
2405.00	51.87	74.27	1.85	3.60	3.60	-202.05	-202.05
2410.00	51.90	74.31	1.85	3.59	3.59	-203.29	-203.29
2415.00	51.93	74.35	1.85	3.59	3.59	-204.53	-204.53
2420.00	51.96	74.38	1.84	3.58	3.58	-205.77	-205.77
2425.00	51.99	74.42	1.84	3.58	3.58	-207.01	-207.01
2430.00	52.02	74.46	1.84	3.57	3.57	-208.25	-208.25
2435.00	52.05	74.49	1.84	3.57	3.57	-209.50	-209.50
2440.00	52.08	74.53	1.83	3.56	3.56	-210.74	-210.74
2445.00	52.11	74.57	1.83	3.55	3.55	-211.98	-211.98
2450.00	52.14	74.60	1.83	3.55	3.55	-213.23	-213.23

2455.00	52.17	74.64	1.82	3.54	3.54	-214.47	-214.47
2460.00	52.20	74.68	1.82	3.54	3.54	-215.72	-215.72
2465.00	52.23	74.71	1.82	3.53	3.53	-216.96	-216.96
2470.00	52.26	74.75	1.82	3.53	3.53	-218.21	-218.21
2475.00	52.29	74.79	1.81	3.52	3.52	-219.45	-219.45
2480.00	52.31	74.82	1.81	3.52	3.52	-220.70	-220.70
2485.00	52.34	74.86	1.81	3.51	3.51	-221.95	-221.95
2490.00	52.37	74.89	1.80	3.51	3.51	-223.19	-223.19
2495.00	52.40	74.93	1.80	3.50	3.50	-224.44	-224.44
2500.00	52.43	74.97	1.80	3.50	3.50	-225.69	-225.69
2505.00	52.46	75.00	1.80	3.49	3.49	-226.94	-226.94
2510.00	52.49	75.04	1.79	3.48	3.48	-228.19	-228.19
2515.00	52.52	75.07	1.79	3.48	3.48	-229.44	-229.44
2520.00	52.55	75.11	1.79	3.47	3.47	-230.68	-230.68
2525.00	52.57	75.15	1.79	3.47	3.47	-231.93	-231.93
2530.00	52.60	75.18	1.78	3.46	3.46	-233.19	-233.19
2535.00	52.63	75.22	1.78	3.46	3.46	-234.44	-234.44
2540.00	52.66	75.25	1.78	3.45	3.45	-235.69	-235.69
2545.00	52.69	75.29	1.77	3.45	3.45	-236.94	-236.94
2550.00	52.72	75.32	1.77	3.44	3.44	-238.19	-238.19
2555.00	52.75	75.36	1.77	3.44	3.44	-239.44	-239.44
2560.00	52.77	75.39	1.77	3.43	3.43	-240.70	-240.70
2565.00	52.80	75.43	1.76	3.43	3.43	-241.95	-241.95
2570.00	52.83	75.46	1.76	3.42	3.42	-243.20	-243.20
2575.00	52.86	75.50	1.76	3.42	3.42	-244.46	-244.46
2580.00	52.89	75.54	1.76	3.41	3.41	-245.71	-245.71
2585.00	52.92	75.57	1.75	3.41	3.41	-246.97	-246.97
2590.00	52.94	75.61	1.75	3.40	3.40	-248.22	-248.22
2595.00	52.97	75.64	1.75	3.40	3.40	-249.48	-249.48
2600.00	53.00	75.68	1.75	3.39	3.39	-250.73	-250.73
2605.00	53.03	75.71	1.74	3.39	3.39	-251.99	-251.99
2610.00	53.06	75.74	1.74	3.38	3.38	-253.24	-253.24
2615.00	53.08	75.78	1.74	3.38	3.38	-254.50	-254.50
2620.00	53.11	75.81	1.74	3.37	3.37	-255.76	-255.76
2625.00	53.14	75.85	1.73	3.37	3.37	-257.02	-257.02
2630.00	53.17	75.88	1.73	3.36	3.36	-258.27	-258.27
2635.00	53.20	75.92	1.73	3.36	3.36	-259.53	-259.53
2640.00	53.22	75.95	1.73	3.35	3.35	-260.79	-260.79
2645.00	53.25	75.99	1.72	3.35	3.35	-262.05	-262.05
2650.00	53.28	76.02	1.72	3.34	3.34	-263.31	-263.31
2655.00	53.31	76.06	1.72	3.34	3.34	-264.57	-264.57
2660.00	53.33	76.09	1.72	3.33	3.33	-265.83	-265.83
2665.00	53.36	76.12	1.71	3.33	3.33	-267.09	-267.09
2670.00	53.39	76.16	1.71	3.32	3.32	-268.35	-268.35
2675.00	53.42	76.19	1.71	3.32	3.32	-269.61	-269.61
2680.00	53.44	76.23	1.71	3.32	3.32	-270.87	-270.87
2685.00	53.47	76.26	1.70	3.31	3.31	-272.14	-272.14
2690.00	53.50	76.29	1.70	3.31	3.31	-273.40	-273.40
2695.00	53.53	76.33	1.70	3.30	3.30	-274.66	-274.66
2700.00	53.55	76.36	1.70	3.30	3.30	-275.92	-275.92

2705.00	53.58	76.40	1.69	3.29	3.29	-277.19	-277.19
2710.00	53.61	76.43	1.69	3.29	3.29	-278.45	-278.45
2715.00	53.64	76.46	1.69	3.28	3.28	-279.71	-279.71
2720.00	53.66	76.50	1.69	3.28	3.28	-280.98	-280.98
2725.00	53.69	76.53	1.69	3.27	3.27	-282.24	-282.24
2730.00	53.72	76.56	1.68	3.27	3.27	-283.51	-283.51
2735.00	53.74	76.60	1.68	3.26	3.26	-284.77	-284.77
2740.00	53.77	76.63	1.68	3.26	3.26	-286.04	-286.04
2745.00	53.80	76.67	1.68	3.26	3.26	-287.31	-287.31
2750.00	53.83	76.70	1.67	3.25	3.25	-288.57	-288.57
2755.00	53.85	76.73	1.67	3.25	3.25	-289.84	-289.84
2760.00	53.88	76.77	1.67	3.24	3.24	-291.11	-291.11
2765.00	53.91	76.80	1.67	3.24	3.24	-292.37	-292.37
2770.00	53.93	76.83	1.66	3.23	3.23	-293.64	-293.64
2775.00	53.96	76.87	1.66	3.23	3.23	-294.91	-294.91
2780.00	53.99	76.90	1.66	3.22	3.22	-296.18	-296.18
2785.00	54.01	76.93	1.66	3.22	3.22	-297.45	-297.45
2790.00	54.04	76.96	1.66	3.22	3.22	-298.72	-298.72
2795.00	54.07	77.00	1.65	3.21	3.21	-299.98	-299.98
2800.00	54.09	77.03	1.65	3.21	3.21	-301.25	-301.25
2805.00	54.12	77.06	1.65	3.20	3.20	-302.52	-302.52
2810.00	54.15	77.10	1.65	3.20	3.20	-303.79	-303.79
2815.00	54.17	77.13	1.64	3.19	3.19	-305.07	-305.07
2820.00	54.20	77.16	1.64	3.19	3.19	-306.34	-306.34
2825.00	54.23	77.19	1.64	3.19	3.19	-307.61	-307.61
2830.00	54.25	77.23	1.64	3.18	3.18	-308.88	-308.88
2835.00	54.28	77.26	1.64	3.18	3.18	-310.15	-310.15
2840.00	54.30	77.29	1.63	3.17	3.17	-311.42	-311.42
2845.00	54.33	77.32	1.63	3.17	3.17	-312.70	-312.70
2850.00	54.36	77.36	1.63	3.16	3.16	-313.97	-313.97
2855.00	54.38	77.39	1.63	3.16	3.16	-315.24	-315.24
2860.00	54.41	77.42	1.62	3.16	3.16	-316.52	-316.52
2865.00	54.44	77.45	1.62	3.15	3.15	-317.79	-317.79
2870.00	54.46	77.49	1.62	3.15	3.15	-319.06	-319.06
2875.00	54.49	77.52	1.62	3.14	3.14	-320.34	-320.34
2880.00	54.51	77.55	1.62	3.14	3.14	-321.61	-321.61

Notes to User

Only values shown blue to be edited

Sheet only for england and wales

In M5-D	J0	J1	J2	Cr	In (MT-D/M5-D)	MT-D/M5-D
2.20	0.1699	0.0028	0.000114	0.204517	0.388826	1.475248
2.39	0.1699	0.0028	0.000114	0.213764	0.406407	1.501414
2.50	0.1644	0.005831	-0.00013	0.215612	0.40992	1.506698
2.59	0.1644	0.005831	-0.00013	0.218241	0.41492	1.51425
2.66	0.1644	0.005831	-0.00013	0.220204	0.418651	1.51991
2.71	0.1644	0.005831	-0.00013	0.221721	0.421536	1.524301
2.76	0.1644	0.005831	-0.00013	0.222922	0.423819	1.527785
2.80	0.1644	0.005831	-0.00013	0.223888	0.425655	1.530593
2.83	0.1644	0.005831	-0.00013	0.224674	0.427149	1.532881
2.86	0.1644	0.005831	-0.00013	0.225317	0.428372	1.534756
2.89	0.1644	0.005831	-0.00013	0.225845	0.429376	1.536298
2.92	0.1644	0.005831	-0.00013	0.226278	0.4302	1.537564
2.94	0.1644	0.005831	-0.00013	0.226633	0.430874	1.538601
2.96	0.1644	0.005831	-0.00013	0.226921	0.431421	1.539444
2.98	0.1644	0.005831	-0.00013	0.227151	0.43186	1.540119
3.00	0.1644	0.005831	-0.00013	0.227333	0.432205	1.540651
3.02	0.1644	0.005831	-0.00013	0.227472	0.432469	1.541058
3.03	0.1644	0.005831	-0.00013	0.227573	0.432661	1.541354
3.05	0.1644	0.005831	-0.00013	0.227641	0.432791	1.541554
3.06	0.1644	0.005831	-0.00013	0.22768	0.432864	1.541667
3.08	0.1644	0.005831	-0.00013	0.227692	0.432888	1.541703
3.09	0.1644	0.005831	-0.00013	0.227681	0.432867	1.54167
3.10	0.1644	0.005831	-0.00013	0.227649	0.432805	1.541576
3.12	0.1644	0.005831	-0.00013	0.227597	0.432707	1.541425
3.13	0.1644	0.005831	-0.00013	0.227528	0.432576	1.541222
3.14	0.1644	0.005831	-0.00013	0.227443	0.432415	1.540974
3.15	0.1644	0.005831	-0.00013	0.227344	0.432226	1.540683
3.16	0.1644	0.005831	-0.00013	0.227232	0.432012	1.540354
3.17	0.1644	0.005831	-0.00013	0.227107	0.431775	1.539989
3.18	0.1644	0.005831	-0.00013	0.226971	0.431517	1.539591
3.19	0.1644	0.005831	-0.00013	0.226825	0.431239	1.539163
3.20	0.1644	0.005831	-0.00013	0.226669	0.430943	1.538707
3.21	0.1644	0.005831	-0.00013	0.226504	0.43063	1.538226
3.21	0.1644	0.005831	-0.00013	0.226332	0.430301	1.537721
3.22	0.1644	0.005831	-0.00013	0.226151	0.429958	1.537193
3.23	0.1644	0.005831	-0.00013	0.225964	0.429602	1.536645
3.24	0.1644	0.005831	-0.00013	0.22577	0.429233	1.536078
3.25	0.1644	0.005831	-0.00013	0.225569	0.428852	1.535493
3.25	0.1644	0.005831	-0.00013	0.225363	0.42846	1.534892

3.26	0.1644	0.005831	-0.00013	0.225152	0.428058	1.534275
3.27	0.1644	0.005831	-0.00013	0.224935	0.427646	1.533644
3.27	0.1644	0.005831	-0.00013	0.224714	0.427226	1.532999
3.28	0.1644	0.005831	-0.00013	0.224488	0.426797	1.532341
3.29	0.1644	0.005831	-0.00013	0.224258	0.426359	1.531671
3.29	0.1644	0.005831	-0.00013	0.224025	0.425915	1.53099
3.30	0.1644	0.005831	-0.00013	0.223787	0.425463	1.530299
3.31	0.1644	0.005831	-0.00013	0.223546	0.425005	1.529598
3.31	0.1644	0.005831	-0.00013	0.223302	0.424541	1.528888
3.32	0.1644	0.005831	-0.00013	0.223054	0.42407	1.528169
3.32	0.1644	0.005831	-0.00013	0.222804	0.423594	1.527442
3.33	0.1644	0.005831	-0.00013	0.222551	0.423113	1.526707
3.33	0.1644	0.005831	-0.00013	0.222295	0.422627	1.525965
3.34	0.1644	0.005831	-0.00013	0.222037	0.422136	1.525216
3.34	0.1644	0.005831	-0.00013	0.221776	0.421641	1.52446
3.35	0.1644	0.005831	-0.00013	0.221514	0.421141	1.523699
3.35	0.1644	0.005831	-0.00013	0.221249	0.420637	1.522932
3.36	0.1644	0.005831	-0.00013	0.220982	0.42013	1.52216
3.36	0.1644	0.005831	-0.00013	0.220713	0.419619	1.521382
3.37	0.1644	0.005831	-0.00013	0.220443	0.419105	1.5206
3.37	0.1644	0.005831	-0.00013	0.22017	0.418587	1.519813
3.38	0.1644	0.005831	-0.00013	0.219897	0.418067	1.519022
3.38	0.1644	0.005831	-0.00013	0.219621	0.417543	1.518227
3.39	0.1644	0.005831	-0.00013	0.219345	0.417017	1.517429
3.39	0.1644	0.005831	-0.00013	0.219066	0.416489	1.516627
3.40	0.1644	0.005831	-0.00013	0.218787	0.415957	1.515821
3.40	0.1644	0.005831	-0.00013	0.218506	0.415424	1.515012
3.40	0.1644	0.005831	-0.00013	0.218225	0.414888	1.514201
3.41	0.1644	0.005831	-0.00013	0.217942	0.41435	1.513387
3.41	0.1644	0.005831	-0.00013	0.217658	0.41381	1.51257
3.42	0.1644	0.005831	-0.00013	0.217373	0.413268	1.51175
3.42	0.1644	0.005831	-0.00013	0.217087	0.412725	1.510929
3.42	0.1644	0.005831	-0.00013	0.2168	0.412179	1.510105
3.43	0.1644	0.005831	-0.00013	0.216512	0.411632	1.509279
3.43	0.1644	0.005831	-0.00013	0.216224	0.411084	1.508452
3.44	0.2644	-0.00162	3.15E-06	0.217083	0.412717	1.510917
3.44	0.2644	-0.00162	3.15E-06	0.216919	0.412406	1.510448
3.44	0.2644	-0.00162	3.15E-06	0.216757	0.412098	1.509983
3.45	0.2644	-0.00162	3.15E-06	0.216597	0.411794	1.509523
3.45	0.2644	-0.00162	3.15E-06	0.216439	0.411492	1.509068
3.45	0.2644	-0.00162	3.15E-06	0.216282	0.411194	1.508618
3.46	0.2644	-0.00162	3.15E-06	0.216126	0.410898	1.508172
3.46	0.2644	-0.00162	3.15E-06	0.215972	0.410605	1.50773
3.46	0.2644	-0.00162	3.15E-06	0.215819	0.410315	1.507293
3.47	0.2644	-0.00162	3.15E-06	0.215668	0.410028	1.50686
3.47	0.2644	-0.00162	3.15E-06	0.215518	0.409743	1.506431
3.47	0.2644	-0.00162	3.15E-06	0.21537	0.409461	1.506006
3.48	0.2644	-0.00162	3.15E-06	0.215223	0.409181	1.505584
3.48	0.2644	-0.00162	3.15E-06	0.215077	0.408904	1.505167
3.48	0.2644	-0.00162	3.15E-06	0.214933	0.408629	1.504754

3.49	0.2644	-0.00162	3.15E-06	0.214789	0.408357	1.504344
3.49	0.2644	-0.00162	3.15E-06	0.214647	0.408087	1.503937
3.49	0.2644	-0.00162	3.15E-06	0.214506	0.407819	1.503535
3.50	0.2644	-0.00162	3.15E-06	0.214367	0.407553	1.503136
3.50	0.2644	-0.00162	3.15E-06	0.214228	0.40729	1.50274
3.50	0.2644	-0.00162	3.15E-06	0.214091	0.407029	1.502347
3.50	0.2644	-0.00162	3.15E-06	0.213954	0.40677	1.501958
3.51	0.2644	-0.00162	3.15E-06	0.213819	0.406513	1.501572
3.51	0.2644	-0.00162	3.15E-06	0.213685	0.406258	1.501189
3.51	0.2644	-0.00162	3.15E-06	0.213552	0.406005	1.50081
3.52	0.2644	-0.00162	3.15E-06	0.21342	0.405754	1.500433
3.52	0.2644	-0.00162	3.15E-06	0.213289	0.405505	1.50006
3.52	0.2644	-0.00162	3.15E-06	0.213159	0.405258	1.499689
3.52	0.2644	-0.00162	3.15E-06	0.21303	0.405012	1.499321
3.53	0.2644	-0.00162	3.15E-06	0.212902	0.404769	1.498956
3.53	0.2644	-0.00162	3.15E-06	0.212775	0.404527	1.498594
3.53	0.2644	-0.00162	3.15E-06	0.212649	0.404288	1.498235
3.53	0.2644	-0.00162	3.15E-06	0.212524	0.404049	1.497878
3.54	0.2644	-0.00162	3.15E-06	0.212399	0.403813	1.497524
3.54	0.2644	-0.00162	3.15E-06	0.212276	0.403578	1.497173
3.54	0.2644	-0.00162	3.15E-06	0.212153	0.403345	1.496824
3.54	0.2644	-0.00162	3.15E-06	0.212032	0.403114	1.496478
3.55	0.2644	-0.00162	3.15E-06	0.211911	0.402884	1.496134
3.55	0.2644	-0.00162	3.15E-06	0.211791	0.402656	1.495792
3.55	0.2644	-0.00162	3.15E-06	0.211672	0.402429	1.495453
3.55	0.2644	-0.00162	3.15E-06	0.211553	0.402204	1.495117
3.56	0.2644	-0.00162	3.15E-06	0.211436	0.401981	1.494783
3.56	0.2644	-0.00162	3.15E-06	0.211319	0.401759	1.494451
3.56	0.2644	-0.00162	3.15E-06	0.211203	0.401538	1.494121
3.56	0.2644	-0.00162	3.15E-06	0.211087	0.401319	1.493794
3.57	0.2644	-0.00162	3.15E-06	0.210973	0.401101	1.493468
3.57	0.2644	-0.00162	3.15E-06	0.210859	0.400885	1.493145
3.57	0.2644	-0.00162	3.15E-06	0.210746	0.40067	1.492824
3.57	0.2644	-0.00162	3.15E-06	0.210634	0.400456	1.492506
3.58	0.2644	-0.00162	3.15E-06	0.210522	0.400244	1.492189
3.58	0.2644	-0.00162	3.15E-06	0.210411	0.400033	1.491874
3.58	0.2644	-0.00162	3.15E-06	0.210301	0.399823	1.491561
3.58	0.2644	-0.00162	3.15E-06	0.210191	0.399615	1.491251
3.58	0.2644	-0.00162	3.15E-06	0.210082	0.399408	1.490942
3.59	0.2644	-0.00162	3.15E-06	0.209974	0.399202	1.490635
3.59	0.2644	-0.00162	3.15E-06	0.209866	0.398998	1.49033
3.59	0.2644	-0.00162	3.15E-06	0.20976	0.398794	1.490027
3.59	0.2644	-0.00162	3.15E-06	0.209653	0.398592	1.489726
3.59	0.2644	-0.00162	3.15E-06	0.209547	0.398391	1.489426
3.60	0.2644	-0.00162	3.15E-06	0.209442	0.398191	1.489129
3.60	0.2644	-0.00162	3.15E-06	0.209338	0.397993	1.488833
3.60	0.2644	-0.00162	3.15E-06	0.209234	0.397795	1.488539
3.60	0.2644	-0.00162	3.15E-06	0.209131	0.397599	1.488247
3.61	0.2644	-0.00162	3.15E-06	0.209028	0.397404	1.487956
3.61	0.2644	-0.00162	3.15E-06	0.208926	0.397209	1.487667

3.61	0.2644	-0.00162	3.15E-06	0.208824	0.397016	1.48738
3.61	0.2644	-0.00162	3.15E-06	0.208723	0.396824	1.487095
3.61	0.2644	-0.00162	3.15E-06	0.208623	0.396633	1.486811
3.62	0.2644	-0.00162	3.15E-06	0.208523	0.396443	1.486528
3.62	0.2644	-0.00162	3.15E-06	0.208424	0.396254	1.486247
3.62	0.2644	-0.00162	3.15E-06	0.208325	0.396067	1.485968
3.62	0.2644	-0.00162	3.15E-06	0.208226	0.39588	1.485691
3.62	0.2644	-0.00162	3.15E-06	0.208129	0.395694	1.485414
3.62	0.2644	-0.00162	3.15E-06	0.208031	0.395509	1.48514
3.63	0.2644	-0.00162	3.15E-06	0.207935	0.395325	1.484867
3.63	0.2644	-0.00162	3.15E-06	0.207838	0.395142	1.484595
3.63	0.2644	-0.00162	3.15E-06	0.207743	0.39496	1.484325
3.63	0.2644	-0.00162	3.15E-06	0.207647	0.394779	1.484056
3.63	0.2644	-0.00162	3.15E-06	0.207553	0.394599	1.483789
3.64	0.2644	-0.00162	3.15E-06	0.207458	0.394419	1.483523
3.64	0.2644	-0.00162	3.15E-06	0.207365	0.394241	1.483258
3.64	0.2644	-0.00162	3.15E-06	0.207271	0.394064	1.482995
3.64	0.2644	-0.00162	3.15E-06	0.207178	0.393887	1.482733
3.64	0.2644	-0.00162	3.15E-06	0.207086	0.393711	1.482473
3.64	0.2644	-0.00162	3.15E-06	0.206994	0.393537	1.482213
3.65	0.2644	-0.00162	3.15E-06	0.206903	0.393363	1.481956
3.65	0.2644	-0.00162	3.15E-06	0.206811	0.393189	1.481699
3.65	0.2644	-0.00162	3.15E-06	0.206721	0.393017	1.481444
3.65	0.2644	-0.00162	3.15E-06	0.206631	0.392846	1.48119
3.65	0.2644	-0.00162	3.15E-06	0.206541	0.392675	1.480937
3.65	0.2644	-0.00162	3.15E-06	0.206452	0.392505	1.480685
3.66	0.2644	-0.00162	3.15E-06	0.206363	0.392336	1.480435
3.66	0.2644	-0.00162	3.15E-06	0.206274	0.392168	1.480186
3.66	0.2644	-0.00162	3.15E-06	0.206186	0.392	1.479938
3.66	0.2644	-0.00162	3.15E-06	0.206098	0.391834	1.479691
3.66	0.2644	-0.00162	3.15E-06	0.206011	0.391668	1.479446
3.66	0.2644	-0.00162	3.15E-06	0.205924	0.391503	1.479202
3.67	0.2644	-0.00162	3.15E-06	0.205838	0.391338	1.478958
3.67	0.2644	-0.00162	3.15E-06	0.205752	0.391174	1.478716
3.67	0.2644	-0.00162	3.15E-06	0.205666	0.391011	1.478475
3.67	0.2644	-0.00162	3.15E-06	0.205581	0.390849	1.478236
3.67	0.2644	-0.00162	3.15E-06	0.205496	0.390688	1.477997
3.67	0.2644	-0.00162	3.15E-06	0.205411	0.390527	1.477759
3.68	0.2644	-0.00162	3.15E-06	0.205327	0.390367	1.477523
3.68	0.2644	-0.00162	3.15E-06	0.205243	0.390208	1.477287
3.68	0.2644	-0.00162	3.15E-06	0.20516	0.390049	1.477053
3.68	0.2644	-0.00162	3.15E-06	0.205076	0.389891	1.47682
3.68	0.2644	-0.00162	3.15E-06	0.204994	0.389734	1.476587
3.68	0.2644	-0.00162	3.15E-06	0.204911	0.389577	1.476356
3.68	0.2644	-0.00162	3.15E-06	0.204829	0.389421	1.476126
3.69	0.2644	-0.00162	3.15E-06	0.204748	0.389266	1.475896
3.69	0.2644	-0.00162	3.15E-06	0.204666	0.389111	1.475668
3.69	0.2644	-0.00162	3.15E-06	0.204585	0.388957	1.475441
3.69	0.2644	-0.00162	3.15E-06	0.204505	0.388804	1.475215
3.69	0.2644	-0.00162	3.15E-06	0.204424	0.388651	1.474989

3.69	0.2644	-0.00162	3.15E-06	0.204344	0.388499	1.474765
3.69	0.2644	-0.00162	3.15E-06	0.204265	0.388347	1.474542
3.70	0.2644	-0.00162	3.15E-06	0.204185	0.388196	1.474319
3.70	0.2644	-0.00162	3.15E-06	0.204106	0.388046	1.474098
3.70	0.2644	-0.00162	3.15E-06	0.204027	0.387896	1.473877
3.70	0.2644	-0.00162	3.15E-06	0.203949	0.387747	1.473657
3.70	0.2644	-0.00162	3.15E-06	0.203871	0.387599	1.473439
3.70	0.2644	-0.00162	3.15E-06	0.203793	0.387451	1.473221
3.70	0.2644	-0.00162	3.15E-06	0.203716	0.387304	1.473004
3.71	0.2644	-0.00162	3.15E-06	0.203639	0.387157	1.472788
3.71	0.2644	-0.00162	3.15E-06	0.203562	0.387011	1.472573
3.71	0.2644	-0.00162	3.15E-06	0.203485	0.386865	1.472358
3.71	0.2644	-0.00162	3.15E-06	0.203409	0.38672	1.472145
3.71	0.2644	-0.00162	3.15E-06	0.203333	0.386576	1.471932
3.71	0.2644	-0.00162	3.15E-06	0.203257	0.386432	1.471721
3.71	0.2644	-0.00162	3.15E-06	0.203182	0.386289	1.47151
3.72	0.2644	-0.00162	3.15E-06	0.203107	0.386146	1.4713
3.72	0.2644	-0.00162	3.15E-06	0.203032	0.386004	1.47109
3.72	0.2644	-0.00162	3.15E-06	0.202957	0.385862	1.470882
3.72	0.2644	-0.00162	3.15E-06	0.202883	0.385721	1.470674
3.72	0.2644	-0.00162	3.15E-06	0.202809	0.38558	1.470467
3.72	0.2644	-0.00162	3.15E-06	0.202735	0.38544	1.470261
3.72	0.2644	-0.00162	3.15E-06	0.202662	0.385301	1.470056
3.73	0.2644	-0.00162	3.15E-06	0.202589	0.385161	1.469852
3.73	0.2644	-0.00162	3.15E-06	0.202516	0.385023	1.469648
3.73	0.2644	-0.00162	3.15E-06	0.202443	0.384885	1.469445
3.73	0.2644	-0.00162	3.15E-06	0.202371	0.384747	1.469243
3.73	0.2644	-0.00162	3.15E-06	0.202299	0.38461	1.469042
3.73	0.2644	-0.00162	3.15E-06	0.202227	0.384474	1.468841
3.73	0.2644	-0.00162	3.15E-06	0.202156	0.384338	1.468641
3.73	0.2644	-0.00162	3.15E-06	0.202084	0.384202	1.468442
3.74	0.2644	-0.00162	3.15E-06	0.202013	0.384067	1.468244
3.74	0.2644	-0.00162	3.15E-06	0.201942	0.383932	1.468046
3.74	0.2644	-0.00162	3.15E-06	0.201872	0.383798	1.467849
3.74	0.2644	-0.00162	3.15E-06	0.201801	0.383664	1.467653
3.74	0.2644	-0.00162	3.15E-06	0.201731	0.383531	1.467457
3.74	0.2644	-0.00162	3.15E-06	0.201661	0.383398	1.467262
3.74	0.2644	-0.00162	3.15E-06	0.201592	0.383266	1.467068
3.74	0.2644	-0.00162	3.15E-06	0.201523	0.383134	1.466875
3.75	0.2644	-0.00162	3.15E-06	0.201453	0.383003	1.466682
3.75	0.2644	-0.00162	3.15E-06	0.201385	0.382872	1.46649
3.75	0.2644	-0.00162	3.15E-06	0.201316	0.382741	1.466299
3.75	0.2644	-0.00162	3.15E-06	0.201247	0.382611	1.466108
3.75	0.2644	-0.00162	3.15E-06	0.201179	0.382482	1.465918
3.75	0.2644	-0.00162	3.15E-06	0.201111	0.382352	1.465728
3.75	0.2644	-0.00162	3.15E-06	0.201044	0.382224	1.46554
3.75	0.2644	-0.00162	3.15E-06	0.200976	0.382095	1.465352
3.75	0.2644	-0.00162	3.15E-06	0.200909	0.381967	1.465164
3.76	0.2644	-0.00162	3.15E-06	0.200842	0.38184	1.464978
3.76	0.2644	-0.00162	3.15E-06	0.200775	0.381713	1.464791

3.76	0.2644	-0.00162	3.15E-06	0.200708	0.381586	1.464606
3.76	0.2644	-0.00162	3.15E-06	0.200642	0.38146	1.464421
3.76	0.2644	-0.00162	3.15E-06	0.200576	0.381334	1.464237
3.76	0.2644	-0.00162	3.15E-06	0.20051	0.381209	1.464053
3.76	0.2644	-0.00162	3.15E-06	0.200444	0.381084	1.46387
3.76	0.2644	-0.00162	3.15E-06	0.200378	0.380959	1.463688
3.76	0.2644	-0.00162	3.15E-06	0.200313	0.380835	1.463506
3.77	0.2644	-0.00162	3.15E-06	0.200248	0.380711	1.463325
3.77	0.2644	-0.00162	3.15E-06	0.200183	0.380588	1.463144
3.77	0.2644	-0.00162	3.15E-06	0.200118	0.380465	1.462964
3.77	0.2644	-0.00162	3.15E-06	0.200054	0.380342	1.462785
3.77	0.2644	-0.00162	3.15E-06	0.19999	0.38022	1.462606
3.77	0.2644	-0.00162	3.15E-06	0.199925	0.380098	1.462428
3.77	0.2644	-0.00162	3.15E-06	0.199862	0.379976	1.46225
3.77	0.2644	-0.00162	3.15E-06	0.199798	0.379855	1.462073
3.77	0.2644	-0.00162	3.15E-06	0.199734	0.379734	1.461896
3.78	0.2644	-0.00162	3.15E-06	0.199671	0.379614	1.46172
3.78	0.2644	-0.00162	3.15E-06	0.199608	0.379494	1.461545
3.78	0.2644	-0.00162	3.15E-06	0.199545	0.379374	1.46137
3.78	0.2644	-0.00162	3.15E-06	0.199482	0.379255	1.461196
3.78	0.2644	-0.00162	3.15E-06	0.19942	0.379136	1.461022
3.78	0.2644	-0.00162	3.15E-06	0.199357	0.379018	1.460849
3.78	0.2644	-0.00162	3.15E-06	0.199295	0.378899	1.460676
3.78	0.2644	-0.00162	3.15E-06	0.199233	0.378781	1.460504
3.78	0.2644	-0.00162	3.15E-06	0.199171	0.378664	1.460332
3.79	0.2644	-0.00162	3.15E-06	0.19911	0.378547	1.460161
3.79	0.2644	-0.00162	3.15E-06	0.199048	0.37843	1.459991
3.79	0.2644	-0.00162	3.15E-06	0.198987	0.378313	1.459821
3.79	0.2644	-0.00162	3.15E-06	0.198926	0.378197	1.459651
3.79	0.2644	-0.00162	3.15E-06	0.198865	0.378082	1.459482
3.79	0.2644	-0.00162	3.15E-06	0.198804	0.377966	1.459314
3.79	0.2644	-0.00162	3.15E-06	0.198744	0.377851	1.459146
3.79	0.2644	-0.00162	3.15E-06	0.198683	0.377736	1.458978
3.79	0.2644	-0.00162	3.15E-06	0.198623	0.377622	1.458811
3.79	0.2644	-0.00162	3.15E-06	0.198563	0.377508	1.458645
3.80	0.2644	-0.00162	3.15E-06	0.198503	0.377394	1.458479
3.80	0.2644	-0.00162	3.15E-06	0.198444	0.37728	1.458313
3.80	0.2644	-0.00162	3.15E-06	0.198384	0.377167	1.458148
3.80	0.2644	-0.00162	3.15E-06	0.198325	0.377054	1.457984
3.80	0.2644	-0.00162	3.15E-06	0.198266	0.376942	1.45782
3.80	0.2644	-0.00162	3.15E-06	0.198207	0.37683	1.457656
3.80	0.2644	-0.00162	3.15E-06	0.198148	0.376718	1.457493
3.80	0.2644	-0.00162	3.15E-06	0.198089	0.376606	1.45733
3.80	0.2644	-0.00162	3.15E-06	0.198031	0.376495	1.457168
3.80	0.2644	-0.00162	3.15E-06	0.197972	0.376384	1.457007
3.81	0.2644	-0.00162	3.15E-06	0.197914	0.376273	1.456846
3.81	0.2644	-0.00162	3.15E-06	0.197856	0.376163	1.456685
3.81	0.2644	-0.00162	3.15E-06	0.197798	0.376053	1.456525
3.81	0.2644	-0.00162	3.15E-06	0.19774	0.375943	1.456365
3.81	0.2644	-0.00162	3.15E-06	0.197683	0.375834	1.456205

3.81	0.2644	-0.00162	3.15E-06	0.197625	0.375725	1.456046
3.81	0.2644	-0.00162	3.15E-06	0.197568	0.375616	1.455888
3.81	0.2644	-0.00162	3.15E-06	0.197511	0.375507	1.45573
3.81	0.2644	-0.00162	3.15E-06	0.197454	0.375399	1.455572
3.81	0.2644	-0.00162	3.15E-06	0.197397	0.375291	1.455415
3.81	0.2644	-0.00162	3.15E-06	0.197341	0.375184	1.455259
3.82	0.2644	-0.00162	3.15E-06	0.197284	0.375076	1.455102
3.82	0.2644	-0.00162	3.15E-06	0.197228	0.374969	1.454947
3.82	0.2644	-0.00162	3.15E-06	0.197172	0.374862	1.454791
3.82	0.2644	-0.00162	3.15E-06	0.197116	0.374756	1.454636
3.82	0.2644	-0.00162	3.15E-06	0.19706	0.37465	1.454482
3.82	0.2644	-0.00162	3.15E-06	0.197004	0.374544	1.454327
3.82	0.2644	-0.00162	3.15E-06	0.196948	0.374438	1.454174
3.82	0.2644	-0.00162	3.15E-06	0.196893	0.374332	1.45402
3.82	0.2644	-0.00162	3.15E-06	0.196838	0.374227	1.453868
3.82	0.2644	-0.00162	3.15E-06	0.196783	0.374122	1.453715
3.82	0.2644	-0.00162	3.15E-06	0.196728	0.374018	1.453563
3.83	0.2644	-0.00162	3.15E-06	0.196673	0.373914	1.453411
3.83	0.2644	-0.00162	3.15E-06	0.196618	0.373809	1.45326
3.83	0.2644	-0.00162	3.15E-06	0.196563	0.373706	1.453109
3.83	0.2644	-0.00162	3.15E-06	0.196509	0.373602	1.452959
3.83	0.2644	-0.00162	3.15E-06	0.196455	0.373499	1.452809
3.83	0.2644	-0.00162	3.15E-06	0.1964	0.373396	1.452659
3.83	0.2644	-0.00162	3.15E-06	0.196346	0.373293	1.45251
3.83	0.2644	-0.00162	3.15E-06	0.196292	0.373191	1.452361
3.83	0.2644	-0.00162	3.15E-06	0.196239	0.373088	1.452213
3.83	0.2644	-0.00162	3.15E-06	0.196185	0.372986	1.452065
3.83	0.2644	-0.00162	3.15E-06	0.196131	0.372885	1.451917
3.84	0.2644	-0.00162	3.15E-06	0.196078	0.372783	1.451769
3.84	0.2644	-0.00162	3.15E-06	0.196025	0.372682	1.451623
3.84	0.2644	-0.00162	3.15E-06	0.195972	0.372581	1.451476
3.84	0.2644	-0.00162	3.15E-06	0.195919	0.37248	1.45133
3.84	0.2644	-0.00162	3.15E-06	0.195866	0.37238	1.451184
3.84	0.2644	-0.00162	3.15E-06	0.195813	0.37228	1.451039
3.84	0.2644	-0.00162	3.15E-06	0.195761	0.37218	1.450893
3.84	0.2644	-0.00162	3.15E-06	0.195708	0.37208	1.450749
3.84	0.2644	-0.00162	3.15E-06	0.195656	0.37198	1.450604
3.84	0.2644	-0.00162	3.15E-06	0.195604	0.371881	1.45046
3.84	0.2644	-0.00162	3.15E-06	0.195551	0.371782	1.450317
3.84	0.2644	-0.00162	3.15E-06	0.1955	0.371683	1.450174
3.85	0.2644	-0.00162	3.15E-06	0.195448	0.371585	1.450031
3.85	0.2644	-0.00162	3.15E-06	0.195396	0.371486	1.449888
3.85	0.2644	-0.00162	3.15E-06	0.195344	0.371388	1.449746
3.85	0.2644	-0.00162	3.15E-06	0.195293	0.37129	1.449604
3.85	0.2644	-0.00162	3.15E-06	0.195242	0.371193	1.449463
3.85	0.2644	-0.00162	3.15E-06	0.19519	0.371095	1.449321
3.85	0.2644	-0.00162	3.15E-06	0.195139	0.370998	1.449181
3.85	0.2644	-0.00162	3.15E-06	0.195088	0.370901	1.44904
3.85	0.2644	-0.00162	3.15E-06	0.195037	0.370805	1.4489
3.85	0.2644	-0.00162	3.15E-06	0.194987	0.370708	1.44876

3.85	0.2644	-0.00162	3.15E-06	0.194936	0.370612	1.448621
3.85	0.2644	-0.00162	3.15E-06	0.194886	0.370516	1.448482
3.86	0.2644	-0.00162	3.15E-06	0.194835	0.37042	1.448343
3.86	0.2644	-0.00162	3.15E-06	0.194785	0.370325	1.448204
3.86	0.2644	-0.00162	3.15E-06	0.194735	0.370229	1.448066
3.86	0.2644	-0.00162	3.15E-06	0.194685	0.370134	1.447929
3.86	0.2644	-0.00162	3.15E-06	0.194635	0.370039	1.447791
3.86	0.2644	-0.00162	3.15E-06	0.194585	0.369944	1.447654
3.86	0.2644	-0.00162	3.15E-06	0.194535	0.36985	1.447517
3.86	0.2644	-0.00162	3.15E-06	0.194486	0.369756	1.447381
3.86	0.2644	-0.00162	3.15E-06	0.194436	0.369662	1.447245
3.86	0.2644	-0.00162	3.15E-06	0.194387	0.369568	1.447109
3.86	0.2644	-0.00162	3.15E-06	0.194338	0.369474	1.446973
3.86	0.2644	-0.00162	3.15E-06	0.194288	0.369381	1.446838
3.87	0.2644	-0.00162	3.15E-06	0.194239	0.369287	1.446703
3.87	0.2644	-0.00162	3.15E-06	0.19419	0.369194	1.446569
3.87	0.2644	-0.00162	3.15E-06	0.194142	0.369102	1.446434
3.87	0.2644	-0.00162	3.15E-06	0.194093	0.369009	1.446301
3.87	0.2644	-0.00162	3.15E-06	0.194044	0.368917	1.446167
3.87	0.2644	-0.00162	3.15E-06	0.193996	0.368824	1.446034
3.87	0.2644	-0.00162	3.15E-06	0.193947	0.368732	1.445901
3.87	0.2644	-0.00162	3.15E-06	0.193899	0.368641	1.445768
3.87	0.2644	-0.00162	3.15E-06	0.193851	0.368549	1.445635
3.87	0.2644	-0.00162	3.15E-06	0.193803	0.368458	1.445503
3.87	0.2644	-0.00162	3.15E-06	0.193755	0.368366	1.445371
3.87	0.2644	-0.00162	3.15E-06	0.193707	0.368275	1.44524
3.87	0.2644	-0.00162	3.15E-06	0.193659	0.368185	1.445109
3.87	0.2644	-0.00162	3.15E-06	0.193612	0.368094	1.444978
3.88	0.2644	-0.00162	3.15E-06	0.193564	0.368004	1.444847
3.88	0.2644	-0.00162	3.15E-06	0.193517	0.367913	1.444717
3.88	0.2644	-0.00162	3.15E-06	0.193469	0.367823	1.444587
3.88	0.2644	-0.00162	3.15E-06	0.193422	0.367734	1.444457
3.88	0.2644	-0.00162	3.15E-06	0.193375	0.367644	1.444328
3.88	0.2644	-0.00162	3.15E-06	0.193328	0.367554	1.444198
3.88	0.2644	-0.00162	3.15E-06	0.193281	0.367465	1.44407
3.88	0.2644	-0.00162	3.15E-06	0.193234	0.367376	1.443941
3.88	0.2644	-0.00162	3.15E-06	0.193187	0.367287	1.443813
3.88	0.2644	-0.00162	3.15E-06	0.193141	0.367199	1.443685
3.88	0.2644	-0.00162	3.15E-06	0.193094	0.36711	1.443557
3.88	0.2644	-0.00162	3.15E-06	0.193048	0.367022	1.443429
3.88	0.2644	-0.00162	3.15E-06	0.193001	0.366934	1.443302
3.89	0.2644	-0.00162	3.15E-06	0.192955	0.366846	1.443175
3.89	0.2644	-0.00162	3.15E-06	0.192909	0.366758	1.443048
3.89	0.2644	-0.00162	3.15E-06	0.192863	0.36667	1.442922
3.89	0.2644	-0.00162	3.15E-06	0.192817	0.366583	1.442796
3.89	0.2644	-0.00162	3.15E-06	0.192771	0.366496	1.44267
3.89	0.2644	-0.00162	3.15E-06	0.192725	0.366409	1.442545
3.89	0.2644	-0.00162	3.15E-06	0.192679	0.366322	1.442419
3.89	0.2644	-0.00162	3.15E-06	0.192634	0.366235	1.442294
3.89	0.2644	-0.00162	3.15E-06	0.192588	0.366149	1.442169

3.89	0.2644	-0.00162	3.15E-06	0.192543	0.366062	1.442045
3.89	0.2644	-0.00162	3.15E-06	0.192498	0.365976	1.441921
3.89	0.2644	-0.00162	3.15E-06	0.192452	0.36589	1.441797
3.89	0.2644	-0.00162	3.15E-06	0.192407	0.365804	1.441673
3.89	0.2644	-0.00162	3.15E-06	0.192362	0.365719	1.44155
3.90	0.2644	-0.00162	3.15E-06	0.192317	0.365633	1.441426
3.90	0.2644	-0.00162	3.15E-06	0.192272	0.365548	1.441303
3.90	0.2644	-0.00162	3.15E-06	0.192228	0.365463	1.441181
3.90	0.2644	-0.00162	3.15E-06	0.192183	0.365378	1.441058
3.90	0.2644	-0.00162	3.15E-06	0.192138	0.365293	1.440936
3.90	0.2644	-0.00162	3.15E-06	0.192094	0.365208	1.440814
3.90	0.2644	-0.00162	3.15E-06	0.192049	0.365124	1.440692
3.90	0.2644	-0.00162	3.15E-06	0.192005	0.36504	1.440571
3.90	0.2644	-0.00162	3.15E-06	0.191961	0.364955	1.44045
3.90	0.2644	-0.00162	3.15E-06	0.191917	0.364872	1.440329
3.90	0.2644	-0.00162	3.15E-06	0.191873	0.364788	1.440208
3.90	0.2644	-0.00162	3.15E-06	0.191829	0.364704	1.440088
3.90	0.2644	-0.00162	3.15E-06	0.191785	0.364621	1.439968
3.90	0.2644	-0.00162	3.15E-06	0.191741	0.364537	1.439848
3.90	0.2644	-0.00162	3.15E-06	0.191697	0.364454	1.439728
3.91	0.2644	-0.00162	3.15E-06	0.191654	0.364371	1.439609
3.91	0.2644	-0.00162	3.15E-06	0.19161	0.364288	1.439489
3.91	0.2644	-0.00162	3.15E-06	0.191567	0.364206	1.43937
3.91	0.2644	-0.00162	3.15E-06	0.191523	0.364123	1.439252
3.91	0.2644	-0.00162	3.15E-06	0.19148	0.364041	1.439133
3.91	0.2644	-0.00162	3.15E-06	0.191437	0.363959	1.439015
3.91	0.2644	-0.00162	3.15E-06	0.191393	0.363877	1.438897
3.91	0.2644	-0.00162	3.15E-06	0.19135	0.363795	1.438779
3.91	0.2644	-0.00162	3.15E-06	0.191307	0.363713	1.438661
3.91	0.2644	-0.00162	3.15E-06	0.191264	0.363632	1.438544
3.91	0.2644	-0.00162	3.15E-06	0.191222	0.36355	1.438427
3.91	0.2644	-0.00162	3.15E-06	0.191179	0.363469	1.43831
3.91	0.2644	-0.00162	3.15E-06	0.191136	0.363388	1.438193
3.91	0.2644	-0.00162	3.15E-06	0.191094	0.363307	1.438077
3.91	0.2644	-0.00162	3.15E-06	0.191051	0.363226	1.437961
3.92	0.2644	-0.00162	3.15E-06	0.191009	0.363145	1.437845
3.92	0.2644	-0.00162	3.15E-06	0.190966	0.363065	1.437729
3.92	0.2644	-0.00162	3.15E-06	0.190924	0.362985	1.437614
3.92	0.2644	-0.00162	3.15E-06	0.190882	0.362904	1.437498
3.92	0.2644	-0.00162	3.15E-06	0.19084	0.362824	1.437383
3.92	0.2644	-0.00162	3.15E-06	0.190798	0.362744	1.437269
3.92	0.2644	-0.00162	3.15E-06	0.190756	0.362665	1.437154
3.92	0.2644	-0.00162	3.15E-06	0.190714	0.362585	1.43704
3.92	0.2644	-0.00162	3.15E-06	0.190672	0.362506	1.436925
3.92	0.2644	-0.00162	3.15E-06	0.190631	0.362426	1.436811
3.92	0.2644	-0.00162	3.15E-06	0.190589	0.362347	1.436698
3.92	0.2644	-0.00162	3.15E-06	0.190547	0.362268	1.436584
3.92	0.2644	-0.00162	3.15E-06	0.190506	0.362189	1.436471
3.92	0.2644	-0.00162	3.15E-06	0.190464	0.362111	1.436358
3.92	0.2644	-0.00162	3.15E-06	0.190423	0.362032	1.436245

3.92	0.2644	-0.00162	3.15E-06	0.190382	0.361954	1.436132
3.93	0.2644	-0.00162	3.15E-06	0.190341	0.361875	1.43602
3.93	0.2644	-0.00162	3.15E-06	0.1903	0.361797	1.435907
3.93	0.2644	-0.00162	3.15E-06	0.190259	0.361719	1.435795
3.93	0.2644	-0.00162	3.15E-06	0.190218	0.361641	1.435684
3.93	0.2644	-0.00162	3.15E-06	0.190177	0.361563	1.435572
3.93	0.2644	-0.00162	3.15E-06	0.190136	0.361486	1.435461
3.93	0.2644	-0.00162	3.15E-06	0.190095	0.361408	1.435349
3.93	0.2644	-0.00162	3.15E-06	0.190054	0.361331	1.435238
3.93	0.2644	-0.00162	3.15E-06	0.190014	0.361254	1.435128
3.93	0.2644	-0.00162	3.15E-06	0.189973	0.361177	1.435017
3.93	0.2644	-0.00162	3.15E-06	0.189933	0.3611	1.434907
3.93	0.2644	-0.00162	3.15E-06	0.189892	0.361023	1.434796
3.93	0.2644	-0.00162	3.15E-06	0.189852	0.360946	1.434687
3.93	0.2644	-0.00162	3.15E-06	0.189812	0.36087	1.434577
3.93	0.2644	-0.00162	3.15E-06	0.189772	0.360793	1.434467
3.93	0.2644	-0.00162	3.15E-06	0.189732	0.360717	1.434358
3.94	0.2644	-0.00162	3.15E-06	0.189692	0.360641	1.434249
3.94	0.2644	-0.00162	3.15E-06	0.189652	0.360565	1.43414
3.94	0.2644	-0.00162	3.15E-06	0.189612	0.360489	1.434031
3.94	0.2644	-0.00162	3.15E-06	0.189572	0.360414	1.433922
3.94	0.2644	-0.00162	3.15E-06	0.189532	0.360338	1.433814
3.94	0.2644	-0.00162	3.15E-06	0.189492	0.360262	1.433706
3.94	0.2644	-0.00162	3.15E-06	0.189453	0.360187	1.433598
3.94	0.2644	-0.00162	3.15E-06	0.189413	0.360112	1.43349
3.94	0.2644	-0.00162	3.15E-06	0.189374	0.360037	1.433382
3.94	0.2644	-0.00162	3.15E-06	0.189334	0.359962	1.433275
3.94	0.2644	-0.00162	3.15E-06	0.189295	0.359887	1.433168
3.94	0.2644	-0.00162	3.15E-06	0.189256	0.359812	1.433061
3.94	0.2644	-0.00162	3.15E-06	0.189216	0.359738	1.432954
3.94	0.2644	-0.00162	3.15E-06	0.189177	0.359663	1.432847
3.94	0.2644	-0.00162	3.15E-06	0.189138	0.359589	1.432741
3.94	0.2644	-0.00162	3.15E-06	0.189099	0.359515	1.432634
3.94	0.2644	-0.00162	3.15E-06	0.18906	0.359441	1.432528
3.95	0.2644	-0.00162	3.15E-06	0.189021	0.359367	1.432422
3.95	0.2644	-0.00162	3.15E-06	0.188983	0.359293	1.432317
3.95	0.2644	-0.00162	3.15E-06	0.188944	0.359219	1.432211
3.95	0.2644	-0.00162	3.15E-06	0.188905	0.359146	1.432106
3.95	0.2644	-0.00162	3.15E-06	0.188866	0.359072	1.432001
3.95	0.2644	-0.00162	3.15E-06	0.188828	0.358999	1.431896
3.95	0.2644	-0.00162	3.15E-06	0.188789	0.358926	1.431791
3.95	0.2644	-0.00162	3.15E-06	0.188751	0.358853	1.431686
3.95	0.2644	-0.00162	3.15E-06	0.188713	0.35878	1.431582
3.95	0.2644	-0.00162	3.15E-06	0.188674	0.358707	1.431477
3.95	0.2644	-0.00162	3.15E-06	0.188636	0.358634	1.431373
3.95	0.2644	-0.00162	3.15E-06	0.188598	0.358562	1.43127
3.95	0.2644	-0.00162	3.15E-06	0.18856	0.358489	1.431166
3.95	0.2644	-0.00162	3.15E-06	0.188522	0.358417	1.431062
3.95	0.2644	-0.00162	3.15E-06	0.188484	0.358345	1.430959
3.95	0.2644	-0.00162	3.15E-06	0.188446	0.358273	1.430856

3.95	0.2644	-0.00162	3.15E-06	0.188408	0.358201	1.430753
3.96	0.2644	-0.00162	3.15E-06	0.18837	0.358129	1.43065
3.96	0.2644	-0.00162	3.15E-06	0.188332	0.358057	1.430547
3.96	0.2644	-0.00162	3.15E-06	0.188295	0.357985	1.430445
3.96	0.2644	-0.00162	3.15E-06	0.188257	0.357914	1.430342
3.96	0.2644	-0.00162	3.15E-06	0.188219	0.357842	1.43024
3.96	0.2644	-0.00162	3.15E-06	0.188182	0.357771	1.430138
3.96	0.2644	-0.00162	3.15E-06	0.188145	0.3577	1.430036
3.96	0.2644	-0.00162	3.15E-06	0.188107	0.357629	1.429935
3.96	0.2644	-0.00162	3.15E-06	0.18807	0.357558	1.429833
3.96	0.2644	-0.00162	3.15E-06	0.188033	0.357487	1.429732
3.96	0.2644	-0.00162	3.15E-06	0.187995	0.357416	1.429631
3.96	0.2644	-0.00162	3.15E-06	0.187958	0.357346	1.42953
3.96	0.2644	-0.00162	3.15E-06	0.187921	0.357275	1.429429
3.96	0.2644	-0.00162	3.15E-06	0.187884	0.357205	1.429328
3.96	0.2644	-0.00162	3.15E-06	0.187847	0.357134	1.429228
3.96	0.2644	-0.00162	3.15E-06	0.18781	0.357064	1.429128
3.96	0.2644	-0.00162	3.15E-06	0.187773	0.356994	1.429028
3.96	0.2644	-0.00162	3.15E-06	0.187737	0.356924	1.428928
3.96	0.2644	-0.00162	3.15E-06	0.1877	0.356854	1.428828
3.97	0.2644	-0.00162	3.15E-06	0.187663	0.356785	1.428728
3.97	0.2644	-0.00162	3.15E-06	0.187627	0.356715	1.428629
3.97	0.2644	-0.00162	3.15E-06	0.18759	0.356646	1.428529
3.97	0.2644	-0.00162	3.15E-06	0.187553	0.356576	1.42843
3.97	0.2644	-0.00162	3.15E-06	0.187517	0.356507	1.428331
3.97	0.2644	-0.00162	3.15E-06	0.187481	0.356438	1.428232
3.97	0.2644	-0.00162	3.15E-06	0.187444	0.356369	1.428134
3.97	0.2644	-0.00162	3.15E-06	0.187408	0.3563	1.428035
3.97	0.2644	-0.00162	3.15E-06	0.187372	0.356231	1.427937
3.97	0.2644	-0.00162	3.15E-06	0.187336	0.356162	1.427839
3.97	0.2644	-0.00162	3.15E-06	0.187299	0.356093	1.427741
3.97	0.2644	-0.00162	3.15E-06	0.187263	0.356025	1.427643
3.97	0.2644	-0.00162	3.15E-06	0.187227	0.355956	1.427545
3.97	0.2644	-0.00162	3.15E-06	0.187191	0.355888	1.427447
3.97	0.2644	-0.00162	3.15E-06	0.187156	0.35582	1.42735
3.97	0.2644	-0.00162	3.15E-06	0.18712	0.355751	1.427253
3.97	0.2644	-0.00162	3.15E-06	0.187084	0.355683	1.427156
3.97	0.2644	-0.00162	3.15E-06	0.187048	0.355616	1.427059
3.98	0.2644	-0.00162	3.15E-06	0.187012	0.355548	1.426962
3.98	0.2644	-0.00162	3.15E-06	0.186977	0.35548	1.426865
3.98	0.2644	-0.00162	3.15E-06	0.186941	0.355412	1.426769
3.98	0.2644	-0.00162	3.15E-06	0.186906	0.355345	1.426672
3.98	0.2644	-0.00162	3.15E-06	0.18687	0.355277	1.426576
3.98	0.2644	-0.00162	3.15E-06	0.186835	0.35521	1.42648
3.98	0.2644	-0.00162	3.15E-06	0.1868	0.355143	1.426384
3.98	0.2644	-0.00162	3.15E-06	0.186764	0.355076	1.426289
3.98	0.2644	-0.00162	3.15E-06	0.186729	0.355009	1.426193
3.98	0.2644	-0.00162	3.15E-06	0.186694	0.354942	1.426098
3.98	0.2644	-0.00162	3.15E-06	0.186659	0.354875	1.426002
3.98	0.2644	-0.00162	3.15E-06	0.186624	0.354808	1.425907

3.98	0.2644	-0.00162	3.15E-06	0.186589	0.354742	1.425812
3.98	0.2644	-0.00162	3.15E-06	0.186554	0.354675	1.425717
3.98	0.2644	-0.00162	3.15E-06	0.186519	0.354609	1.425623
3.98	0.2644	-0.00162	3.15E-06	0.186484	0.354542	1.425528
3.98	0.2644	-0.00162	3.15E-06	0.186449	0.354476	1.425434
3.98	0.2644	-0.00162	3.15E-06	0.186414	0.35441	1.425339
3.98	0.2644	-0.00162	3.15E-06	0.186379	0.354344	1.425245
3.98	0.2644	-0.00162	3.15E-06	0.186345	0.354278	1.425151
3.99	0.2644	-0.00162	3.15E-06	0.18631	0.354212	1.425057
3.99	0.2644	-0.00162	3.15E-06	0.186275	0.354146	1.424964
3.99	0.2644	-0.00162	3.15E-06	0.186241	0.354081	1.42487
3.99	0.2644	-0.00162	3.15E-06	0.186206	0.354015	1.424777
3.99	0.2644	-0.00162	3.15E-06	0.186172	0.35395	1.424684
3.99	0.2644	-0.00162	3.15E-06	0.186138	0.353884	1.42459
3.99	0.2644	-0.00162	3.15E-06	0.186103	0.353819	1.424497
3.99	0.2644	-0.00162	3.15E-06	0.186069	0.353754	1.424405
3.99	0.2644	-0.00162	3.15E-06	0.186035	0.353689	1.424312
3.99	0.2644	-0.00162	3.15E-06	0.186001	0.353624	1.424219
3.99	0.2644	-0.00162	3.15E-06	0.185966	0.353559	1.424127
3.99	0.2644	-0.00162	3.15E-06	0.185932	0.353494	1.424035
3.99	0.2644	-0.00162	3.15E-06	0.185898	0.353429	1.423943
3.99	0.2644	-0.00162	3.15E-06	0.185864	0.353365	1.42385
3.99	0.2644	-0.00162	3.15E-06	0.18583	0.3533	1.423759
3.99	0.2644	-0.00162	3.15E-06	0.185797	0.353236	1.423667
3.99	0.2644	-0.00162	3.15E-06	0.185763	0.353172	1.423575
3.99	0.2644	-0.00162	3.15E-06	0.185729	0.353107	1.423484
3.99	0.2644	-0.00162	3.15E-06	0.185695	0.353043	1.423392
3.99	0.2644	-0.00162	3.15E-06	0.185661	0.352979	1.423301
4.00	0.2644	-0.00162	3.15E-06	0.185628	0.352915	1.42321
4.00	0.2644	-0.00162	3.15E-06	0.185594	0.352851	1.423119
4.00	0.2644	-0.00162	3.15E-06	0.185561	0.352787	1.423029
4.00	0.2644	-0.00162	3.15E-06	0.185527	0.352724	1.422938
4.00	0.2644	-0.00162	3.15E-06	0.185494	0.35266	1.422847
4.00	0.2644	-0.00162	3.15E-06	0.18546	0.352597	1.422757
4.00	0.2644	-0.00162	3.15E-06	0.185427	0.352533	1.422667
4.00	0.2644	-0.00162	3.15E-06	0.185394	0.35247	1.422577

Location Index	
England and Wales	1
Scotland and Ireland	2

From Design and Analysis of Urban Storm Drainage, The Wallingford Procedure, Vol 1					
Table 6.1 Values of Constants to calculate Cr					
Geographic Location	Range of M5-D	Location Index	J0	J1	J2
England and Wales	0-10	1	0.1699	0.0028	0.000114
	11-30		0.1644	0.005831	-0.00013
	31-75		0.2644	-0.00162	3.15E-06
	76-150		0.2718	-0.00195	6.19E-06
	>150		0.1454	-0.00019	1.14E-07

Integra Consulting Calculations						Job No	Date
						3340	13.08.22
						Sheet 01	By JS
Job Title Dragon Packaging							
Storm Water Flood Model M5-60 = 18.00 r = 0.35 Return, T = 100 CC Factor = 0.40 Area (m²) = 7039 Limit (l/s) = 5.0 Totals 313 488							
D (mins)	M5-D (mm)	MT-D (mm)	Rate (mm/hr)	Flow (l/s)	CC Flow (l/s)	Storage (m ³)	CC Storage (m ³)
10.00	9.04	17.06	102.33	198.80	278.33	116.28	164.00
15.00	10.86	21.10	84.38	163.93	229.51	143.04	202.05
20.00	12.22	23.88	71.63	139.17	194.84	161.00	227.80
25.00	13.32	26.23	62.96	122.31	171.23	175.96	249.34
30.00	14.24	28.22	56.44	109.64	153.50	188.35	267.30
35.00	15.04	29.94	51.33	99.72	139.61	198.91	282.68
40.00	15.75	31.47	47.20	91.70	128.39	208.09	296.13
45.00	16.39	32.84	43.79	85.07	119.10	216.19	308.06
50.00	16.97	34.09	40.91	79.47	111.26	223.42	318.78
55.00	17.50	35.23	38.44	74.68	104.55	229.93	328.50
60.00	18.00	36.29	36.29	70.51	98.72	235.84	337.38
65.00	18.46	37.28	34.41	66.86	93.60	241.24	345.53
70.00	18.90	38.20	32.75	63.62	89.06	246.19	353.07
75.00	19.31	39.07	31.26	60.72	85.01	250.75	360.06
80.00	19.70	39.89	29.92	58.12	81.37	254.98	366.57
85.00	20.07	40.66	28.70	55.76	78.07	258.89	372.65
90.00	20.43	41.40	27.60	53.62	75.07	262.54	378.36
95.00	20.77	42.10	26.59	51.66	72.32	265.94	383.71
100.00	21.09	42.77	25.66	49.85	69.79	269.11	388.76
105.00	21.41	43.41	24.80	48.19	67.46	272.09	393.52
110.00	21.71	44.02	24.01	46.65	65.31	274.87	398.02
115.00	22.00	44.61	23.27	45.21	63.30	277.48	402.28
120.00	22.28	45.17	22.59	43.88	61.43	279.94	406.31
125.00	22.55	45.72	21.94	42.63	59.69	282.24	410.14
130.00	22.81	46.24	21.34	41.46	58.05	284.41	413.78
135.00	23.07	46.75	20.78	40.37	56.51	286.46	417.24
140.00	23.32	47.24	20.24	39.33	55.06	288.38	420.53
145.00	23.56	47.71	19.74	38.36	53.70	290.19	423.67
150.00	23.80	48.17	19.27	37.43	52.41	291.90	426.66
155.00	24.03	48.61	18.82	36.56	51.18	293.51	429.51
160.00	24.25	49.05	18.39	35.73	50.02	295.02	432.23
165.00	24.47	49.46	17.99	34.94	48.92	296.45	434.83
170.00	24.68	49.87	17.60	34.20	47.87	297.79	437.31
175.00	24.89	50.27	17.23	33.48	46.87	299.06	439.68
180.00	25.10	50.65	16.88	32.80	45.92	300.25	441.95
185.00	25.30	51.03	16.55	32.15	45.01	301.37	444.11
190.00	25.49	51.39	16.23	31.53	44.14	302.42	446.18
195.00	25.68	51.74	15.92	30.93	43.30	303.40	448.16
200.00	25.87	52.09	15.63	30.36	42.50	304.32	450.05

205.00	26.06	52.43	15.35	29.81	41.74	305.19	451.86
210.00	26.24	52.76	15.07	29.29	41.00	305.99	453.59
215.00	26.42	53.08	14.81	28.78	40.29	306.75	455.24
220.00	26.59	53.40	14.56	28.29	39.61	307.45	456.82
225.00	26.77	53.70	14.32	27.82	38.95	308.10	458.33
230.00	26.93	54.00	14.09	27.37	38.32	308.70	459.78
235.00	27.10	54.30	13.86	26.93	37.71	309.25	461.16
240.00	27.27	54.58	13.65	26.51	37.12	309.76	462.47
245.00	27.43	54.87	13.44	26.10	36.55	310.23	463.73
250.00	27.59	55.14	13.23	25.71	35.99	310.66	464.92
255.00	27.74	55.41	13.04	25.33	35.46	311.05	466.06
260.00	27.90	55.68	12.85	24.96	34.95	311.39	467.15
265.00	28.05	55.93	12.66	24.60	34.45	311.71	468.19
270.00	28.20	56.19	12.49	24.26	33.96	311.98	469.17
275.00	28.35	56.44	12.31	23.92	33.49	312.22	470.11
280.00	28.49	56.68	12.15	23.60	33.04	312.43	471.00
285.00	28.64	56.92	11.98	23.28	32.59	312.60	471.84
290.00	28.78	57.16	11.83	22.97	32.16	312.74	472.64
295.00	28.92	57.39	11.67	22.68	31.75	312.86	473.40
300.00	29.06	57.61	11.52	22.39	31.34	312.94	474.11
305.00	29.19	57.83	11.38	22.10	30.94	312.99	474.79
310.00	29.33	58.05	11.24	21.83	30.56	313.02	475.42
315.00	29.46	58.27	11.10	21.56	30.19	313.01	476.02
320.00	29.59	58.48	10.96	21.30	29.82	312.99	476.58
325.00	29.72	58.68	10.83	21.05	29.47	312.93	477.10
330.00	29.85	58.89	10.71	20.80	29.12	312.85	477.59
335.00	29.98	59.09	10.58	20.56	28.78	312.75	478.05
340.00	30.11	59.28	10.46	20.32	28.45	312.62	478.47
345.00	30.23	59.48	10.34	20.10	28.13	312.47	478.86
350.00	30.35	59.67	10.23	19.87	27.82	312.30	479.22
355.00	30.47	59.85	10.12	19.65	27.51	312.10	479.54
360.00	30.60	60.04	10.01	19.44	27.21	311.89	479.84
365.00	30.71	60.22	9.90	19.23	26.92	311.65	480.11
370.00	30.83	60.39	9.79	19.03	26.64	311.39	480.35
375.00	30.95	60.57	9.69	18.83	26.36	311.11	480.56
380.00	31.07	60.96	9.62	18.70	26.18	312.34	482.87
385.00	31.18	61.15	9.53	18.51	25.92	312.19	483.27
390.00	31.29	61.34	9.44	18.33	25.67	312.04	483.65
395.00	31.41	61.53	9.35	18.16	25.42	311.86	484.01
400.00	31.52	61.72	9.26	17.99	25.18	311.68	484.35
405.00	31.63	61.91	9.17	17.82	24.95	311.48	484.67
410.00	31.74	62.09	9.09	17.65	24.71	311.27	484.97
415.00	31.85	62.27	9.00	17.49	24.49	311.04	485.26
420.00	31.95	62.45	8.92	17.33	24.27	310.81	485.53
425.00	32.06	62.63	8.84	17.18	24.05	310.56	485.78
430.00	32.17	62.81	8.76	17.03	23.84	310.29	486.01
435.00	32.27	62.99	8.69	16.88	23.63	310.02	486.23
440.00	32.37	63.16	8.61	16.73	23.43	309.74	486.43
445.00	32.48	63.33	8.54	16.59	23.23	309.44	486.62
450.00	32.58	63.50	8.47	16.45	23.03	309.13	486.79

455.00	32.68	63.67	8.40	16.31	22.84	308.81	486.94
460.00	32.78	63.84	8.33	16.18	22.65	308.49	487.08
465.00	32.88	64.00	8.26	16.04	22.46	308.15	487.20
470.00	32.98	64.17	8.19	15.91	22.28	307.80	487.32
475.00	33.08	64.33	8.13	15.79	22.10	307.44	487.41
480.00	33.17	64.49	8.06	15.66	21.93	307.07	487.50
485.00	33.27	64.65	8.00	15.54	21.75	306.69	487.56
490.00	33.37	64.81	7.94	15.42	21.59	306.30	487.62
495.00	33.46	64.97	7.88	15.30	21.42	305.90	487.66
500.00	33.56	65.13	7.82	15.18	21.26	305.50	487.69
505.00	33.65	65.28	7.76	15.07	21.10	305.08	487.71
510.00	33.74	65.44	7.70	14.96	20.94	304.66	487.72
515.00	33.84	65.59	7.64	14.85	20.78	304.22	487.71
520.00	33.93	65.74	7.59	14.74	20.63	303.78	487.69
525.00	34.02	65.89	7.53	14.63	20.48	303.33	487.66
530.00	34.11	66.04	7.48	14.52	20.33	302.87	487.62
535.00	34.20	66.19	7.42	14.42	20.19	302.41	487.57
540.00	34.29	66.33	7.37	14.32	20.05	301.93	487.51
545.00	34.38	66.48	7.32	14.22	19.91	301.45	487.43
550.00	34.46	66.62	7.27	14.12	19.77	300.96	487.34
555.00	34.55	66.77	7.22	14.02	19.63	300.46	487.25
560.00	34.64	66.91	7.17	13.93	19.50	299.96	487.14
565.00	34.72	67.05	7.12	13.83	19.37	299.45	487.03
570.00	34.81	67.19	7.07	13.74	19.24	298.93	486.90
575.00	34.89	67.33	7.03	13.65	19.11	298.40	486.76
580.00	34.98	67.47	6.98	13.56	18.98	297.87	486.62
585.00	35.06	67.61	6.93	13.47	18.86	297.33	486.46
590.00	35.15	67.74	6.89	13.38	18.74	296.78	486.30
595.00	35.23	67.88	6.84	13.30	18.62	296.23	486.12
600.00	35.31	68.01	6.80	13.21	18.50	295.67	485.94
605.00	35.39	68.15	6.76	13.13	18.38	295.10	485.74
610.00	35.48	68.28	6.72	13.05	18.27	294.53	485.54
615.00	35.56	68.41	6.67	12.97	18.15	293.95	485.33
620.00	35.64	68.54	6.63	12.89	18.04	293.37	485.11
625.00	35.72	68.67	6.59	12.81	17.93	292.78	484.89
630.00	35.80	68.80	6.55	12.73	17.82	292.18	484.65
635.00	35.87	68.93	6.51	12.65	17.71	291.58	484.41
640.00	35.95	69.06	6.47	12.58	17.61	290.97	484.16
645.00	36.03	69.18	6.44	12.50	17.50	290.35	483.90
650.00	36.11	69.31	6.40	12.43	17.40	289.73	483.63
655.00	36.19	69.43	6.36	12.36	17.30	289.11	483.35
660.00	36.26	69.56	6.32	12.28	17.20	288.48	483.07
665.00	36.34	69.68	6.29	12.21	17.10	287.84	482.78
670.00	36.42	69.80	6.25	12.14	17.00	287.20	482.48
675.00	36.49	69.93	6.22	12.08	16.91	286.55	482.17
680.00	36.57	70.05	6.18	12.01	16.81	285.90	481.86
685.00	36.64	70.17	6.15	11.94	16.72	285.24	481.54
690.00	36.72	70.29	6.11	11.87	16.62	284.58	481.21
695.00	36.79	70.41	6.08	11.81	16.53	283.91	480.88
700.00	36.86	70.52	6.04	11.74	16.44	283.24	480.54

705.00	36.94	70.64	6.01	11.68	16.35	282.56	480.19
710.00	37.01	70.76	5.98	11.62	16.26	281.88	479.83
715.00	37.08	70.87	5.95	11.55	16.18	281.20	479.47
720.00	37.15	70.99	5.92	11.49	16.09	280.50	479.11
725.00	37.22	71.11	5.88	11.43	16.01	279.81	478.73
730.00	37.30	71.22	5.85	11.37	15.92	279.11	478.35
735.00	37.37	71.33	5.82	11.31	15.84	278.40	477.96
740.00	37.44	71.45	5.79	11.25	15.76	277.69	477.57
745.00	37.51	71.56	5.76	11.20	15.67	276.98	477.17
750.00	37.58	71.67	5.73	11.14	15.59	276.26	476.77
755.00	37.65	71.78	5.70	11.08	15.52	275.54	476.35
760.00	37.72	71.89	5.68	11.03	15.44	274.81	475.94
765.00	37.79	72.00	5.65	10.97	15.36	274.08	475.51
770.00	37.85	72.11	5.62	10.92	15.28	273.35	475.08
775.00	37.92	72.22	5.59	10.86	15.21	272.61	474.65
780.00	37.99	72.33	5.56	10.81	15.13	271.86	474.21
785.00	38.06	72.44	5.54	10.76	15.06	271.12	473.76
790.00	38.12	72.54	5.51	10.70	14.99	270.37	473.31
795.00	38.19	72.65	5.48	10.65	14.91	269.61	472.85
800.00	38.26	72.76	5.46	10.60	14.84	268.85	472.39
805.00	38.32	72.86	5.43	10.55	14.77	268.09	471.92
810.00	38.39	72.97	5.40	10.50	14.70	267.32	471.45
815.00	38.46	73.07	5.38	10.45	14.63	266.55	470.97
820.00	38.52	73.17	5.35	10.40	14.56	265.78	470.49
825.00	38.59	73.28	5.33	10.35	14.49	265.00	470.00
830.00	38.65	73.38	5.30	10.31	14.43	264.22	469.51
835.00	38.72	73.48	5.28	10.26	14.36	263.43	469.01
840.00	38.78	73.58	5.26	10.21	14.30	262.65	468.51
845.00	38.84	73.69	5.23	10.16	14.23	261.86	468.00
850.00	38.91	73.79	5.21	10.12	14.17	261.06	467.48
855.00	38.97	73.89	5.19	10.07	14.10	260.26	466.97
860.00	39.03	73.99	5.16	10.03	14.04	259.46	466.44
865.00	39.10	74.09	5.14	9.98	13.98	258.65	465.92
870.00	39.16	74.18	5.12	9.94	13.92	257.85	465.38
875.00	39.22	74.28	5.09	9.90	13.85	257.03	464.85
880.00	39.28	74.38	5.07	9.85	13.79	256.22	464.31
885.00	39.35	74.48	5.05	9.81	13.73	255.40	463.76
890.00	39.41	74.58	5.03	9.77	13.67	254.58	463.21
895.00	39.47	74.67	5.01	9.73	13.62	253.75	462.66
900.00	39.53	74.77	4.98	9.68	13.56	252.93	462.10
905.00	39.59	74.86	4.96	9.64	13.50	252.10	461.53
910.00	39.65	74.96	4.94	9.60	13.44	251.26	460.97
915.00	39.71	75.05	4.92	9.56	13.39	250.42	460.39
920.00	39.77	75.15	4.90	9.52	13.33	249.58	459.82
925.00	39.83	75.24	4.88	9.48	13.27	248.74	459.24
930.00	39.89	75.34	4.86	9.44	13.22	247.90	458.65
935.00	39.95	75.43	4.84	9.40	13.17	247.05	458.07
940.00	40.01	75.52	4.82	9.37	13.11	246.20	457.47
945.00	40.07	75.61	4.80	9.33	13.06	245.34	456.88
950.00	40.13	75.71	4.78	9.29	13.00	244.48	456.28

955.00	40.19	75.80	4.76	9.25	12.95	243.62	455.67
960.00	40.25	75.89	4.74	9.21	12.90	242.76	455.07
965.00	40.30	75.98	4.72	9.18	12.85	241.90	454.45
970.00	40.36	76.07	4.71	9.14	12.80	241.03	453.84
975.00	40.42	76.16	4.69	9.11	12.75	240.16	453.22
980.00	40.48	76.25	4.67	9.07	12.70	239.28	452.60
985.00	40.53	76.34	4.65	9.03	12.65	238.41	451.97
990.00	40.59	76.43	4.63	9.00	12.60	237.53	451.34
995.00	40.65	76.52	4.61	8.96	12.55	236.65	450.70
1000.00	40.70	76.60	4.60	8.93	12.50	235.76	450.07
1005.00	40.76	76.69	4.58	8.90	12.45	234.88	449.43
1010.00	40.82	76.78	4.56	8.86	12.41	233.99	448.78
1015.00	40.87	76.87	4.54	8.83	12.36	233.09	448.13
1020.00	40.93	76.95	4.53	8.79	12.31	232.20	447.48
1025.00	40.98	77.04	4.51	8.76	12.27	231.30	446.83
1030.00	41.04	77.12	4.49	8.73	12.22	230.41	446.17
1035.00	41.09	77.21	4.48	8.70	12.17	229.50	445.51
1040.00	41.15	77.30	4.46	8.66	12.13	228.60	444.84
1045.00	41.20	77.38	4.44	8.63	12.08	227.69	444.17
1050.00	41.26	77.46	4.43	8.60	12.04	226.79	443.50
1055.00	41.31	77.55	4.41	8.57	12.00	225.87	442.82
1060.00	41.37	77.63	4.39	8.54	11.95	224.96	442.15
1065.00	41.42	77.72	4.38	8.51	11.91	224.05	441.46
1070.00	41.47	77.80	4.36	8.48	11.87	223.13	440.78
1075.00	41.53	77.88	4.35	8.45	11.82	222.21	440.09
1080.00	41.58	77.97	4.33	8.41	11.78	221.29	439.40
1085.00	41.63	78.05	4.32	8.38	11.74	220.36	438.71
1090.00	41.69	78.13	4.30	8.36	11.70	219.44	438.01
1095.00	41.74	78.21	4.29	8.33	11.66	218.51	437.31
1100.00	41.79	78.29	4.27	8.30	11.62	217.58	436.61
1105.00	41.85	78.37	4.26	8.27	11.57	216.64	435.90
1110.00	41.90	78.45	4.24	8.24	11.53	215.71	435.19
1115.00	41.95	78.54	4.23	8.21	11.49	214.77	434.48
1120.00	42.00	78.62	4.21	8.18	11.45	213.83	433.76
1125.00	42.05	78.70	4.20	8.15	11.42	212.89	433.05
1130.00	42.11	78.77	4.18	8.13	11.38	211.95	432.33
1135.00	42.16	78.85	4.17	8.10	11.34	211.00	431.60
1140.00	42.21	78.93	4.15	8.07	11.30	210.05	430.87
1145.00	42.26	79.01	4.14	8.04	11.26	209.10	430.15
1150.00	42.31	79.09	4.13	8.02	11.22	208.15	429.41
1155.00	42.36	79.17	4.11	7.99	11.19	207.20	428.68
1160.00	42.41	79.25	4.10	7.96	11.15	206.24	427.94
1165.00	42.46	79.32	4.09	7.94	11.11	205.29	427.20
1170.00	42.51	79.40	4.07	7.91	11.07	204.33	426.46
1175.00	42.56	79.48	4.06	7.88	11.04	203.37	425.71
1180.00	42.61	79.55	4.05	7.86	11.00	202.40	424.96
1185.00	42.66	79.63	4.03	7.83	10.97	201.44	424.21
1190.00	42.71	79.71	4.02	7.81	10.93	200.47	423.46
1195.00	42.76	79.78	4.01	7.78	10.90	199.50	422.70
1200.00	42.81	79.86	3.99	7.76	10.86	198.53	421.94

1205.00	42.86	79.93	3.98	7.73	10.83	197.56	421.18
1210.00	42.91	80.01	3.97	7.71	10.79	196.58	420.42
1215.00	42.96	80.08	3.95	7.68	10.76	195.61	419.65
1220.00	43.01	80.16	3.94	7.66	10.72	194.63	418.88
1225.00	43.06	80.23	3.93	7.63	10.69	193.65	418.11
1230.00	43.11	80.31	3.92	7.61	10.65	192.67	417.34
1235.00	43.15	80.38	3.91	7.59	10.62	191.69	416.56
1240.00	43.20	80.46	3.89	7.56	10.59	190.70	415.78
1245.00	43.25	80.53	3.88	7.54	10.56	189.71	415.00
1250.00	43.30	80.60	3.87	7.52	10.52	188.73	414.22
1255.00	43.35	80.67	3.86	7.49	10.49	187.74	413.43
1260.00	43.39	80.75	3.85	7.47	10.46	186.74	412.64
1265.00	43.44	80.82	3.83	7.45	10.43	185.75	411.85
1270.00	43.49	80.89	3.82	7.42	10.39	184.76	411.06
1275.00	43.54	80.96	3.81	7.40	10.36	183.76	410.26
1280.00	43.58	81.04	3.80	7.38	10.33	182.76	409.47
1285.00	43.63	81.11	3.79	7.36	10.30	181.76	408.67
1290.00	43.68	81.18	3.78	7.34	10.27	180.76	407.86
1295.00	43.72	81.25	3.76	7.31	10.24	179.76	407.06
1300.00	43.77	81.32	3.75	7.29	10.21	178.75	406.25
1305.00	43.82	81.39	3.74	7.27	10.18	177.75	405.44
1310.00	43.86	81.46	3.73	7.25	10.15	176.74	404.63
1315.00	43.91	81.53	3.72	7.23	10.12	175.73	403.82
1320.00	43.96	81.60	3.71	7.21	10.09	174.72	403.00
1325.00	44.00	81.67	3.70	7.18	10.06	173.71	402.19
1330.00	44.05	81.74	3.69	7.16	10.03	172.69	401.37
1335.00	44.09	81.81	3.68	7.14	10.00	171.68	400.55
1340.00	44.14	81.88	3.67	7.12	9.97	170.66	399.72
1345.00	44.19	81.95	3.66	7.10	9.94	169.64	398.90
1350.00	44.23	82.02	3.65	7.08	9.91	168.62	398.07
1355.00	44.28	82.08	3.63	7.06	9.89	167.60	397.24
1360.00	44.32	82.15	3.62	7.04	9.86	166.58	396.41
1365.00	44.37	82.22	3.61	7.02	9.83	165.55	395.57
1370.00	44.41	82.29	3.60	7.00	9.80	164.53	394.74
1375.00	44.46	82.36	3.59	6.98	9.77	163.50	393.90
1380.00	44.50	82.42	3.58	6.96	9.75	162.47	393.06
1385.00	44.54	82.49	3.57	6.94	9.72	161.44	392.21
1390.00	44.59	82.56	3.56	6.92	9.69	160.41	391.37
1395.00	44.63	82.62	3.55	6.90	9.67	159.37	390.52
1400.00	44.68	82.69	3.54	6.88	9.64	158.34	389.68
1405.00	44.72	82.76	3.53	6.87	9.61	157.30	388.83
1410.00	44.77	82.82	3.52	6.85	9.59	156.27	387.97
1415.00	44.81	82.89	3.51	6.83	9.56	155.23	387.12
1420.00	44.85	82.96	3.51	6.81	9.53	154.19	386.26
1425.00	44.90	83.02	3.50	6.79	9.51	153.15	385.41
1430.00	44.94	83.09	3.49	6.77	9.48	152.10	384.55
1435.00	44.98	83.15	3.48	6.75	9.46	151.06	383.69
1440.00	45.03	83.22	3.47	6.74	9.43	150.02	382.82
1445.00	45.07	83.28	3.46	6.72	9.41	148.97	381.96
1450.00	45.11	83.35	3.45	6.70	9.38	147.92	381.09

1455.00	45.16	83.41	3.44	6.68	9.36	146.87	380.22
1460.00	45.20	83.48	3.43	6.66	9.33	145.82	379.35
1465.00	45.24	83.54	3.42	6.65	9.31	144.77	378.48
1470.00	45.28	83.60	3.41	6.63	9.28	143.72	377.60
1475.00	45.33	83.67	3.40	6.61	9.26	142.66	376.73
1480.00	45.37	83.73	3.39	6.59	9.23	141.61	375.85
1485.00	45.41	83.79	3.39	6.58	9.21	140.55	374.97
1490.00	45.45	83.86	3.38	6.56	9.18	139.49	374.09
1495.00	45.50	83.92	3.37	6.54	9.16	138.43	373.21
1500.00	45.54	83.98	3.36	6.53	9.14	137.37	372.32
1505.00	45.58	84.05	3.35	6.51	9.11	136.31	371.44
1510.00	45.62	84.11	3.34	6.49	9.09	135.25	370.55
1515.00	45.66	84.17	3.33	6.48	9.07	134.18	369.66
1520.00	45.70	84.23	3.32	6.46	9.04	133.12	368.77
1525.00	45.75	84.29	3.32	6.44	9.02	132.05	367.87
1530.00	45.79	84.36	3.31	6.43	9.00	130.99	366.98
1535.00	45.83	84.42	3.30	6.41	8.97	129.92	366.08
1540.00	45.87	84.48	3.29	6.39	8.95	128.85	365.19
1545.00	45.91	84.54	3.28	6.38	8.93	127.78	364.29
1550.00	45.95	84.60	3.27	6.36	8.91	126.70	363.38
1555.00	45.99	84.66	3.27	6.35	8.89	125.63	362.48
1560.00	46.03	84.72	3.26	6.33	8.86	124.56	361.58
1565.00	46.07	84.78	3.25	6.32	8.84	123.48	360.67
1570.00	46.12	84.85	3.24	6.30	8.82	122.40	359.76
1575.00	46.16	84.91	3.23	6.28	8.80	121.32	358.85
1580.00	46.20	84.97	3.23	6.27	8.78	120.25	357.94
1585.00	46.24	85.03	3.22	6.25	8.75	119.17	357.03
1590.00	46.28	85.09	3.21	6.24	8.73	118.08	356.12
1595.00	46.32	85.15	3.20	6.22	8.71	117.00	355.20
1600.00	46.36	85.20	3.20	6.21	8.69	115.92	354.29
1605.00	46.40	85.26	3.19	6.19	8.67	114.83	353.37
1610.00	46.44	85.32	3.18	6.18	8.65	113.75	352.45
1615.00	46.48	85.38	3.17	6.16	8.63	112.66	351.53
1620.00	46.52	85.44	3.16	6.15	8.61	111.57	350.60
1625.00	46.56	85.50	3.16	6.13	8.59	110.48	349.68
1630.00	46.60	85.56	3.15	6.12	8.57	109.39	348.75
1635.00	46.63	85.62	3.14	6.10	8.55	108.30	347.83
1640.00	46.67	85.68	3.13	6.09	8.53	107.21	346.90
1645.00	46.71	85.73	3.13	6.08	8.51	106.12	345.97
1650.00	46.75	85.79	3.12	6.06	8.49	105.02	345.03
1655.00	46.79	85.85	3.11	6.05	8.47	103.93	344.10
1660.00	46.83	85.91	3.11	6.03	8.45	102.83	343.17
1665.00	46.87	85.97	3.10	6.02	8.43	101.74	342.23
1670.00	46.91	86.02	3.09	6.00	8.41	100.64	341.29
1675.00	46.95	86.08	3.08	5.99	8.39	99.54	340.36
1680.00	46.99	86.14	3.08	5.98	8.37	98.44	339.42
1685.00	47.02	86.19	3.07	5.96	8.35	97.34	338.47
1690.00	47.06	86.25	3.06	5.95	8.33	96.24	337.53
1695.00	47.10	86.31	3.06	5.94	8.31	95.13	336.59
1700.00	47.14	86.36	3.05	5.92	8.29	94.03	335.64

1705.00	47.18	86.42	3.04	5.91	8.27	92.92	334.69
1710.00	47.22	86.48	3.03	5.89	8.25	91.82	333.75
1715.00	47.25	86.53	3.03	5.88	8.23	90.71	332.80
1720.00	47.29	86.59	3.02	5.87	8.22	89.60	331.84
1725.00	47.33	86.65	3.01	5.86	8.20	88.49	330.89
1730.00	47.37	86.70	3.01	5.84	8.18	87.38	329.94
1735.00	47.41	86.76	3.00	5.83	8.16	86.27	328.98
1740.00	47.44	86.81	2.99	5.82	8.14	85.16	328.03
1745.00	47.48	86.87	2.99	5.80	8.12	84.05	327.07
1750.00	47.52	86.92	2.98	5.79	8.11	82.94	326.11
1755.00	47.56	86.98	2.97	5.78	8.09	81.82	325.15
1760.00	47.59	87.03	2.97	5.76	8.07	80.71	324.19
1765.00	47.63	87.09	2.96	5.75	8.05	79.59	323.23
1770.00	47.67	87.14	2.95	5.74	8.03	78.47	322.26
1775.00	47.70	87.20	2.95	5.73	8.02	77.35	321.30
1780.00	47.74	87.25	2.94	5.71	8.00	76.24	320.33
1785.00	47.78	87.31	2.93	5.70	7.98	75.12	319.36
1790.00	47.82	87.36	2.93	5.69	7.96	73.99	318.39
1795.00	47.85	87.41	2.92	5.68	7.95	72.87	317.42
1800.00	47.89	87.47	2.92	5.66	7.93	71.75	316.45
1805.00	47.93	87.52	2.91	5.65	7.91	70.63	315.48
1810.00	47.96	87.58	2.90	5.64	7.90	69.50	314.50
1815.00	48.00	87.63	2.90	5.63	7.88	68.38	313.53
1820.00	48.04	87.68	2.89	5.62	7.86	67.25	312.55
1825.00	48.07	87.74	2.88	5.60	7.85	66.12	311.57
1830.00	48.11	87.79	2.88	5.59	7.83	65.00	310.60
1835.00	48.14	87.84	2.87	5.58	7.81	63.87	309.62
1840.00	48.18	87.90	2.87	5.57	7.80	62.74	308.63
1845.00	48.22	87.95	2.86	5.56	7.78	61.61	307.65
1850.00	48.25	88.00	2.85	5.54	7.76	60.48	306.67
1855.00	48.29	88.05	2.85	5.53	7.75	59.35	305.68
1860.00	48.32	88.11	2.84	5.52	7.73	58.21	304.70
1865.00	48.36	88.16	2.84	5.51	7.71	57.08	303.71
1870.00	48.40	88.21	2.83	5.50	7.70	55.94	302.72
1875.00	48.43	88.26	2.82	5.49	7.68	54.81	301.73
1880.00	48.47	88.32	2.82	5.48	7.67	53.67	300.74
1885.00	48.50	88.37	2.81	5.46	7.65	52.54	299.75
1890.00	48.54	88.42	2.81	5.45	7.63	51.40	298.76
1895.00	48.57	88.47	2.80	5.44	7.62	50.26	297.76
1900.00	48.61	88.52	2.80	5.43	7.60	49.12	296.77
1905.00	48.64	88.57	2.79	5.42	7.59	47.98	295.77
1910.00	48.68	88.63	2.78	5.41	7.57	46.84	294.78
1915.00	48.71	88.68	2.78	5.40	7.56	45.70	293.78
1920.00	48.75	88.73	2.77	5.39	7.54	44.56	292.78
1925.00	48.78	88.78	2.77	5.38	7.53	43.41	291.78
1930.00	48.82	88.83	2.76	5.37	7.51	42.27	290.78
1935.00	48.85	88.88	2.76	5.35	7.50	41.12	289.77
1940.00	48.89	88.93	2.75	5.34	7.48	39.98	288.77
1945.00	48.92	88.98	2.74	5.33	7.47	38.83	287.77
1950.00	48.96	89.03	2.74	5.32	7.45	37.69	286.76

1955.00	48.99	89.08	2.73	5.31	7.44	36.54	285.75
1960.00	49.03	89.13	2.73	5.30	7.42	35.39	284.75
1965.00	49.06	89.18	2.72	5.29	7.41	34.24	283.74
1970.00	49.10	89.23	2.72	5.28	7.39	33.09	282.73
1975.00	49.13	89.28	2.71	5.27	7.38	31.94	281.71
1980.00	49.17	89.33	2.71	5.26	7.36	30.79	280.70
1985.00	49.20	89.38	2.70	5.25	7.35	29.64	279.69
1990.00	49.23	89.43	2.70	5.24	7.33	28.48	278.68
1995.00	49.27	89.48	2.69	5.23	7.32	27.33	277.66
2000.00	49.30	89.53	2.69	5.22	7.31	26.17	276.64
2005.00	49.34	89.58	2.68	5.21	7.29	25.02	275.63
2010.00	49.37	89.63	2.68	5.20	7.28	23.86	274.61
2015.00	49.40	89.68	2.67	5.19	7.26	22.71	273.59
2020.00	49.44	89.73	2.67	5.18	7.25	21.55	272.57
2025.00	49.47	89.78	2.66	5.17	7.23	20.39	271.55
2030.00	49.50	89.83	2.65	5.16	7.22	19.23	270.53
2035.00	49.54	89.87	2.65	5.15	7.21	18.07	269.50
2040.00	49.57	89.92	2.64	5.14	7.19	16.91	268.48
2045.00	49.61	89.97	2.64	5.13	7.18	15.75	267.45
2050.00	49.64	90.02	2.63	5.12	7.17	14.59	266.43
2055.00	49.67	90.07	2.63	5.11	7.15	13.43	265.40
2060.00	49.71	90.12	2.62	5.10	7.14	12.27	264.37
2065.00	49.74	90.16	2.62	5.09	7.13	11.10	263.34
2070.00	49.77	90.21	2.61	5.08	7.11	9.94	262.31
2075.00	49.80	90.26	2.61	5.07	7.10	8.77	261.28
2080.00	49.84	90.31	2.61	5.06	7.09	7.61	260.25
2085.00	49.87	90.36	2.60	5.05	7.07	6.44	259.22
2090.00	49.90	90.40	2.60	5.04	7.06	5.27	258.18
2095.00	49.94	90.45	2.59	5.03	7.05	4.11	257.15
2100.00	49.97	90.50	2.59	5.02	7.03	2.94	256.11
2105.00	50.00	90.55	2.58	5.01	7.02	1.77	255.08
2110.00	50.04	90.59	2.58	5.00	7.01	0.60	254.04
2115.00	50.07	90.64	2.57	5.00	6.99	-0.57	253.00
2120.00	50.10	90.69	2.57	4.99	6.98	-1.74	251.96
2125.00	50.13	90.73	2.56	4.98	6.97	-2.91	250.92
2130.00	50.17	90.78	2.56	4.97	6.96	-4.09	249.88
2135.00	50.20	90.83	2.55	4.96	6.94	-5.26	248.84
2140.00	50.23	90.87	2.55	4.95	6.93	-6.43	247.80
2145.00	50.26	90.92	2.54	4.94	6.92	-7.61	246.75
2150.00	50.30	90.97	2.54	4.93	6.90	-8.78	245.71
2155.00	50.33	91.01	2.53	4.92	6.89	-9.96	244.66
2160.00	50.36	91.06	2.53	4.91	6.88	-11.13	243.61
2165.00	50.39	91.11	2.52	4.91	6.87	-12.31	242.57
2170.00	50.42	91.15	2.52	4.90	6.85	-13.49	241.52
2175.00	50.46	91.20	2.52	4.89	6.84	-14.66	240.47
2180.00	50.49	91.24	2.51	4.88	6.83	-15.84	239.42
2185.00	50.52	91.29	2.51	4.87	6.82	-17.02	238.37
2190.00	50.55	91.34	2.50	4.86	6.81	-18.20	237.32
2195.00	50.58	91.38	2.50	4.85	6.79	-19.38	236.26
2200.00	50.61	91.43	2.49	4.84	6.78	-20.56	235.21

2205.00	50.65	91.47	2.49	4.84	6.77	-21.74	234.16
2210.00	50.68	91.52	2.48	4.83	6.76	-22.93	233.10
2215.00	50.71	91.56	2.48	4.82	6.75	-24.11	232.05
2220.00	50.74	91.61	2.48	4.81	6.73	-25.29	230.99
2225.00	50.77	91.65	2.47	4.80	6.72	-26.48	229.93
2230.00	50.80	91.70	2.47	4.79	6.71	-27.66	228.87
2235.00	50.84	91.74	2.46	4.78	6.70	-28.85	227.81
2240.00	50.87	91.79	2.46	4.78	6.69	-30.03	226.75
2245.00	50.90	91.83	2.45	4.77	6.68	-31.22	225.69
2250.00	50.93	91.88	2.45	4.76	6.66	-32.41	224.63
2255.00	50.96	91.92	2.45	4.75	6.65	-33.59	223.57
2260.00	50.99	91.97	2.44	4.74	6.64	-34.78	222.51
2265.00	51.02	92.01	2.44	4.74	6.63	-35.97	221.44
2270.00	51.05	92.06	2.43	4.73	6.62	-37.16	220.38
2275.00	51.08	92.10	2.43	4.72	6.61	-38.35	219.31
2280.00	51.12	92.15	2.42	4.71	6.60	-39.54	218.24
2285.00	51.15	92.19	2.42	4.70	6.58	-40.73	217.18
2290.00	51.18	92.23	2.42	4.69	6.57	-41.92	216.11
2295.00	51.21	92.28	2.41	4.69	6.56	-43.11	215.04
2300.00	51.24	92.32	2.41	4.68	6.55	-44.31	213.97
2305.00	51.27	92.37	2.40	4.67	6.54	-45.50	212.90
2310.00	51.30	92.41	2.40	4.66	6.53	-46.69	211.83
2315.00	51.33	92.45	2.40	4.66	6.52	-47.89	210.76
2320.00	51.36	92.50	2.39	4.65	6.51	-49.08	209.68
2325.00	51.39	92.54	2.39	4.64	6.50	-50.28	208.61
2330.00	51.42	92.58	2.38	4.63	6.48	-51.48	207.53
2335.00	51.45	92.63	2.38	4.62	6.47	-52.67	206.46
2340.00	51.48	92.67	2.38	4.62	6.46	-53.87	205.38
2345.00	51.51	92.71	2.37	4.61	6.45	-55.07	204.31
2350.00	51.54	92.76	2.37	4.60	6.44	-56.27	203.23
2355.00	51.57	92.80	2.36	4.59	6.43	-57.46	202.15
2360.00	51.60	92.84	2.36	4.59	6.42	-58.66	201.07
2365.00	51.63	92.89	2.36	4.58	6.41	-59.86	199.99
2370.00	51.66	92.93	2.35	4.57	6.40	-61.06	198.91
2375.00	51.69	92.97	2.35	4.56	6.39	-62.26	197.83
2380.00	51.72	93.01	2.34	4.56	6.38	-63.47	196.75
2385.00	51.75	93.06	2.34	4.55	6.37	-64.67	195.67
2390.00	51.78	93.10	2.34	4.54	6.36	-65.87	194.58
2395.00	51.81	93.14	2.33	4.53	6.35	-67.07	193.50
2400.00	51.84	93.18	2.33	4.53	6.34	-68.28	192.41
2405.00	51.87	93.23	2.33	4.52	6.33	-69.48	191.33
2410.00	51.90	93.27	2.32	4.51	6.32	-70.69	190.24
2415.00	51.93	93.31	2.32	4.50	6.31	-71.89	189.15
2420.00	51.96	93.35	2.31	4.50	6.30	-73.10	188.07
2425.00	51.99	93.39	2.31	4.49	6.29	-74.30	186.98
2430.00	52.02	93.44	2.31	4.48	6.27	-75.51	185.89
2435.00	52.05	93.48	2.30	4.47	6.26	-76.72	184.80
2440.00	52.08	93.52	2.30	4.47	6.25	-77.92	183.71
2445.00	52.11	93.56	2.30	4.46	6.24	-79.13	182.62
2450.00	52.14	93.60	2.29	4.45	6.23	-80.34	181.52

2455.00	52.17	93.65	2.29	4.45	6.22	-81.55	180.43
2460.00	52.20	93.69	2.29	4.44	6.22	-82.76	179.34
2465.00	52.23	93.73	2.28	4.43	6.21	-83.97	178.24
2470.00	52.26	93.77	2.28	4.43	6.20	-85.18	177.15
2475.00	52.29	93.81	2.27	4.42	6.19	-86.39	176.05
2480.00	52.31	93.85	2.27	4.41	6.18	-87.60	174.96
2485.00	52.34	93.89	2.27	4.40	6.17	-88.81	173.86
2490.00	52.37	93.93	2.26	4.40	6.16	-90.03	172.76
2495.00	52.40	93.98	2.26	4.39	6.15	-91.24	171.66
2500.00	52.43	94.02	2.26	4.38	6.14	-92.45	170.57
2505.00	52.46	94.06	2.25	4.38	6.13	-93.67	169.47
2510.00	52.49	94.10	2.25	4.37	6.12	-94.88	168.37
2515.00	52.52	94.14	2.25	4.36	6.11	-96.10	167.27
2520.00	52.55	94.18	2.24	4.36	6.10	-97.31	166.16
2525.00	52.57	94.22	2.24	4.35	6.09	-98.53	165.06
2530.00	52.60	94.26	2.24	4.34	6.08	-99.74	163.96
2535.00	52.63	94.30	2.23	4.34	6.07	-100.96	162.85
2540.00	52.66	94.34	2.23	4.33	6.06	-102.18	161.75
2545.00	52.69	94.38	2.23	4.32	6.05	-103.40	160.65
2550.00	52.72	94.42	2.22	4.32	6.04	-104.61	159.54
2555.00	52.75	94.46	2.22	4.31	6.03	-105.83	158.43
2560.00	52.77	94.50	2.21	4.30	6.02	-107.05	157.33
2565.00	52.80	94.54	2.21	4.30	6.02	-108.27	156.22
2570.00	52.83	94.58	2.21	4.29	6.01	-109.49	155.11
2575.00	52.86	94.62	2.20	4.28	6.00	-110.71	154.00
2580.00	52.89	94.66	2.20	4.28	5.99	-111.93	152.89
2585.00	52.92	94.70	2.20	4.27	5.98	-113.16	151.78
2590.00	52.94	94.74	2.19	4.26	5.97	-114.38	150.67
2595.00	52.97	94.78	2.19	4.26	5.96	-115.60	149.56
2600.00	53.00	94.82	2.19	4.25	5.95	-116.82	148.45
2605.00	53.03	94.86	2.18	4.24	5.94	-118.05	147.34
2610.00	53.06	94.90	2.18	4.24	5.93	-119.27	146.22
2615.00	53.08	94.94	2.18	4.23	5.92	-120.49	145.11
2620.00	53.11	94.98	2.18	4.23	5.92	-121.72	143.99
2625.00	53.14	95.02	2.17	4.22	5.91	-122.94	142.88
2630.00	53.17	95.06	2.17	4.21	5.90	-124.17	141.76
2635.00	53.20	95.10	2.17	4.21	5.89	-125.39	140.65
2640.00	53.22	95.14	2.16	4.20	5.88	-126.62	139.53
2645.00	53.25	95.18	2.16	4.19	5.87	-127.85	138.41
2650.00	53.28	95.21	2.16	4.19	5.86	-129.07	137.30
2655.00	53.31	95.25	2.15	4.18	5.85	-130.30	136.18
2660.00	53.33	95.29	2.15	4.18	5.85	-131.53	135.06
2665.00	53.36	95.33	2.15	4.17	5.84	-132.76	133.94
2670.00	53.39	95.37	2.14	4.16	5.83	-133.99	132.82
2675.00	53.42	95.41	2.14	4.16	5.82	-135.22	131.70
2680.00	53.44	95.45	2.14	4.15	5.81	-136.45	130.57
2685.00	53.47	95.49	2.13	4.15	5.80	-137.68	129.45
2690.00	53.50	95.52	2.13	4.14	5.80	-138.91	128.33
2695.00	53.53	95.56	2.13	4.13	5.79	-140.14	127.20
2700.00	53.55	95.60	2.12	4.13	5.78	-141.37	126.08

2705.00	53.58	95.64	2.12	4.12	5.77	-142.60	124.96
2710.00	53.61	95.68	2.12	4.12	5.76	-143.84	123.83
2715.00	53.64	95.72	2.12	4.11	5.75	-145.07	122.71
2720.00	53.66	95.75	2.11	4.10	5.74	-146.30	121.58
2725.00	53.69	95.79	2.11	4.10	5.74	-147.53	120.45
2730.00	53.72	95.83	2.11	4.09	5.73	-148.77	119.32
2735.00	53.74	95.87	2.10	4.09	5.72	-150.00	118.20
2740.00	53.77	95.91	2.10	4.08	5.71	-151.24	117.07
2745.00	53.80	95.94	2.10	4.07	5.70	-152.47	115.94
2750.00	53.83	95.98	2.09	4.07	5.70	-153.71	114.81
2755.00	53.85	96.02	2.09	4.06	5.69	-154.94	113.68
2760.00	53.88	96.06	2.09	4.06	5.68	-156.18	112.55
2765.00	53.91	96.09	2.09	4.05	5.67	-157.42	111.41
2770.00	53.93	96.13	2.08	4.05	5.66	-158.66	110.28
2775.00	53.96	96.17	2.08	4.04	5.66	-159.89	109.15
2780.00	53.99	96.21	2.08	4.03	5.65	-161.13	108.02
2785.00	54.01	96.24	2.07	4.03	5.64	-162.37	106.88
2790.00	54.04	96.28	2.07	4.02	5.63	-163.61	105.75
2795.00	54.07	96.32	2.07	4.02	5.62	-164.85	104.61
2800.00	54.09	96.36	2.06	4.01	5.62	-166.09	103.48
2805.00	54.12	96.39	2.06	4.01	5.61	-167.33	102.34
2810.00	54.15	96.43	2.06	4.00	5.60	-168.57	101.21
2815.00	54.17	96.47	2.06	3.99	5.59	-169.81	100.07
2820.00	54.20	96.50	2.05	3.99	5.58	-171.05	98.93
2825.00	54.23	96.54	2.05	3.98	5.58	-172.29	97.79
2830.00	54.25	96.58	2.05	3.98	5.57	-173.53	96.65
2835.00	54.28	96.62	2.04	3.97	5.56	-174.78	95.51
2840.00	54.30	96.65	2.04	3.97	5.55	-176.02	94.37
2845.00	54.33	96.69	2.04	3.96	5.55	-177.26	93.23
2850.00	54.36	96.73	2.04	3.96	5.54	-178.50	92.09
2855.00	54.38	96.76	2.03	3.95	5.53	-179.75	90.95
2860.00	54.41	96.80	2.03	3.95	5.52	-180.99	89.81
2865.00	54.44	96.84	2.03	3.94	5.52	-182.24	88.67
2870.00	54.46	96.87	2.03	3.93	5.51	-183.48	87.53
2875.00	54.49	96.91	2.02	3.93	5.50	-184.73	86.38
2880.00	54.51	96.94	2.02	3.92	5.49	-185.97	85.24

Notes to User

Only values shown blue to be edited

Sheet only for england and wales

In M5-D	J0	J1	J2	Cr	In (MT-D/M5-D)	MT-D/M5-D
2.20	0.1699	0.0028	0.000114	0.204517	0.635059	1.887133
2.39	0.1699	0.0028	0.000114	0.213764	0.663773	1.942107
2.50	0.1644	0.005831	-0.00013	0.215612	0.669511	1.953281
2.59	0.1644	0.005831	-0.00013	0.218241	0.677677	1.969297
2.66	0.1644	0.005831	-0.00013	0.220204	0.683771	1.981335
2.71	0.1644	0.005831	-0.00013	0.221721	0.688482	1.990691
2.76	0.1644	0.005831	-0.00013	0.222922	0.692211	1.998128
2.80	0.1644	0.005831	-0.00013	0.223888	0.695211	2.004131
2.83	0.1644	0.005831	-0.00013	0.224674	0.69765	2.009026
2.86	0.1644	0.005831	-0.00013	0.225317	0.699647	2.013042
2.89	0.1644	0.005831	-0.00013	0.225845	0.701287	2.016345
2.92	0.1644	0.005831	-0.00013	0.226278	0.702633	2.019061
2.94	0.1644	0.005831	-0.00013	0.226633	0.703734	2.021285
2.96	0.1644	0.005831	-0.00013	0.226921	0.704627	2.023093
2.98	0.1644	0.005831	-0.00013	0.227151	0.705344	2.024543
3.00	0.1644	0.005831	-0.00013	0.227333	0.705908	2.025685
3.02	0.1644	0.005831	-0.00013	0.227472	0.706339	2.026558
3.03	0.1644	0.005831	-0.00013	0.227573	0.706653	2.027195
3.05	0.1644	0.005831	-0.00013	0.227641	0.706865	2.027624
3.06	0.1644	0.005831	-0.00013	0.22768	0.706985	2.027867
3.08	0.1644	0.005831	-0.00013	0.227692	0.707023	2.027945
3.09	0.1644	0.005831	-0.00013	0.227681	0.706988	2.027875
3.10	0.1644	0.005831	-0.00013	0.227649	0.706888	2.027671
3.12	0.1644	0.005831	-0.00013	0.227597	0.706728	2.027346
3.13	0.1644	0.005831	-0.00013	0.227528	0.706514	2.026912
3.14	0.1644	0.005831	-0.00013	0.227443	0.70625	2.026379
3.15	0.1644	0.005831	-0.00013	0.227344	0.705942	2.025754
3.16	0.1644	0.005831	-0.00013	0.227232	0.705593	2.025047
3.17	0.1644	0.005831	-0.00013	0.227107	0.705206	2.024263
3.18	0.1644	0.005831	-0.00013	0.226971	0.704784	2.023409
3.19	0.1644	0.005831	-0.00013	0.226825	0.70433	2.02249
3.20	0.1644	0.005831	-0.00013	0.226669	0.703846	2.021512
3.21	0.1644	0.005831	-0.00013	0.226504	0.703335	2.02048
3.21	0.1644	0.005831	-0.00013	0.226332	0.702798	2.019396
3.22	0.1644	0.005831	-0.00013	0.226151	0.702238	2.018265
3.23	0.1644	0.005831	-0.00013	0.225964	0.701656	2.01709
3.24	0.1644	0.005831	-0.00013	0.22577	0.701053	2.015874
3.25	0.1644	0.005831	-0.00013	0.225569	0.700431	2.014621
3.25	0.1644	0.005831	-0.00013	0.225363	0.699791	2.013332

3.26	0.1644	0.005831	-0.00013	0.225152	0.699135	2.012011
3.27	0.1644	0.005831	-0.00013	0.224935	0.698462	2.010658
3.27	0.1644	0.005831	-0.00013	0.224714	0.697775	2.009278
3.28	0.1644	0.005831	-0.00013	0.224488	0.697074	2.00787
3.29	0.1644	0.005831	-0.00013	0.224258	0.69636	2.006437
3.29	0.1644	0.005831	-0.00013	0.224025	0.695634	2.004981
3.30	0.1644	0.005831	-0.00013	0.223787	0.694897	2.003502
3.31	0.1644	0.005831	-0.00013	0.223546	0.694148	2.002003
3.31	0.1644	0.005831	-0.00013	0.223302	0.69339	2.000485
3.32	0.1644	0.005831	-0.00013	0.223054	0.692621	1.998949
3.32	0.1644	0.005831	-0.00013	0.222804	0.691844	1.997395
3.33	0.1644	0.005831	-0.00013	0.222551	0.691058	1.995826
3.33	0.1644	0.005831	-0.00013	0.222295	0.690264	1.994242
3.34	0.1644	0.005831	-0.00013	0.222037	0.689462	1.992644
3.34	0.1644	0.005831	-0.00013	0.221776	0.688653	1.991032
3.35	0.1644	0.005831	-0.00013	0.221514	0.687837	1.989408
3.35	0.1644	0.005831	-0.00013	0.221249	0.687015	1.987773
3.36	0.1644	0.005831	-0.00013	0.220982	0.686186	1.986127
3.36	0.1644	0.005831	-0.00013	0.220713	0.685352	1.98447
3.37	0.1644	0.005831	-0.00013	0.220443	0.684512	1.982804
3.37	0.1644	0.005831	-0.00013	0.22017	0.683667	1.981129
3.38	0.1644	0.005831	-0.00013	0.219897	0.682816	1.979445
3.38	0.1644	0.005831	-0.00013	0.219621	0.681962	1.977753
3.39	0.1644	0.005831	-0.00013	0.219345	0.681102	1.976055
3.39	0.1644	0.005831	-0.00013	0.219066	0.680239	1.974349
3.40	0.1644	0.005831	-0.00013	0.218787	0.679371	1.972636
3.40	0.1644	0.005831	-0.00013	0.218506	0.678499	1.970918
3.40	0.1644	0.005831	-0.00013	0.218225	0.677624	1.969194
3.41	0.1644	0.005831	-0.00013	0.217942	0.676746	1.967464
3.41	0.1644	0.005831	-0.00013	0.217658	0.675864	1.96573
3.42	0.1644	0.005831	-0.00013	0.217373	0.674979	1.963991
3.42	0.1644	0.005831	-0.00013	0.217087	0.674091	1.962248
3.42	0.1644	0.005831	-0.00013	0.2168	0.6732	1.960501
3.43	0.1644	0.005831	-0.00013	0.216512	0.672307	1.958751
3.43	0.1644	0.005831	-0.00013	0.216224	0.671411	1.956996
3.44	0.2644	-0.00162	3.15E-06	0.217083	0.674078	1.962223
3.44	0.2644	-0.00162	3.15E-06	0.216919	0.673571	1.961228
3.44	0.2644	-0.00162	3.15E-06	0.216757	0.673068	1.960243
3.45	0.2644	-0.00162	3.15E-06	0.216597	0.672571	1.959268
3.45	0.2644	-0.00162	3.15E-06	0.216439	0.672079	1.958304
3.45	0.2644	-0.00162	3.15E-06	0.216282	0.671591	1.957349
3.46	0.2644	-0.00162	3.15E-06	0.216126	0.671108	1.956404
3.46	0.2644	-0.00162	3.15E-06	0.215972	0.67063	1.955468
3.46	0.2644	-0.00162	3.15E-06	0.215819	0.670156	1.954542
3.47	0.2644	-0.00162	3.15E-06	0.215668	0.669686	1.953625
3.47	0.2644	-0.00162	3.15E-06	0.215518	0.669221	1.952716
3.47	0.2644	-0.00162	3.15E-06	0.21537	0.66876	1.951816
3.48	0.2644	-0.00162	3.15E-06	0.215223	0.668304	1.950925
3.48	0.2644	-0.00162	3.15E-06	0.215077	0.667851	1.950042
3.48	0.2644	-0.00162	3.15E-06	0.214933	0.667402	1.949167

3.49	0.2644	-0.00162	3.15E-06	0.214789	0.666957	1.9483
3.49	0.2644	-0.00162	3.15E-06	0.214647	0.666516	1.947441
3.49	0.2644	-0.00162	3.15E-06	0.214506	0.666079	1.946589
3.50	0.2644	-0.00162	3.15E-06	0.214367	0.665645	1.945745
3.50	0.2644	-0.00162	3.15E-06	0.214228	0.665215	1.944908
3.50	0.2644	-0.00162	3.15E-06	0.214091	0.664788	1.944079
3.50	0.2644	-0.00162	3.15E-06	0.213954	0.664365	1.943256
3.51	0.2644	-0.00162	3.15E-06	0.213819	0.663945	1.942441
3.51	0.2644	-0.00162	3.15E-06	0.213685	0.663529	1.941632
3.51	0.2644	-0.00162	3.15E-06	0.213552	0.663116	1.94083
3.52	0.2644	-0.00162	3.15E-06	0.21342	0.662706	1.940035
3.52	0.2644	-0.00162	3.15E-06	0.213289	0.662299	1.939246
3.52	0.2644	-0.00162	3.15E-06	0.213159	0.661896	1.938463
3.52	0.2644	-0.00162	3.15E-06	0.21303	0.661495	1.937687
3.53	0.2644	-0.00162	3.15E-06	0.212902	0.661097	1.936917
3.53	0.2644	-0.00162	3.15E-06	0.212775	0.660703	1.936153
3.53	0.2644	-0.00162	3.15E-06	0.212649	0.660311	1.935394
3.53	0.2644	-0.00162	3.15E-06	0.212524	0.659922	1.934642
3.54	0.2644	-0.00162	3.15E-06	0.212399	0.659536	1.933895
3.54	0.2644	-0.00162	3.15E-06	0.212276	0.659153	1.933154
3.54	0.2644	-0.00162	3.15E-06	0.212153	0.658772	1.932418
3.54	0.2644	-0.00162	3.15E-06	0.212032	0.658394	1.931688
3.55	0.2644	-0.00162	3.15E-06	0.211911	0.658019	1.930964
3.55	0.2644	-0.00162	3.15E-06	0.211791	0.657646	1.930244
3.55	0.2644	-0.00162	3.15E-06	0.211672	0.657276	1.92953
3.55	0.2644	-0.00162	3.15E-06	0.211553	0.656909	1.92882
3.56	0.2644	-0.00162	3.15E-06	0.211436	0.656543	1.928116
3.56	0.2644	-0.00162	3.15E-06	0.211319	0.656181	1.927417
3.56	0.2644	-0.00162	3.15E-06	0.211203	0.65582	1.926723
3.56	0.2644	-0.00162	3.15E-06	0.211087	0.655462	1.926033
3.57	0.2644	-0.00162	3.15E-06	0.210973	0.655107	1.925348
3.57	0.2644	-0.00162	3.15E-06	0.210859	0.654753	1.924668
3.57	0.2644	-0.00162	3.15E-06	0.210746	0.654402	1.923992
3.57	0.2644	-0.00162	3.15E-06	0.210634	0.654054	1.923321
3.58	0.2644	-0.00162	3.15E-06	0.210522	0.653707	1.922655
3.58	0.2644	-0.00162	3.15E-06	0.210411	0.653362	1.921992
3.58	0.2644	-0.00162	3.15E-06	0.210301	0.65302	1.921334
3.58	0.2644	-0.00162	3.15E-06	0.210191	0.65268	1.920681
3.58	0.2644	-0.00162	3.15E-06	0.210082	0.652341	1.920031
3.59	0.2644	-0.00162	3.15E-06	0.209974	0.652005	1.919386
3.59	0.2644	-0.00162	3.15E-06	0.209866	0.651671	1.918745
3.59	0.2644	-0.00162	3.15E-06	0.20976	0.651339	1.918108
3.59	0.2644	-0.00162	3.15E-06	0.209653	0.651009	1.917474
3.59	0.2644	-0.00162	3.15E-06	0.209547	0.650681	1.916845
3.60	0.2644	-0.00162	3.15E-06	0.209442	0.650354	1.91622
3.60	0.2644	-0.00162	3.15E-06	0.209338	0.65003	1.915598
3.60	0.2644	-0.00162	3.15E-06	0.209234	0.649707	1.91498
3.60	0.2644	-0.00162	3.15E-06	0.209131	0.649386	1.914366
3.61	0.2644	-0.00162	3.15E-06	0.209028	0.649068	1.913756
3.61	0.2644	-0.00162	3.15E-06	0.208926	0.64875	1.913149

3.61	0.2644	-0.00162	3.15E-06	0.208824	0.648435	1.912545
3.61	0.2644	-0.00162	3.15E-06	0.208723	0.648121	1.911946
3.61	0.2644	-0.00162	3.15E-06	0.208623	0.64781	1.911349
3.62	0.2644	-0.00162	3.15E-06	0.208523	0.647499	1.910757
3.62	0.2644	-0.00162	3.15E-06	0.208424	0.647191	1.910167
3.62	0.2644	-0.00162	3.15E-06	0.208325	0.646884	1.909581
3.62	0.2644	-0.00162	3.15E-06	0.208226	0.646579	1.908998
3.62	0.2644	-0.00162	3.15E-06	0.208129	0.646275	1.908419
3.62	0.2644	-0.00162	3.15E-06	0.208031	0.645973	1.907843
3.63	0.2644	-0.00162	3.15E-06	0.207935	0.645673	1.90727
3.63	0.2644	-0.00162	3.15E-06	0.207838	0.645374	1.9067
3.63	0.2644	-0.00162	3.15E-06	0.207743	0.645077	1.906133
3.63	0.2644	-0.00162	3.15E-06	0.207647	0.644781	1.905569
3.63	0.2644	-0.00162	3.15E-06	0.207553	0.644487	1.905009
3.64	0.2644	-0.00162	3.15E-06	0.207458	0.644194	1.904451
3.64	0.2644	-0.00162	3.15E-06	0.207365	0.643902	1.903896
3.64	0.2644	-0.00162	3.15E-06	0.207271	0.643613	1.903345
3.64	0.2644	-0.00162	3.15E-06	0.207178	0.643324	1.902796
3.64	0.2644	-0.00162	3.15E-06	0.207086	0.643037	1.90225
3.64	0.2644	-0.00162	3.15E-06	0.206994	0.642752	1.901707
3.65	0.2644	-0.00162	3.15E-06	0.206903	0.642468	1.901166
3.65	0.2644	-0.00162	3.15E-06	0.206811	0.642185	1.900629
3.65	0.2644	-0.00162	3.15E-06	0.206721	0.641903	1.900094
3.65	0.2644	-0.00162	3.15E-06	0.206631	0.641623	1.899562
3.65	0.2644	-0.00162	3.15E-06	0.206541	0.641345	1.899032
3.65	0.2644	-0.00162	3.15E-06	0.206452	0.641067	1.898506
3.66	0.2644	-0.00162	3.15E-06	0.206363	0.640791	1.897982
3.66	0.2644	-0.00162	3.15E-06	0.206274	0.640516	1.89746
3.66	0.2644	-0.00162	3.15E-06	0.206186	0.640243	1.896941
3.66	0.2644	-0.00162	3.15E-06	0.206098	0.63997	1.896425
3.66	0.2644	-0.00162	3.15E-06	0.206011	0.639699	1.895911
3.66	0.2644	-0.00162	3.15E-06	0.205924	0.63943	1.895399
3.67	0.2644	-0.00162	3.15E-06	0.205838	0.639161	1.894891
3.67	0.2644	-0.00162	3.15E-06	0.205752	0.638894	1.894384
3.67	0.2644	-0.00162	3.15E-06	0.205666	0.638628	1.89388
3.67	0.2644	-0.00162	3.15E-06	0.205581	0.638363	1.893378
3.67	0.2644	-0.00162	3.15E-06	0.205496	0.638099	1.892879
3.67	0.2644	-0.00162	3.15E-06	0.205411	0.637836	1.892382
3.68	0.2644	-0.00162	3.15E-06	0.205327	0.637575	1.891887
3.68	0.2644	-0.00162	3.15E-06	0.205243	0.637315	1.891395
3.68	0.2644	-0.00162	3.15E-06	0.20516	0.637055	1.890905
3.68	0.2644	-0.00162	3.15E-06	0.205076	0.636797	1.890417
3.68	0.2644	-0.00162	3.15E-06	0.204994	0.63654	1.889931
3.68	0.2644	-0.00162	3.15E-06	0.204911	0.636285	1.889448
3.68	0.2644	-0.00162	3.15E-06	0.204829	0.63603	1.888966
3.69	0.2644	-0.00162	3.15E-06	0.204748	0.635776	1.888487
3.69	0.2644	-0.00162	3.15E-06	0.204666	0.635524	1.88801
3.69	0.2644	-0.00162	3.15E-06	0.204585	0.635272	1.887535
3.69	0.2644	-0.00162	3.15E-06	0.204505	0.635021	1.887063
3.69	0.2644	-0.00162	3.15E-06	0.204424	0.634772	1.886592

3.69	0.2644	-0.00162	3.15E-06	0.204344	0.634524	1.886123
3.69	0.2644	-0.00162	3.15E-06	0.204265	0.634276	1.885657
3.70	0.2644	-0.00162	3.15E-06	0.204185	0.63403	1.885192
3.70	0.2644	-0.00162	3.15E-06	0.204106	0.633784	1.88473
3.70	0.2644	-0.00162	3.15E-06	0.204027	0.63354	1.884269
3.70	0.2644	-0.00162	3.15E-06	0.203949	0.633296	1.88381
3.70	0.2644	-0.00162	3.15E-06	0.203871	0.633054	1.883354
3.70	0.2644	-0.00162	3.15E-06	0.203793	0.632813	1.882899
3.70	0.2644	-0.00162	3.15E-06	0.203716	0.632572	1.882446
3.71	0.2644	-0.00162	3.15E-06	0.203639	0.632332	1.881995
3.71	0.2644	-0.00162	3.15E-06	0.203562	0.632094	1.881546
3.71	0.2644	-0.00162	3.15E-06	0.203485	0.631856	1.881099
3.71	0.2644	-0.00162	3.15E-06	0.203409	0.631619	1.880653
3.71	0.2644	-0.00162	3.15E-06	0.203333	0.631383	1.88021
3.71	0.2644	-0.00162	3.15E-06	0.203257	0.631148	1.879768
3.71	0.2644	-0.00162	3.15E-06	0.203182	0.630914	1.879328
3.72	0.2644	-0.00162	3.15E-06	0.203107	0.630681	1.87889
3.72	0.2644	-0.00162	3.15E-06	0.203032	0.630449	1.878453
3.72	0.2644	-0.00162	3.15E-06	0.202957	0.630217	1.878019
3.72	0.2644	-0.00162	3.15E-06	0.202883	0.629987	1.877586
3.72	0.2644	-0.00162	3.15E-06	0.202809	0.629757	1.877154
3.72	0.2644	-0.00162	3.15E-06	0.202735	0.629528	1.876725
3.72	0.2644	-0.00162	3.15E-06	0.202662	0.6293	1.876297
3.73	0.2644	-0.00162	3.15E-06	0.202589	0.629073	1.875871
3.73	0.2644	-0.00162	3.15E-06	0.202516	0.628847	1.875446
3.73	0.2644	-0.00162	3.15E-06	0.202443	0.628621	1.875023
3.73	0.2644	-0.00162	3.15E-06	0.202371	0.628397	1.874602
3.73	0.2644	-0.00162	3.15E-06	0.202299	0.628173	1.874183
3.73	0.2644	-0.00162	3.15E-06	0.202227	0.62795	1.873765
3.73	0.2644	-0.00162	3.15E-06	0.202156	0.627727	1.873348
3.73	0.2644	-0.00162	3.15E-06	0.202084	0.627506	1.872933
3.74	0.2644	-0.00162	3.15E-06	0.202013	0.627285	1.87252
3.74	0.2644	-0.00162	3.15E-06	0.201942	0.627065	1.872108
3.74	0.2644	-0.00162	3.15E-06	0.201872	0.626846	1.871698
3.74	0.2644	-0.00162	3.15E-06	0.201801	0.626628	1.871289
3.74	0.2644	-0.00162	3.15E-06	0.201731	0.62641	1.870882
3.74	0.2644	-0.00162	3.15E-06	0.201661	0.626193	1.870477
3.74	0.2644	-0.00162	3.15E-06	0.201592	0.625977	1.870072
3.74	0.2644	-0.00162	3.15E-06	0.201523	0.625762	1.86967
3.75	0.2644	-0.00162	3.15E-06	0.201453	0.625547	1.869269
3.75	0.2644	-0.00162	3.15E-06	0.201385	0.625333	1.868869
3.75	0.2644	-0.00162	3.15E-06	0.201316	0.62512	1.86847
3.75	0.2644	-0.00162	3.15E-06	0.201247	0.624908	1.868074
3.75	0.2644	-0.00162	3.15E-06	0.201179	0.624696	1.867678
3.75	0.2644	-0.00162	3.15E-06	0.201111	0.624485	1.867284
3.75	0.2644	-0.00162	3.15E-06	0.201044	0.624275	1.866891
3.75	0.2644	-0.00162	3.15E-06	0.200976	0.624065	1.8665
3.75	0.2644	-0.00162	3.15E-06	0.200909	0.623856	1.86611
3.76	0.2644	-0.00162	3.15E-06	0.200842	0.623648	1.865722
3.76	0.2644	-0.00162	3.15E-06	0.200775	0.62344	1.865335

3.76	0.2644	-0.00162	3.15E-06	0.200708	0.623234	1.864949
3.76	0.2644	-0.00162	3.15E-06	0.200642	0.623027	1.864564
3.76	0.2644	-0.00162	3.15E-06	0.200576	0.622822	1.864181
3.76	0.2644	-0.00162	3.15E-06	0.20051	0.622617	1.863799
3.76	0.2644	-0.00162	3.15E-06	0.200444	0.622413	1.863419
3.76	0.2644	-0.00162	3.15E-06	0.200378	0.622209	1.86304
3.76	0.2644	-0.00162	3.15E-06	0.200313	0.622006	1.862662
3.77	0.2644	-0.00162	3.15E-06	0.200248	0.621804	1.862285
3.77	0.2644	-0.00162	3.15E-06	0.200183	0.621603	1.86191
3.77	0.2644	-0.00162	3.15E-06	0.200118	0.621402	1.861535
3.77	0.2644	-0.00162	3.15E-06	0.200054	0.621201	1.861163
3.77	0.2644	-0.00162	3.15E-06	0.19999	0.621002	1.860791
3.77	0.2644	-0.00162	3.15E-06	0.199925	0.620803	1.860421
3.77	0.2644	-0.00162	3.15E-06	0.199862	0.620604	1.860051
3.77	0.2644	-0.00162	3.15E-06	0.199798	0.620406	1.859683
3.77	0.2644	-0.00162	3.15E-06	0.199734	0.620209	1.859317
3.78	0.2644	-0.00162	3.15E-06	0.199671	0.620012	1.858951
3.78	0.2644	-0.00162	3.15E-06	0.199608	0.619816	1.858587
3.78	0.2644	-0.00162	3.15E-06	0.199545	0.619621	1.858224
3.78	0.2644	-0.00162	3.15E-06	0.199482	0.619426	1.857862
3.78	0.2644	-0.00162	3.15E-06	0.19942	0.619232	1.857501
3.78	0.2644	-0.00162	3.15E-06	0.199357	0.619038	1.857141
3.78	0.2644	-0.00162	3.15E-06	0.199295	0.618845	1.856783
3.78	0.2644	-0.00162	3.15E-06	0.199233	0.618653	1.856425
3.78	0.2644	-0.00162	3.15E-06	0.199171	0.618461	1.856069
3.79	0.2644	-0.00162	3.15E-06	0.19911	0.618269	1.855714
3.79	0.2644	-0.00162	3.15E-06	0.199048	0.618079	1.85536
3.79	0.2644	-0.00162	3.15E-06	0.198987	0.617888	1.855007
3.79	0.2644	-0.00162	3.15E-06	0.198926	0.617699	1.854655
3.79	0.2644	-0.00162	3.15E-06	0.198865	0.61751	1.854304
3.79	0.2644	-0.00162	3.15E-06	0.198804	0.617321	1.853955
3.79	0.2644	-0.00162	3.15E-06	0.198744	0.617133	1.853606
3.79	0.2644	-0.00162	3.15E-06	0.198683	0.616946	1.853259
3.79	0.2644	-0.00162	3.15E-06	0.198623	0.616759	1.852912
3.79	0.2644	-0.00162	3.15E-06	0.198563	0.616572	1.852567
3.80	0.2644	-0.00162	3.15E-06	0.198503	0.616386	1.852223
3.80	0.2644	-0.00162	3.15E-06	0.198444	0.616201	1.85188
3.80	0.2644	-0.00162	3.15E-06	0.198384	0.616016	1.851537
3.80	0.2644	-0.00162	3.15E-06	0.198325	0.615832	1.851196
3.80	0.2644	-0.00162	3.15E-06	0.198266	0.615648	1.850856
3.80	0.2644	-0.00162	3.15E-06	0.198207	0.615465	1.850517
3.80	0.2644	-0.00162	3.15E-06	0.198148	0.615282	1.850179
3.80	0.2644	-0.00162	3.15E-06	0.198089	0.6151	1.849842
3.80	0.2644	-0.00162	3.15E-06	0.198031	0.614918	1.849506
3.80	0.2644	-0.00162	3.15E-06	0.197972	0.614737	1.849171
3.81	0.2644	-0.00162	3.15E-06	0.197914	0.614557	1.848836
3.81	0.2644	-0.00162	3.15E-06	0.197856	0.614376	1.848503
3.81	0.2644	-0.00162	3.15E-06	0.197798	0.614197	1.848171
3.81	0.2644	-0.00162	3.15E-06	0.19774	0.614017	1.84784
3.81	0.2644	-0.00162	3.15E-06	0.197683	0.613839	1.84751

3.81	0.2644	-0.00162	3.15E-06	0.197625	0.61366	1.847181
3.81	0.2644	-0.00162	3.15E-06	0.197568	0.613483	1.846852
3.81	0.2644	-0.00162	3.15E-06	0.197511	0.613305	1.846525
3.81	0.2644	-0.00162	3.15E-06	0.197454	0.613129	1.846198
3.81	0.2644	-0.00162	3.15E-06	0.197397	0.612952	1.845873
3.81	0.2644	-0.00162	3.15E-06	0.197341	0.612776	1.845548
3.82	0.2644	-0.00162	3.15E-06	0.197284	0.612601	1.845225
3.82	0.2644	-0.00162	3.15E-06	0.197228	0.612426	1.844902
3.82	0.2644	-0.00162	3.15E-06	0.197172	0.612252	1.84458
3.82	0.2644	-0.00162	3.15E-06	0.197116	0.612078	1.844259
3.82	0.2644	-0.00162	3.15E-06	0.19706	0.611904	1.843939
3.82	0.2644	-0.00162	3.15E-06	0.197004	0.611731	1.84362
3.82	0.2644	-0.00162	3.15E-06	0.196948	0.611558	1.843302
3.82	0.2644	-0.00162	3.15E-06	0.196893	0.611386	1.842985
3.82	0.2644	-0.00162	3.15E-06	0.196838	0.611215	1.842668
3.82	0.2644	-0.00162	3.15E-06	0.196783	0.611043	1.842352
3.82	0.2644	-0.00162	3.15E-06	0.196728	0.610872	1.842038
3.83	0.2644	-0.00162	3.15E-06	0.196673	0.610702	1.841724
3.83	0.2644	-0.00162	3.15E-06	0.196618	0.610532	1.841411
3.83	0.2644	-0.00162	3.15E-06	0.196563	0.610363	1.841099
3.83	0.2644	-0.00162	3.15E-06	0.196509	0.610193	1.840787
3.83	0.2644	-0.00162	3.15E-06	0.196455	0.610025	1.840477
3.83	0.2644	-0.00162	3.15E-06	0.1964	0.609856	1.840167
3.83	0.2644	-0.00162	3.15E-06	0.196346	0.609689	1.839858
3.83	0.2644	-0.00162	3.15E-06	0.196292	0.609521	1.839551
3.83	0.2644	-0.00162	3.15E-06	0.196239	0.609354	1.839243
3.83	0.2644	-0.00162	3.15E-06	0.196185	0.609188	1.838937
3.83	0.2644	-0.00162	3.15E-06	0.196131	0.609022	1.838632
3.84	0.2644	-0.00162	3.15E-06	0.196078	0.608856	1.838327
3.84	0.2644	-0.00162	3.15E-06	0.196025	0.608691	1.838023
3.84	0.2644	-0.00162	3.15E-06	0.195972	0.608526	1.83772
3.84	0.2644	-0.00162	3.15E-06	0.195919	0.608361	1.837418
3.84	0.2644	-0.00162	3.15E-06	0.195866	0.608197	1.837116
3.84	0.2644	-0.00162	3.15E-06	0.195813	0.608033	1.836815
3.84	0.2644	-0.00162	3.15E-06	0.195761	0.60787	1.836515
3.84	0.2644	-0.00162	3.15E-06	0.195708	0.607707	1.836216
3.84	0.2644	-0.00162	3.15E-06	0.195656	0.607545	1.835918
3.84	0.2644	-0.00162	3.15E-06	0.195604	0.607382	1.83562
3.84	0.2644	-0.00162	3.15E-06	0.195551	0.607221	1.835323
3.84	0.2644	-0.00162	3.15E-06	0.1955	0.607059	1.835027
3.85	0.2644	-0.00162	3.15E-06	0.195448	0.606898	1.834732
3.85	0.2644	-0.00162	3.15E-06	0.195396	0.606738	1.834437
3.85	0.2644	-0.00162	3.15E-06	0.195344	0.606578	1.834144
3.85	0.2644	-0.00162	3.15E-06	0.195293	0.606418	1.83385
3.85	0.2644	-0.00162	3.15E-06	0.195242	0.606258	1.833558
3.85	0.2644	-0.00162	3.15E-06	0.19519	0.606099	1.833266
3.85	0.2644	-0.00162	3.15E-06	0.195139	0.605941	1.832976
3.85	0.2644	-0.00162	3.15E-06	0.195088	0.605782	1.832685
3.85	0.2644	-0.00162	3.15E-06	0.195037	0.605624	1.832396
3.85	0.2644	-0.00162	3.15E-06	0.194987	0.605467	1.832107

3.85	0.2644	-0.00162	3.15E-06	0.194936	0.60531	1.831819
3.85	0.2644	-0.00162	3.15E-06	0.194886	0.605153	1.831532
3.86	0.2644	-0.00162	3.15E-06	0.194835	0.604996	1.831245
3.86	0.2644	-0.00162	3.15E-06	0.194785	0.60484	1.83096
3.86	0.2644	-0.00162	3.15E-06	0.194735	0.604684	1.830674
3.86	0.2644	-0.00162	3.15E-06	0.194685	0.604529	1.83039
3.86	0.2644	-0.00162	3.15E-06	0.194635	0.604374	1.830106
3.86	0.2644	-0.00162	3.15E-06	0.194585	0.604219	1.829823
3.86	0.2644	-0.00162	3.15E-06	0.194535	0.604065	1.829541
3.86	0.2644	-0.00162	3.15E-06	0.194486	0.603911	1.829259
3.86	0.2644	-0.00162	3.15E-06	0.194436	0.603757	1.828978
3.86	0.2644	-0.00162	3.15E-06	0.194387	0.603604	1.828698
3.86	0.2644	-0.00162	3.15E-06	0.194338	0.603451	1.828418
3.86	0.2644	-0.00162	3.15E-06	0.194288	0.603299	1.828139
3.87	0.2644	-0.00162	3.15E-06	0.194239	0.603146	1.827861
3.87	0.2644	-0.00162	3.15E-06	0.19419	0.602994	1.827583
3.87	0.2644	-0.00162	3.15E-06	0.194142	0.602843	1.827306
3.87	0.2644	-0.00162	3.15E-06	0.194093	0.602692	1.82703
3.87	0.2644	-0.00162	3.15E-06	0.194044	0.602541	1.826754
3.87	0.2644	-0.00162	3.15E-06	0.193996	0.60239	1.826479
3.87	0.2644	-0.00162	3.15E-06	0.193947	0.60224	1.826205
3.87	0.2644	-0.00162	3.15E-06	0.193899	0.60209	1.825931
3.87	0.2644	-0.00162	3.15E-06	0.193851	0.60194	1.825658
3.87	0.2644	-0.00162	3.15E-06	0.193803	0.601791	1.825385
3.87	0.2644	-0.00162	3.15E-06	0.193755	0.601642	1.825113
3.87	0.2644	-0.00162	3.15E-06	0.193707	0.601493	1.824842
3.87	0.2644	-0.00162	3.15E-06	0.193659	0.601345	1.824571
3.87	0.2644	-0.00162	3.15E-06	0.193612	0.601197	1.824301
3.88	0.2644	-0.00162	3.15E-06	0.193564	0.60105	1.824032
3.88	0.2644	-0.00162	3.15E-06	0.193517	0.600902	1.823763
3.88	0.2644	-0.00162	3.15E-06	0.193469	0.600755	1.823495
3.88	0.2644	-0.00162	3.15E-06	0.193422	0.600608	1.823228
3.88	0.2644	-0.00162	3.15E-06	0.193375	0.600462	1.822961
3.88	0.2644	-0.00162	3.15E-06	0.193328	0.600316	1.822695
3.88	0.2644	-0.00162	3.15E-06	0.193281	0.60017	1.822429
3.88	0.2644	-0.00162	3.15E-06	0.193234	0.600025	1.822164
3.88	0.2644	-0.00162	3.15E-06	0.193187	0.59988	1.821899
3.88	0.2644	-0.00162	3.15E-06	0.193141	0.599735	1.821635
3.88	0.2644	-0.00162	3.15E-06	0.193094	0.59959	1.821372
3.88	0.2644	-0.00162	3.15E-06	0.193048	0.599446	1.821109
3.88	0.2644	-0.00162	3.15E-06	0.193001	0.599302	1.820847
3.89	0.2644	-0.00162	3.15E-06	0.192955	0.599158	1.820586
3.89	0.2644	-0.00162	3.15E-06	0.192909	0.599015	1.820325
3.89	0.2644	-0.00162	3.15E-06	0.192863	0.598872	1.820064
3.89	0.2644	-0.00162	3.15E-06	0.192817	0.598729	1.819805
3.89	0.2644	-0.00162	3.15E-06	0.192771	0.598587	1.819545
3.89	0.2644	-0.00162	3.15E-06	0.192725	0.598444	1.819287
3.89	0.2644	-0.00162	3.15E-06	0.192679	0.598303	1.819029
3.89	0.2644	-0.00162	3.15E-06	0.192634	0.598161	1.818771
3.89	0.2644	-0.00162	3.15E-06	0.192588	0.59802	1.818514

3.89	0.2644	-0.00162	3.15E-06	0.192543	0.597879	1.818258
3.89	0.2644	-0.00162	3.15E-06	0.192498	0.597738	1.818002
3.89	0.2644	-0.00162	3.15E-06	0.192452	0.597598	1.817746
3.89	0.2644	-0.00162	3.15E-06	0.192407	0.597457	1.817492
3.89	0.2644	-0.00162	3.15E-06	0.192362	0.597318	1.817238
3.90	0.2644	-0.00162	3.15E-06	0.192317	0.597178	1.816984
3.90	0.2644	-0.00162	3.15E-06	0.192272	0.597039	1.816731
3.90	0.2644	-0.00162	3.15E-06	0.192228	0.5969	1.816478
3.90	0.2644	-0.00162	3.15E-06	0.192183	0.596761	1.816226
3.90	0.2644	-0.00162	3.15E-06	0.192138	0.596622	1.815975
3.90	0.2644	-0.00162	3.15E-06	0.192094	0.596484	1.815724
3.90	0.2644	-0.00162	3.15E-06	0.192049	0.596346	1.815473
3.90	0.2644	-0.00162	3.15E-06	0.192005	0.596209	1.815223
3.90	0.2644	-0.00162	3.15E-06	0.191961	0.596071	1.814974
3.90	0.2644	-0.00162	3.15E-06	0.191917	0.595934	1.814725
3.90	0.2644	-0.00162	3.15E-06	0.191873	0.595797	1.814477
3.90	0.2644	-0.00162	3.15E-06	0.191829	0.595661	1.814229
3.90	0.2644	-0.00162	3.15E-06	0.191785	0.595524	1.813982
3.90	0.2644	-0.00162	3.15E-06	0.191741	0.595388	1.813735
3.90	0.2644	-0.00162	3.15E-06	0.191697	0.595252	1.813489
3.91	0.2644	-0.00162	3.15E-06	0.191654	0.595117	1.813243
3.91	0.2644	-0.00162	3.15E-06	0.19161	0.594982	1.812998
3.91	0.2644	-0.00162	3.15E-06	0.191567	0.594847	1.812753
3.91	0.2644	-0.00162	3.15E-06	0.191523	0.594712	1.812509
3.91	0.2644	-0.00162	3.15E-06	0.19148	0.594577	1.812265
3.91	0.2644	-0.00162	3.15E-06	0.191437	0.594443	1.812022
3.91	0.2644	-0.00162	3.15E-06	0.191393	0.594309	1.811779
3.91	0.2644	-0.00162	3.15E-06	0.19135	0.594175	1.811537
3.91	0.2644	-0.00162	3.15E-06	0.191307	0.594042	1.811295
3.91	0.2644	-0.00162	3.15E-06	0.191264	0.593909	1.811054
3.91	0.2644	-0.00162	3.15E-06	0.191222	0.593776	1.810813
3.91	0.2644	-0.00162	3.15E-06	0.191179	0.593643	1.810573
3.91	0.2644	-0.00162	3.15E-06	0.191136	0.593511	1.810333
3.91	0.2644	-0.00162	3.15E-06	0.191094	0.593378	1.810093
3.91	0.2644	-0.00162	3.15E-06	0.191051	0.593247	1.809855
3.92	0.2644	-0.00162	3.15E-06	0.191009	0.593115	1.809616
3.92	0.2644	-0.00162	3.15E-06	0.190966	0.592983	1.809378
3.92	0.2644	-0.00162	3.15E-06	0.190924	0.592852	1.809141
3.92	0.2644	-0.00162	3.15E-06	0.190882	0.592721	1.808904
3.92	0.2644	-0.00162	3.15E-06	0.19084	0.59259	1.808668
3.92	0.2644	-0.00162	3.15E-06	0.190798	0.59246	1.808432
3.92	0.2644	-0.00162	3.15E-06	0.190756	0.59233	1.808196
3.92	0.2644	-0.00162	3.15E-06	0.190714	0.5922	1.807961
3.92	0.2644	-0.00162	3.15E-06	0.190672	0.59207	1.807726
3.92	0.2644	-0.00162	3.15E-06	0.190631	0.59194	1.807492
3.92	0.2644	-0.00162	3.15E-06	0.190589	0.591811	1.807259
3.92	0.2644	-0.00162	3.15E-06	0.190547	0.591682	1.807025
3.92	0.2644	-0.00162	3.15E-06	0.190506	0.591553	1.806793
3.92	0.2644	-0.00162	3.15E-06	0.190464	0.591425	1.80656
3.92	0.2644	-0.00162	3.15E-06	0.190423	0.591296	1.806328

3.92	0.2644	-0.00162	3.15E-06	0.190382	0.591168	1.806097
3.93	0.2644	-0.00162	3.15E-06	0.190341	0.59104	1.805866
3.93	0.2644	-0.00162	3.15E-06	0.1903	0.590913	1.805635
3.93	0.2644	-0.00162	3.15E-06	0.190259	0.590785	1.805405
3.93	0.2644	-0.00162	3.15E-06	0.190218	0.590658	1.805176
3.93	0.2644	-0.00162	3.15E-06	0.190177	0.590531	1.804946
3.93	0.2644	-0.00162	3.15E-06	0.190136	0.590404	1.804718
3.93	0.2644	-0.00162	3.15E-06	0.190095	0.590278	1.804489
3.93	0.2644	-0.00162	3.15E-06	0.190054	0.590151	1.804261
3.93	0.2644	-0.00162	3.15E-06	0.190014	0.590025	1.804034
3.93	0.2644	-0.00162	3.15E-06	0.189973	0.589899	1.803807
3.93	0.2644	-0.00162	3.15E-06	0.189933	0.589774	1.80358
3.93	0.2644	-0.00162	3.15E-06	0.189892	0.589648	1.803354
3.93	0.2644	-0.00162	3.15E-06	0.189852	0.589523	1.803128
3.93	0.2644	-0.00162	3.15E-06	0.189812	0.589398	1.802903
3.93	0.2644	-0.00162	3.15E-06	0.189772	0.589273	1.802678
3.93	0.2644	-0.00162	3.15E-06	0.189732	0.589149	1.802454
3.94	0.2644	-0.00162	3.15E-06	0.189692	0.589025	1.80223
3.94	0.2644	-0.00162	3.15E-06	0.189652	0.5889	1.802006
3.94	0.2644	-0.00162	3.15E-06	0.189612	0.588777	1.801783
3.94	0.2644	-0.00162	3.15E-06	0.189572	0.588653	1.80156
3.94	0.2644	-0.00162	3.15E-06	0.189532	0.588529	1.801338
3.94	0.2644	-0.00162	3.15E-06	0.189492	0.588406	1.801116
3.94	0.2644	-0.00162	3.15E-06	0.189453	0.588283	1.800894
3.94	0.2644	-0.00162	3.15E-06	0.189413	0.58816	1.800673
3.94	0.2644	-0.00162	3.15E-06	0.189374	0.588038	1.800452
3.94	0.2644	-0.00162	3.15E-06	0.189334	0.587915	1.800232
3.94	0.2644	-0.00162	3.15E-06	0.189295	0.587793	1.800012
3.94	0.2644	-0.00162	3.15E-06	0.189256	0.587671	1.799792
3.94	0.2644	-0.00162	3.15E-06	0.189216	0.587549	1.799573
3.94	0.2644	-0.00162	3.15E-06	0.189177	0.587428	1.799354
3.94	0.2644	-0.00162	3.15E-06	0.189138	0.587306	1.799136
3.94	0.2644	-0.00162	3.15E-06	0.189099	0.587185	1.798918
3.94	0.2644	-0.00162	3.15E-06	0.18906	0.587064	1.7987
3.95	0.2644	-0.00162	3.15E-06	0.189021	0.586944	1.798483
3.95	0.2644	-0.00162	3.15E-06	0.188983	0.586823	1.798266
3.95	0.2644	-0.00162	3.15E-06	0.188944	0.586703	1.79805
3.95	0.2644	-0.00162	3.15E-06	0.188905	0.586583	1.797834
3.95	0.2644	-0.00162	3.15E-06	0.188866	0.586463	1.797618
3.95	0.2644	-0.00162	3.15E-06	0.188828	0.586343	1.797403
3.95	0.2644	-0.00162	3.15E-06	0.188789	0.586223	1.797188
3.95	0.2644	-0.00162	3.15E-06	0.188751	0.586104	1.796974
3.95	0.2644	-0.00162	3.15E-06	0.188713	0.585985	1.79676
3.95	0.2644	-0.00162	3.15E-06	0.188674	0.585866	1.796546
3.95	0.2644	-0.00162	3.15E-06	0.188636	0.585747	1.796333
3.95	0.2644	-0.00162	3.15E-06	0.188598	0.585629	1.79612
3.95	0.2644	-0.00162	3.15E-06	0.18856	0.58551	1.795907
3.95	0.2644	-0.00162	3.15E-06	0.188522	0.585392	1.795695
3.95	0.2644	-0.00162	3.15E-06	0.188484	0.585274	1.795483
3.95	0.2644	-0.00162	3.15E-06	0.188446	0.585156	1.795271

3.95	0.2644	-0.00162	3.15E-06	0.188408	0.585039	1.79506
3.96	0.2644	-0.00162	3.15E-06	0.18837	0.584921	1.79485
3.96	0.2644	-0.00162	3.15E-06	0.188332	0.584804	1.794639
3.96	0.2644	-0.00162	3.15E-06	0.188295	0.584687	1.794429
3.96	0.2644	-0.00162	3.15E-06	0.188257	0.58457	1.79422
3.96	0.2644	-0.00162	3.15E-06	0.188219	0.584454	1.79401
3.96	0.2644	-0.00162	3.15E-06	0.188182	0.584337	1.793801
3.96	0.2644	-0.00162	3.15E-06	0.188145	0.584221	1.793593
3.96	0.2644	-0.00162	3.15E-06	0.188107	0.584105	1.793385
3.96	0.2644	-0.00162	3.15E-06	0.18807	0.583989	1.793177
3.96	0.2644	-0.00162	3.15E-06	0.188033	0.583873	1.792969
3.96	0.2644	-0.00162	3.15E-06	0.187995	0.583758	1.792762
3.96	0.2644	-0.00162	3.15E-06	0.187958	0.583642	1.792555
3.96	0.2644	-0.00162	3.15E-06	0.187921	0.583527	1.792349
3.96	0.2644	-0.00162	3.15E-06	0.187884	0.583412	1.792143
3.96	0.2644	-0.00162	3.15E-06	0.187847	0.583297	1.791937
3.96	0.2644	-0.00162	3.15E-06	0.18781	0.583183	1.791732
3.96	0.2644	-0.00162	3.15E-06	0.187773	0.583068	1.791527
3.96	0.2644	-0.00162	3.15E-06	0.187737	0.582954	1.791322
3.96	0.2644	-0.00162	3.15E-06	0.1877	0.58284	1.791118
3.97	0.2644	-0.00162	3.15E-06	0.187663	0.582726	1.790914
3.97	0.2644	-0.00162	3.15E-06	0.187627	0.582612	1.79071
3.97	0.2644	-0.00162	3.15E-06	0.18759	0.582499	1.790507
3.97	0.2644	-0.00162	3.15E-06	0.187553	0.582385	1.790304
3.97	0.2644	-0.00162	3.15E-06	0.187517	0.582272	1.790101
3.97	0.2644	-0.00162	3.15E-06	0.187481	0.582159	1.789899
3.97	0.2644	-0.00162	3.15E-06	0.187444	0.582046	1.789697
3.97	0.2644	-0.00162	3.15E-06	0.187408	0.581934	1.789495
3.97	0.2644	-0.00162	3.15E-06	0.187372	0.581821	1.789294
3.97	0.2644	-0.00162	3.15E-06	0.187336	0.581709	1.789093
3.97	0.2644	-0.00162	3.15E-06	0.187299	0.581597	1.788892
3.97	0.2644	-0.00162	3.15E-06	0.187263	0.581485	1.788692
3.97	0.2644	-0.00162	3.15E-06	0.187227	0.581373	1.788492
3.97	0.2644	-0.00162	3.15E-06	0.187191	0.581261	1.788292
3.97	0.2644	-0.00162	3.15E-06	0.187156	0.58115	1.788093
3.97	0.2644	-0.00162	3.15E-06	0.18712	0.581038	1.787894
3.97	0.2644	-0.00162	3.15E-06	0.187084	0.580927	1.787696
3.97	0.2644	-0.00162	3.15E-06	0.187048	0.580816	1.787497
3.98	0.2644	-0.00162	3.15E-06	0.187012	0.580706	1.787299
3.98	0.2644	-0.00162	3.15E-06	0.186977	0.580595	1.787101
3.98	0.2644	-0.00162	3.15E-06	0.186941	0.580485	1.786904
3.98	0.2644	-0.00162	3.15E-06	0.186906	0.580374	1.786707
3.98	0.2644	-0.00162	3.15E-06	0.18687	0.580264	1.78651
3.98	0.2644	-0.00162	3.15E-06	0.186835	0.580154	1.786314
3.98	0.2644	-0.00162	3.15E-06	0.1868	0.580044	1.786118
3.98	0.2644	-0.00162	3.15E-06	0.186764	0.579935	1.785922
3.98	0.2644	-0.00162	3.15E-06	0.186729	0.579825	1.785726
3.98	0.2644	-0.00162	3.15E-06	0.186694	0.579716	1.785531
3.98	0.2644	-0.00162	3.15E-06	0.186659	0.579607	1.785336
3.98	0.2644	-0.00162	3.15E-06	0.186624	0.579498	1.785142

3.98	0.2644	-0.00162	3.15E-06	0.186589	0.579389	1.784948
3.98	0.2644	-0.00162	3.15E-06	0.186554	0.57928	1.784754
3.98	0.2644	-0.00162	3.15E-06	0.186519	0.579172	1.78456
3.98	0.2644	-0.00162	3.15E-06	0.186484	0.579064	1.784367
3.98	0.2644	-0.00162	3.15E-06	0.186449	0.578955	1.784174
3.98	0.2644	-0.00162	3.15E-06	0.186414	0.578847	1.783981
3.98	0.2644	-0.00162	3.15E-06	0.186379	0.57874	1.783789
3.98	0.2644	-0.00162	3.15E-06	0.186345	0.578632	1.783597
3.99	0.2644	-0.00162	3.15E-06	0.18631	0.578524	1.783405
3.99	0.2644	-0.00162	3.15E-06	0.186275	0.578417	1.783213
3.99	0.2644	-0.00162	3.15E-06	0.186241	0.57831	1.783022
3.99	0.2644	-0.00162	3.15E-06	0.186206	0.578203	1.782831
3.99	0.2644	-0.00162	3.15E-06	0.186172	0.578096	1.782641
3.99	0.2644	-0.00162	3.15E-06	0.186138	0.577989	1.78245
3.99	0.2644	-0.00162	3.15E-06	0.186103	0.577882	1.78226
3.99	0.2644	-0.00162	3.15E-06	0.186069	0.577776	1.782071
3.99	0.2644	-0.00162	3.15E-06	0.186035	0.57767	1.781881
3.99	0.2644	-0.00162	3.15E-06	0.186001	0.577564	1.781692
3.99	0.2644	-0.00162	3.15E-06	0.185966	0.577458	1.781503
3.99	0.2644	-0.00162	3.15E-06	0.185932	0.577352	1.781315
3.99	0.2644	-0.00162	3.15E-06	0.185898	0.577246	1.781126
3.99	0.2644	-0.00162	3.15E-06	0.185864	0.57714	1.780938
3.99	0.2644	-0.00162	3.15E-06	0.18583	0.577035	1.780751
3.99	0.2644	-0.00162	3.15E-06	0.185797	0.57693	1.780563
3.99	0.2644	-0.00162	3.15E-06	0.185763	0.576825	1.780376
3.99	0.2644	-0.00162	3.15E-06	0.185729	0.57672	1.780189
3.99	0.2644	-0.00162	3.15E-06	0.185695	0.576615	1.780003
3.99	0.2644	-0.00162	3.15E-06	0.185661	0.57651	1.779817
4.00	0.2644	-0.00162	3.15E-06	0.185628	0.576406	1.779631
4.00	0.2644	-0.00162	3.15E-06	0.185594	0.576302	1.779445
4.00	0.2644	-0.00162	3.15E-06	0.185561	0.576197	1.77926
4.00	0.2644	-0.00162	3.15E-06	0.185527	0.576093	1.779074
4.00	0.2644	-0.00162	3.15E-06	0.185494	0.575989	1.77889
4.00	0.2644	-0.00162	3.15E-06	0.18546	0.575886	1.778705
4.00	0.2644	-0.00162	3.15E-06	0.185427	0.575782	1.778521
4.00	0.2644	-0.00162	3.15E-06	0.185394	0.575678	1.778337

Location Index	
England and Wales	1
Scotland and Ireland	2

From Design and Analysis of Urban Storm Drainage, The Wallingford Procedure, Vol 1

Table 6.1 Values of Constants to calculate Cr

Geographic Location	Range of M5-D	Location Index	J0	J1	J2
England and Wales	0-10	1	0.1699	0.0028	0.000114
	11-30		0.1644	0.005831	-0.00013
	31-75		0.2644	-0.00162	3.15E-06
	76-150		0.2718	-0.00195	6.19E-06
	>150		0.1454	-0.00019	1.14E-07

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STORM SEWER DESIGN by the Modified Rational Method

Pipe Sizes STANDARD Manhole Sizes STANDARD

Designed with Level Inverts

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.473	4-8	0.226

Total Pipe Volume (m³) = 20.768

Network Design Table for Storm

Network Results Table

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S3.000	8.785	0.580	15.1	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S3.001	20.628	0.210	98.2	0.019	0.00	0.0	0.600	o	150	Pipe/Conduit	
S3.002	32.947	0.390	84.5	0.187	0.00	0.0	0.600	o	300	Pipe/Conduit	
S4.000	55.581	0.320	173.7	0.319	5.00	0.0	0.600	o	375	Pipe/Conduit	
S3.003	6.841	0.050	136.8	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.004	1.610	0.010	161.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S5.000	26.623	0.270	98.6	0.039	5.00	0.0	0.600	o	150	Pipe/Conduit	
S5.001	34.693	0.350	99.1	0.013	0.00	0.0	0.600	o	150	Pipe/Conduit	
S5.002	22.214	0.150	148.1	0.026	0.00	0.0	0.600	o	225	Pipe/Conduit	
S5.003	28.980	0.930	31.2	0.009	0.00	0.0	0.600	o	255	Pipe/Conduit	
S1.005	10.500	0.100	105.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S3.000	50.00	5.06	35.340	0.000	0.0	0.0	0.0	2.60	46.0	0.0
S3.001	50.00	5.40	34.760	0.019	0.0	0.0	0.0	1.01	17.9	2.6
S3.002	50.00	5.72	34.550	0.206	0.0	0.0	0.0	1.71	121.0	27.9
S4.000	50.00	5.68	34.480	0.319	0.0	0.0	0.0	1.37	151.5	43.2
S3.003	50.00	5.79	34.160	0.525	0.0	0.0	0.0	1.55	170.9	71.1
S1.004	49.78	7.38	34.010	0.612	0.0	0.0	0.0	1.60	254.4	82.5
S5.000	50.00	5.44	35.650	0.039	0.0	0.0	0.0	1.01	17.9	5.3
S5.001	50.00	6.01	35.380	0.052	0.0	0.0	0.0	1.01	17.8	7.0
S5.002	50.00	6.36	35.030	0.078	0.0	0.0	0.0	1.07	42.6	10.6
S5.003	50.00	6.55	34.880	0.087	0.0	0.0	0.0	2.55	130.2	11.8
S1.005	49.51	7.47	33.910	0.699	0.0	0.0	0.0	1.98	315.5	93.7

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S1	36.300	0.650	Open Manhole	600	S1.000	35.650	150				
S2	36.300	0.920	Open Manhole	600	S1.001	35.380	150	S1.000	35.380	150	
S3	36.300	0.650	Open Manhole	600	S2.000	35.650	150				
S3	36.300	1.270	Open Manhole	600	S1.002	35.030	225	S1.001	35.030	150	
								S2.000	35.030	150	
S4	36.300	1.500	Open Manhole	600	S1.003	34.800	225	S1.002	34.800	225	
S6	35.490	0.150	Open Manhole	450	S3.000	35.340	150				
S7	35.830	1.070	Open Manhole	1050	S3.001	34.760	150	S3.000	34.760	150	
S8	35.750	1.200	Open Manhole	1200	S3.002	34.550	300	S3.001	34.550	150	
S9	35.750	1.270	Open Manhole	1200	S4.000	34.480	375				
S9	35.750	1.590	Open Manhole	1350	S3.003	34.160	375	S3.002	34.160	300	
								S4.000	34.160	375	
S5	35.860	1.850	Open Manhole	1350	S1.004	34.010	450	S1.003	34.010	225	
								S3.003	34.110	375	25
S12	36.300	0.650	Open Manhole	600	S5.000	35.650	150				
S13	36.300	0.920	Open Manhole	600	S5.001	35.380	150	S5.000	35.380	150	
S14	36.200	1.170	Open Manhole	600	S5.002	35.030	225	S5.001	35.030	150	
S15	36.300	1.420	Open Manhole	600	S5.003	34.880	255	S5.002	34.880	225	
S6	35.860	1.950	Junction		S1.005	33.910	450	S1.004	34.000	450	90
								S5.003	33.950	255	
S	35.930	2.120	Open Manhole	0		OUTFALL		S1.005	33.810	450	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S1	448110.657	418703.995	448110.657	418703.995	Required	
S2	448093.796	418725.049	448093.796	418725.049	Required	
S3	448137.992	418725.361	448137.992	418725.361	Required	
S3	448120.875	418746.735	448120.875	418746.735	Required	
S4	448147.727	418768.239	448147.727	418768.239	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S6	448200.038	418656.346	448200.038	418656.346	Required	
S7	448200.789	418665.098	448200.789	418665.098	Required	
S8	448205.813	418685.105	448205.813	418685.105	Required	
S9	448150.159	418753.951	448150.159	418753.951	Required	
S9	448185.101	418710.727	448185.101	418710.727	Required	
S5	448190.396	418715.058	448190.396	418715.058	Required	
S12	448138.961	418677.451	448138.961	418677.451	Required	
S13	448155.603	418656.670	448155.603	418656.670	Required	
S14	448182.682	418678.357	448182.682	418678.357	Required	
S15	448168.796	418695.696	448168.796	418695.696	Required	
S6	448191.416	418713.812			No Entry	
S	448199.547	418707.168			No Entry	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	150	S1	36.300	35.650	0.500	Open Manhole	600
S1.001	o	150	S2	36.300	35.380	0.770	Open Manhole	600
S2.000	o	150	S3	36.300	35.650	0.500	Open Manhole	600
S1.002	o	225	S3	36.300	35.030	1.045	Open Manhole	600
S1.003	o	225	S4	36.300	34.800	1.275	Open Manhole	600
S3.000	o	150	S6	35.490	35.340	0.000	Open Manhole	450
S3.001	o	150	S7	35.830	34.760	0.920	Open Manhole	1050
S3.002	o	300	S8	35.750	34.550	0.900	Open Manhole	1200
S4.000	o	375	S9	35.750	34.480	0.895	Open Manhole	1200
S3.003	o	375	S9	35.750	34.160	1.215	Open Manhole	1350
S1.004	o	450	S5	35.860	34.010	1.400	Open Manhole	1350
S5.000	o	150	S12	36.300	35.650	0.500	Open Manhole	600
S5.001	o	150	S13	36.300	35.380	0.770	Open Manhole	600
S5.002	o	225	S14	36.200	35.030	0.945	Open Manhole	600

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	26.973	99.9	S2	36.300	35.380	0.770	Open Manhole	600
S1.001	34.693	99.1	S3	36.300	35.030	1.120	Open Manhole	600
S2.000	27.384	44.2	S3	36.300	35.030	1.120	Open Manhole	600
S1.002	34.401	149.6	S4	36.300	34.800	1.275	Open Manhole	600
S1.003	68.184	86.3	S5	35.860	34.010	1.625	Open Manhole	1350
S3.000	8.785	15.1	S7	35.830	34.760	0.920	Open Manhole	1050
S3.001	20.628	98.2	S8	35.750	34.550	1.050	Open Manhole	1200
S3.002	32.947	84.5	S9	35.750	34.160	1.290	Open Manhole	1350
S4.000	55.581	173.7	S9	35.750	34.160	1.215	Open Manhole	1350
S3.003	6.841	136.8	S5	35.860	34.110	1.375	Open Manhole	1350
S1.004	1.610	161.0	S6	35.860	34.000	1.410	Junction	
S5.000	26.623	98.6	S13	36.300	35.380	0.770	Open Manhole	600
S5.001	34.693	99.1	S14	36.200	35.030	1.020	Open Manhole	600
S5.002	22.214	148.1	S15	36.300	34.880	1.195	Open Manhole	600

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd	Diam	MH	C.Level	I.Level	D.Depth	MH	MH DIAM., L*W
	Sect	(mm)	Name	(m)	(m)	(m)	Connection	(mm)
S5.003	o	255	S15	36.300	34.880	1.165	Open Manhole	600
S1.005	o	450	S6	35.860	33.910	1.500	Junction	

Downstream Manhole

PN	Length	Slope	MH	C.Level	I.Level	D.Depth	MH	MH DIAM., L*W
	(m)	(1:X)	Name	(m)	(m)	(m)	Connection	(mm)
S5.003	28.980	31.2	S6	35.860	33.950	1.655	Junction	
S1.005	10.500	105.0	S	35.930	33.810	1.670	Open Manhole	0

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.039	0.039	0.039
1.001	-	-	100	0.013	0.013	0.013
2.000	-	-	100	0.026	0.026	0.026
1.002	-	-	100	0.009	0.009	0.009
1.003	-	-	100	0.000	0.000	0.000
3.000	-	-	100	0.000	0.000	0.000
3.001	-	-	100	0.019	0.019	0.019
3.002	-	-	100	0.187	0.187	0.187
4.000	-	-	100	0.319	0.319	0.319
3.003	-	-	100	0.000	0.000	0.000
1.004	-	-	100	0.000	0.000	0.000
5.000	-	-	100	0.039	0.039	0.039
5.001	-	-	100	0.013	0.013	0.013
5.002	-	-	100	0.026	0.026	0.026
5.003	-	-	100	0.009	0.009	0.009
1.005	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.699	0.699	0.699

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Network Classifications for Storm

PN	USMH	Pipe	Min Cover	Max Cover	Pipe Type	MH	MH	MH Ring	MH Type
	Name	Dia	Depth	Depth		Dia	Width	Depth	
		(mm)	(m)	(m)		(mm)	(mm)	(m)	
S1.000	S1	150	0.500	0.770	Unclassified	600	0	0.500	Unclassified
S1.001	S2	150	0.770	1.120	Unclassified	600	0	0.770	Unclassified
S2.000	S3	150	0.500	1.120	Unclassified	600	0	0.500	Unclassified
S1.002	S3	225	1.045	1.275	Unclassified	600	0	1.045	Unclassified
S1.003	S4	225	1.275	1.625	Unclassified	600	0	1.275	Unclassified
S3.000	S6	150	0.000	0.920	Unclassified	450	0	0.000	Unclassified
S3.001	S7	150	0.920	1.050	Unclassified	1050	0	0.920	Unclassified
S3.002	S8	300	0.900	1.290	Unclassified	1200	0	0.900	Unclassified
S4.000	S9	375	0.895	1.215	Unclassified	1200	0	0.895	Unclassified
S3.003	S9	375	1.215	1.375	Unclassified	1350	0	1.215	Unclassified
S1.004	S5	450	1.400	1.410	Unclassified	1350	0	1.400	Unclassified
S5.000	S12	150	0.500	0.770	Unclassified	600	0	0.500	Unclassified
S5.001	S13	150	0.770	1.020	Unclassified	600	0	0.770	Unclassified
S5.002	S14	225	0.945	1.195	Unclassified	600	0	0.945	Unclassified
S5.003	S15	255	1.165	1.655	Unclassified	600	0	1.165	Unclassified
S1.005	S6	450	1.500	1.670	Unclassified				Junction

Free Flowing Outfall Details for Storm

Outfall	Outfall	C. Level	I. Level	Min	D,L	W
Pipe Number	Name	(m)	(m)	I. Level	(mm)	(mm)
				(m)		
S1.005	S	35.930	33.810	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha	Storage 2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Storm Duration (mins)	30
Ratio R	0.350		

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: S6, DS/PN: S1.005, Volume (m³): 1.6

Unit Reference	MD-SHE-0103-5000-1200-5000
Design Head (m)	1.200
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	103
Invert Level (m)	33.910
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	5.0
Flush-Flo™	0.354	5.0
Kick-Flo®	0.745	4.0
Mean Flow over Head Range	-	4.4

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

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.4	1.200	5.0	3.000	7.7	7.000	11.5
0.200	4.7	1.400	5.4	3.500	8.3	7.500	11.8
0.300	5.0	1.600	5.7	4.000	8.8	8.000	12.2
0.400	5.0	1.800	6.0	4.500	9.3	8.500	12.6
0.500	4.9	2.000	6.3	5.000	9.8	9.000	12.9
0.600	4.7	2.200	6.6	5.500	10.2	9.500	13.3
0.800	4.1	2.400	6.9	6.000	10.7		
1.000	4.6	2.600	7.2	6.500	11.1		

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Storage Structures for Storm

Cellular Storage Manhole: S6, DS/PN: S1.005

Invert Level (m) 33.910 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	420.0	0.0	1.076	0.0	0.0
1.075	420.0	0.0			

Manhole Headloss for Storm

PN	US/MH Name	US/MH Headloss
S1.000	S1	0.500
S1.001	S2	0.500
S2.000	S3	0.500
S1.002	S3	0.500
S1.003	S4	0.500
S3.000	S6	0.500
S3.001	S7	0.500
S3.002	S8	0.500
S4.000	S9	0.500
S3.003	S9	0.500
S1.004	S5	0.500
S5.000	S12	0.500
S5.001	S13	0.500
S5.002	S14	0.500
S5.003	S15	0.500
S1.005	S6	0.000

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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.350
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	ON
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	2
Climate Change (%)	0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S1.000	S1	15 Winter	2	+0%					35.712
S1.001	S2	15 Winter	2	+0%					35.450
S2.000	S3	15 Winter	2	+0%					35.690
S1.002	S3	15 Winter	2	+0%					35.116
S1.003	S4	15 Winter	2	+0%					34.873
S3.000	S6	360 Winter	2	+0%					35.340
S3.001	S7	15 Winter	2	+0%					34.798
S3.002	S8	15 Winter	2	+0%					34.651
S4.000	S9	15 Winter	2	+0%					34.634
S3.003	S9	15 Winter	2	+0%					34.390
S1.004	S5	15 Winter	2	+0%					34.277
S5.000	S12	15 Winter	2	+0%					35.712
S5.001	S13	15 Winter	2	+0%					35.450
S5.002	S14	15 Winter	2	+0%					35.111
S5.003	S15	15 Winter	2	+0%					34.934
S1.005	S6	360 Winter	2	+0%					34.144

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

PN	US/MH Name	Surcharged		Flooded		Pipe		Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)	Status	
S1.000	S1	-0.088	0.000	0.35		5.9	OK	
S1.001	S2	-0.080	0.000	0.44		7.6	OK	
S2.000	S3	-0.110	0.000	0.15		4.0	OK	
S1.002	S3	-0.139	0.000	0.31		12.3	OK	
S1.003	S4	-0.152	0.000	0.22		12.1	OK	
S3.000	S6	-0.150	0.000	0.00		0.0	OK	
S3.001	S7	-0.112	0.000	0.15		2.5	OK	
S3.002	S8	-0.199	0.000	0.24		26.9	OK	
S4.000	S9	-0.221	0.000	0.34		48.1	OK	
S3.003	S9	-0.145	0.000	0.69		73.5	OK	
S1.004	S5	-0.183	0.000	0.66		85.7	OK	
S5.000	S12	-0.088	0.000	0.35		5.9	OK	
S5.001	S13	-0.080	0.000	0.44		7.6	OK	
S5.002	S14	-0.144	0.000	0.28		10.8	OK	
S5.003	S15	-0.201	0.000	0.10		11.8	OK	
S1.005	S6	-0.216	0.000	0.03		4.9	OK*	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0
Ratio R	0.350	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	400

Designed with Level Inverts

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.473	4-8	0.226

Total Area Contributing (ha) = 0.699

Total Pipe Volume (m³) = 20.768

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	26.973	0.270	99.9	0.039	5.00	0.0	0.600	o	150	Pipe/Conduit	
S1.001	34.693	0.350	99.1	0.013	0.00	0.0	0.600	o	150	Pipe/Conduit	
S2.000	27.384	0.620	44.2	0.026	5.00	0.0	0.600	o	150	Pipe/Conduit	
S1.002	34.401	0.230	149.6	0.009	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.003	68.184	0.790	86.3	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	50.00	5.45	35.650	0.039	0.0	0.0	0.0	1.01	17.8	5.3
S1.001	50.00	6.02	35.380	0.052	0.0	0.0	0.0	1.01	17.8	7.0
S2.000	50.00	5.30	35.650	0.026	0.0	0.0	0.0	1.52	26.8	3.5
S1.002	50.00	6.56	35.030	0.087	0.0	0.0	0.0	1.07	42.4	11.8
S1.003	49.84	7.36	34.800	0.087	0.0	0.0	0.0	1.41	56.0	11.8

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S3.000	8.785	0.580	15.1	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S3.001	20.628	0.210	98.2	0.019	0.00	0.0	0.600	o	150	Pipe/Conduit	
S3.002	32.947	0.390	84.5	0.187	0.00	0.0	0.600	o	300	Pipe/Conduit	
S4.000	55.581	0.320	173.7	0.319	5.00	0.0	0.600	o	375	Pipe/Conduit	
S3.003	6.841	0.050	136.8	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.004	1.610	0.010	161.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S5.000	26.623	0.270	98.6	0.039	5.00	0.0	0.600	o	150	Pipe/Conduit	
S5.001	34.693	0.350	99.1	0.013	0.00	0.0	0.600	o	150	Pipe/Conduit	
S5.002	22.214	0.150	148.1	0.026	0.00	0.0	0.600	o	225	Pipe/Conduit	
S5.003	28.980	0.930	31.2	0.009	0.00	0.0	0.600	o	255	Pipe/Conduit	
S1.005	10.500	0.100	105.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S3.000	50.00	5.06	35.340	0.000	0.0	0.0	0.0	2.60	46.0	0.0
S3.001	50.00	5.40	34.760	0.019	0.0	0.0	0.0	1.01	17.9	2.6
S3.002	50.00	5.72	34.550	0.206	0.0	0.0	0.0	1.71	121.0	27.9
S4.000	50.00	5.68	34.480	0.319	0.0	0.0	0.0	1.37	151.5	43.2
S3.003	50.00	5.79	34.160	0.525	0.0	0.0	0.0	1.55	170.9	71.1
S1.004	49.78	7.38	34.010	0.612	0.0	0.0	0.0	1.60	254.4	82.5
S5.000	50.00	5.44	35.650	0.039	0.0	0.0	0.0	1.01	17.9	5.3
S5.001	50.00	6.01	35.380	0.052	0.0	0.0	0.0	1.01	17.8	7.0
S5.002	50.00	6.36	35.030	0.078	0.0	0.0	0.0	1.07	42.6	10.6
S5.003	50.00	6.55	34.880	0.087	0.0	0.0	0.0	2.55	130.2	11.8
S1.005	49.51	7.47	33.910	0.699	0.0	0.0	0.0	1.98	315.5	93.7

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S1	36.300	0.650	Open Manhole	600	S1.000	35.650	150				
S2	36.300	0.920	Open Manhole	600	S1.001	35.380	150	S1.000	35.380	150	
S3	36.300	0.650	Open Manhole	600	S2.000	35.650	150				
S3	36.300	1.270	Open Manhole	600	S1.002	35.030	225	S1.001	35.030	150	
								S2.000	35.030	150	
S4	36.300	1.500	Open Manhole	600	S1.003	34.800	225	S1.002	34.800	225	
S6	35.490	0.150	Open Manhole	450	S3.000	35.340	150				
S7	35.830	1.070	Open Manhole	1050	S3.001	34.760	150	S3.000	34.760	150	
S8	35.750	1.200	Open Manhole	1200	S3.002	34.550	300	S3.001	34.550	150	
S9	35.750	1.270	Open Manhole	1200	S4.000	34.480	375				
S9	35.750	1.590	Open Manhole	1350	S3.003	34.160	375	S3.002	34.160	300	
								S4.000	34.160	375	
S5	35.860	1.850	Open Manhole	1350	S1.004	34.010	450	S1.003	34.010	225	
								S3.003	34.110	375	25
S12	36.300	0.650	Open Manhole	600	S5.000	35.650	150				
S13	36.300	0.920	Open Manhole	600	S5.001	35.380	150	S5.000	35.380	150	
S14	36.200	1.170	Open Manhole	600	S5.002	35.030	225	S5.001	35.030	150	
S15	36.300	1.420	Open Manhole	600	S5.003	34.880	255	S5.002	34.880	225	
S6	35.860	1.950	Junction		S1.005	33.910	450	S1.004	34.000	450	90
								S5.003	33.950	255	
S	35.930	2.120	Open Manhole	0		OUTFALL		S1.005	33.810	450	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S1	448110.657	418703.995	448110.657	418703.995	Required	
S2	448093.796	418725.049	448093.796	418725.049	Required	
S3	448137.992	418725.361	448137.992	418725.361	Required	
S3	448120.875	418746.735	448120.875	418746.735	Required	
S4	448147.727	418768.239	448147.727	418768.239	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S6	448200.038	418656.346	448200.038	418656.346	Required	
S7	448200.789	418665.098	448200.789	418665.098	Required	
S8	448205.813	418685.105	448205.813	418685.105	Required	
S9	448150.159	418753.951	448150.159	418753.951	Required	
S9	448185.101	418710.727	448185.101	418710.727	Required	
S5	448190.396	418715.058	448190.396	418715.058	Required	
S12	448138.961	418677.451	448138.961	418677.451	Required	
S13	448155.603	418656.670	448155.603	418656.670	Required	
S14	448182.682	418678.357	448182.682	418678.357	Required	
S15	448168.796	418695.696	448168.796	418695.696	Required	
S6	448191.416	418713.812			No Entry	
S	448199.547	418707.168			No Entry	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	150	S1	36.300	35.650	0.500	Open Manhole	600
S1.001	o	150	S2	36.300	35.380	0.770	Open Manhole	600
S2.000	o	150	S3	36.300	35.650	0.500	Open Manhole	600
S1.002	o	225	S3	36.300	35.030	1.045	Open Manhole	600
S1.003	o	225	S4	36.300	34.800	1.275	Open Manhole	600
S3.000	o	150	S6	35.490	35.340	0.000	Open Manhole	450
S3.001	o	150	S7	35.830	34.760	0.920	Open Manhole	1050
S3.002	o	300	S8	35.750	34.550	0.900	Open Manhole	1200
S4.000	o	375	S9	35.750	34.480	0.895	Open Manhole	1200
S3.003	o	375	S9	35.750	34.160	1.215	Open Manhole	1350
S1.004	o	450	S5	35.860	34.010	1.400	Open Manhole	1350
S5.000	o	150	S12	36.300	35.650	0.500	Open Manhole	600
S5.001	o	150	S13	36.300	35.380	0.770	Open Manhole	600
S5.002	o	225	S14	36.200	35.030	0.945	Open Manhole	600

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	26.973	99.9	S2	36.300	35.380	0.770	Open Manhole	600
S1.001	34.693	99.1	S3	36.300	35.030	1.120	Open Manhole	600
S2.000	27.384	44.2	S3	36.300	35.030	1.120	Open Manhole	600
S1.002	34.401	149.6	S4	36.300	34.800	1.275	Open Manhole	600
S1.003	68.184	86.3	S5	35.860	34.010	1.625	Open Manhole	1350
S3.000	8.785	15.1	S7	35.830	34.760	0.920	Open Manhole	1050
S3.001	20.628	98.2	S8	35.750	34.550	1.050	Open Manhole	1200
S3.002	32.947	84.5	S9	35.750	34.160	1.290	Open Manhole	1350
S4.000	55.581	173.7	S9	35.750	34.160	1.215	Open Manhole	1350
S3.003	6.841	136.8	S5	35.860	34.110	1.375	Open Manhole	1350
S1.004	1.610	161.0	S6	35.860	34.000	1.410	Junction	
S5.000	26.623	98.6	S13	36.300	35.380	0.770	Open Manhole	600
S5.001	34.693	99.1	S14	36.200	35.030	1.020	Open Manhole	600
S5.002	22.214	148.1	S15	36.300	34.880	1.195	Open Manhole	600

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd	Diam	MH	C.Level	I.Level	D.Depth	MH	MH DIAM., L*W
	Sect	(mm)	Name	(m)	(m)	(m)	Connection	(mm)
S5.003	o	255	S15	36.300	34.880	1.165	Open Manhole	600
S1.005	o	450	S6	35.860	33.910	1.500	Junction	

Downstream Manhole

PN	Length	Slope	MH	C.Level	I.Level	D.Depth	MH	MH DIAM., L*W
	(m)	(1:X)	Name	(m)	(m)	(m)	Connection	(mm)
S5.003	28.980	31.2	S6	35.860	33.950	1.655	Junction	
S1.005	10.500	105.0	S	35.930	33.810	1.670	Open Manhole	0

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.039	0.039	0.039
1.001	-	-	100	0.013	0.013	0.013
2.000	-	-	100	0.026	0.026	0.026
1.002	-	-	100	0.009	0.009	0.009
1.003	-	-	100	0.000	0.000	0.000
3.000	-	-	100	0.000	0.000	0.000
3.001	-	-	100	0.019	0.019	0.019
3.002	-	-	100	0.187	0.187	0.187
4.000	-	-	100	0.319	0.319	0.319
3.003	-	-	100	0.000	0.000	0.000
1.004	-	-	100	0.000	0.000	0.000
5.000	-	-	100	0.039	0.039	0.039
5.001	-	-	100	0.013	0.013	0.013
5.002	-	-	100	0.026	0.026	0.026
5.003	-	-	100	0.009	0.009	0.009
1.005	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.699	0.699	0.699

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Network Classifications for Storm

PN	USMH	Pipe	Min Cover	Max Cover	Pipe Type	MH	MH	MH Ring	MH Type
	Name	Dia	Depth	Depth		Dia	Width	Depth	
		(mm)	(m)	(m)		(mm)	(mm)	(m)	
S1.000	S1	150	0.500	0.770	Unclassified	600	0	0.500	Unclassified
S1.001	S2	150	0.770	1.120	Unclassified	600	0	0.770	Unclassified
S2.000	S3	150	0.500	1.120	Unclassified	600	0	0.500	Unclassified
S1.002	S3	225	1.045	1.275	Unclassified	600	0	1.045	Unclassified
S1.003	S4	225	1.275	1.625	Unclassified	600	0	1.275	Unclassified
S3.000	S6	150	0.000	0.920	Unclassified	450	0	0.000	Unclassified
S3.001	S7	150	0.920	1.050	Unclassified	1050	0	0.920	Unclassified
S3.002	S8	300	0.900	1.290	Unclassified	1200	0	0.900	Unclassified
S4.000	S9	375	0.895	1.215	Unclassified	1200	0	0.895	Unclassified
S3.003	S9	375	1.215	1.375	Unclassified	1350	0	1.215	Unclassified
S1.004	S5	450	1.400	1.410	Unclassified	1350	0	1.400	Unclassified
S5.000	S12	150	0.500	0.770	Unclassified	600	0	0.500	Unclassified
S5.001	S13	150	0.770	1.020	Unclassified	600	0	0.770	Unclassified
S5.002	S14	225	0.945	1.195	Unclassified	600	0	0.945	Unclassified
S5.003	S15	255	1.165	1.655	Unclassified	600	0	1.165	Unclassified
S1.005	S6	450	1.500	1.670	Unclassified				Junction

Free Flowing Outfall Details for Storm

Outfall	Outfall	C. Level	I. Level	Min	D,L	W
Pipe Number	Name	(m)	(m)	I. Level	(mm)	(mm)
				(m)		
S1.005	S	35.930	33.810	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha	Storage 2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Storm Duration (mins)	30
Ratio R	0.350		

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: S6, DS/PN: S1.005, Volume (m³): 1.6

Unit Reference	MD-SHE-0103-5000-1200-5000
Design Head (m)	1.200
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	103
Invert Level (m)	33.910
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	5.0
Flush-Flo™	0.354	5.0
Kick-Flo®	0.745	4.0
Mean Flow over Head Range	-	4.4

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

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.4	1.200	5.0	3.000	7.7	7.000	11.5
0.200	4.7	1.400	5.4	3.500	8.3	7.500	11.8
0.300	5.0	1.600	5.7	4.000	8.8	8.000	12.2
0.400	5.0	1.800	6.0	4.500	9.3	8.500	12.6
0.500	4.9	2.000	6.3	5.000	9.8	9.000	12.9
0.600	4.7	2.200	6.6	5.500	10.2	9.500	13.3
0.800	4.1	2.400	6.9	6.000	10.7		
1.000	4.6	2.600	7.2	6.500	11.1		

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Storage Structures for Storm

Cellular Storage Manhole: S6, DS/PN: S1.005

Invert Level (m) 33.910 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	420.0	0.0	1.076	0.0	0.0
1.075	420.0	0.0			

Manhole Headloss for Storm

PN	US/MH Name	US/MH Headloss
S1.000	S1	0.500
S1.001	S2	0.500
S2.000	S3	0.500
S1.002	S3	0.500
S1.003	S4	0.500
S3.000	S6	0.500
S3.001	S7	0.500
S3.002	S8	0.500
S4.000	S9	0.500
S3.003	S9	0.500
S1.004	S5	0.500
S5.000	S12	0.500
S5.001	S13	0.500
S5.002	S14	0.500
S5.003	S15	0.500
S1.005	S6	0.000

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<u>Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>									
<u>Simulation Criteria</u>									
Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000						
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000						
Hot Start Level (mm)	0	Inlet Coefficient	0.800						
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000						
Foul Sewage per hectare (l/s)	0.000								
Number of Input Hydrographs	0	Number of Storage Structures	1						
Number of Online Controls	1	Number of Time/Area Diagrams	0						
Number of Offline Controls	0	Number of Real Time Controls	0						
<u>Synthetic Rainfall Details</u>									
Rainfall Model	FSR	Ratio R	0.350						
Region	England and Wales	Cv (Summer)	0.750						
M5-60 (mm)	18.000	Cv (Winter)	0.840						
Margin for Flood Risk Warning (mm)				300.0					
Analysis Timestep	2.5 Second Increment	(Extended)							
DTS Status				ON					
DVD Status				ON					
Inertia Status				ON					
Profile(s)				Summer and Winter					
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600,								
	720, 960, 1440, 2160, 2880, 4320, 5760,								
	7200, 8640, 10080								
Return Period(s) (years)				30					
Climate Change (%)				0					
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S1.000	S1	15 Winter	30	+0%					35.741
S1.001	S2	15 Winter	30	+0%					35.491
S2.000	S3	15 Winter	30	+0%					35.706
S1.002	S3	15 Winter	30	+0%					35.159
S1.003	S4	15 Winter	30	+0%					34.906
S3.000	S6	360 Winter	30	+0%					35.340
S3.001	S7	15 Winter	30	+0%					34.821
S3.002	S8	15 Winter	30	+0%					34.720
S4.000	S9	15 Winter	30	+0%					34.747
S3.003	S9	15 Winter	30	+0%	30/15 Summer				34.624
S1.004	S5	15 Winter	30	+0%	30/15 Summer				34.489
S5.000	S12	15 Winter	30	+0%					35.740
S5.001	S13	15 Winter	30	+0%					35.491
S5.002	S14	15 Winter	30	+0%					35.154
S5.003	S15	15 Winter	30	+0%					34.959
S1.005	S6	360 Winter	30	+0%	30/180 Winter				34.393
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Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged		Flooded		Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)		
S1.000	S1	-0.059	0.000	0.66		11.2		OK
S1.001	S2	-0.039	0.000	0.87		14.9		OK
S2.000	S3	-0.094	0.000	0.29		7.5		OK
S1.002	S3	-0.096	0.000	0.61		24.4		OK
S1.003	S4	-0.119	0.000	0.44		23.8		OK
S3.000	S6	-0.150	0.000	0.00		0.0		OK
S3.001	S7	-0.089	0.000	0.35		5.9		OK
S3.002	S8	-0.130	0.000	0.58		63.9		OK
S4.000	S9	-0.108	0.000	0.62		87.3		OK
S3.003	S9	0.089	0.000	1.33		142.6	SURCHARGED	
S1.004	S5	0.029	0.000	1.29		167.9	SURCHARGED	
S5.000	S12	-0.060	0.000	0.65		11.2		OK
S5.001	S13	-0.039	0.000	0.87		14.9		OK
S5.002	S14	-0.101	0.000	0.57		22.2		OK
S5.003	S15	-0.176	0.000	0.21		24.7		OK
S1.005	S6	0.033	0.000	0.03		5.0	SURCHARGED*	

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STORM SEWER DESIGN by the Modified Rational Method

Pipe Sizes STANDARD Manhole Sizes STANDARD

Designed with Level Inverts

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.473	4-8	0.226

Total Pipe Volume (m³) = 20.768

Network Design Table for Storm

Network Results Table

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S3.000	8.785	0.580	15.1	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S3.001	20.628	0.210	98.2	0.019	0.00	0.0	0.600	o	150	Pipe/Conduit	
S3.002	32.947	0.390	84.5	0.187	0.00	0.0	0.600	o	300	Pipe/Conduit	
S4.000	55.581	0.320	173.7	0.319	5.00	0.0	0.600	o	375	Pipe/Conduit	
S3.003	6.841	0.050	136.8	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.004	1.610	0.010	161.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S5.000	26.623	0.270	98.6	0.039	5.00	0.0	0.600	o	150	Pipe/Conduit	
S5.001	34.693	0.350	99.1	0.013	0.00	0.0	0.600	o	150	Pipe/Conduit	
S5.002	22.214	0.150	148.1	0.026	0.00	0.0	0.600	o	225	Pipe/Conduit	
S5.003	28.980	0.930	31.2	0.009	0.00	0.0	0.600	o	255	Pipe/Conduit	
S1.005	10.500	0.100	105.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S3.000	50.00	5.06	35.340	0.000	0.0	0.0	0.0	2.60	46.0	0.0
S3.001	50.00	5.40	34.760	0.019	0.0	0.0	0.0	1.01	17.9	2.6
S3.002	50.00	5.72	34.550	0.206	0.0	0.0	0.0	1.71	121.0	27.9
S4.000	50.00	5.68	34.480	0.319	0.0	0.0	0.0	1.37	151.5	43.2
S3.003	50.00	5.79	34.160	0.525	0.0	0.0	0.0	1.55	170.9	71.1
S1.004	49.78	7.38	34.010	0.612	0.0	0.0	0.0	1.60	254.4	82.5
S5.000	50.00	5.44	35.650	0.039	0.0	0.0	0.0	1.01	17.9	5.3
S5.001	50.00	6.01	35.380	0.052	0.0	0.0	0.0	1.01	17.8	7.0
S5.002	50.00	6.36	35.030	0.078	0.0	0.0	0.0	1.07	42.6	10.6
S5.003	50.00	6.55	34.880	0.087	0.0	0.0	0.0	2.55	130.2	11.8
S1.005	49.51	7.47	33.910	0.699	0.0	0.0	0.0	1.98	315.5	93.7

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S1	36.300	0.650	Open Manhole	600	S1.000	35.650	150				
S2	36.300	0.920	Open Manhole	600	S1.001	35.380	150	S1.000	35.380	150	
S3	36.300	0.650	Open Manhole	600	S2.000	35.650	150				
S3	36.300	1.270	Open Manhole	600	S1.002	35.030	225	S1.001	35.030	150	
								S2.000	35.030	150	
S4	36.300	1.500	Open Manhole	600	S1.003	34.800	225	S1.002	34.800	225	
S6	35.490	0.150	Open Manhole	450	S3.000	35.340	150				
S7	35.830	1.070	Open Manhole	1050	S3.001	34.760	150	S3.000	34.760	150	
S8	35.750	1.200	Open Manhole	1200	S3.002	34.550	300	S3.001	34.550	150	
S9	35.750	1.270	Open Manhole	1200	S4.000	34.480	375				
S9	35.750	1.590	Open Manhole	1350	S3.003	34.160	375	S3.002	34.160	300	
								S4.000	34.160	375	
S5	35.860	1.850	Open Manhole	1350	S1.004	34.010	450	S1.003	34.010	225	
								S3.003	34.110	375	25
S12	36.300	0.650	Open Manhole	600	S5.000	35.650	150				
S13	36.300	0.920	Open Manhole	600	S5.001	35.380	150	S5.000	35.380	150	
S14	36.200	1.170	Open Manhole	600	S5.002	35.030	225	S5.001	35.030	150	
S15	36.300	1.420	Open Manhole	600	S5.003	34.880	255	S5.002	34.880	225	
S6	35.860	1.950	Junction		S1.005	33.910	450	S1.004	34.000	450	90
								S5.003	33.950	255	
S	35.930	2.120	Open Manhole	0		OUTFALL		S1.005	33.810	450	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S1	448110.657	418703.995	448110.657	418703.995	Required	
S2	448093.796	418725.049	448093.796	418725.049	Required	
S3	448137.992	418725.361	448137.992	418725.361	Required	
S3	448120.875	418746.735	448120.875	418746.735	Required	
S4	448147.727	418768.239	448147.727	418768.239	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S6	448200.038	418656.346	448200.038	418656.346	Required	
S7	448200.789	418665.098	448200.789	418665.098	Required	
S8	448205.813	418685.105	448205.813	418685.105	Required	
S9	448150.159	418753.951	448150.159	418753.951	Required	
S9	448185.101	418710.727	448185.101	418710.727	Required	
S5	448190.396	418715.058	448190.396	418715.058	Required	
S12	448138.961	418677.451	448138.961	418677.451	Required	
S13	448155.603	418656.670	448155.603	418656.670	Required	
S14	448182.682	418678.357	448182.682	418678.357	Required	
S15	448168.796	418695.696	448168.796	418695.696	Required	
S6	448191.416	418713.812			No Entry	
S	448199.547	418707.168			No Entry	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	150	S1	36.300	35.650	0.500	Open Manhole	600
S1.001	o	150	S2	36.300	35.380	0.770	Open Manhole	600
S2.000	o	150	S3	36.300	35.650	0.500	Open Manhole	600
S1.002	o	225	S3	36.300	35.030	1.045	Open Manhole	600
S1.003	o	225	S4	36.300	34.800	1.275	Open Manhole	600
S3.000	o	150	S6	35.490	35.340	0.000	Open Manhole	450
S3.001	o	150	S7	35.830	34.760	0.920	Open Manhole	1050
S3.002	o	300	S8	35.750	34.550	0.900	Open Manhole	1200
S4.000	o	375	S9	35.750	34.480	0.895	Open Manhole	1200
S3.003	o	375	S9	35.750	34.160	1.215	Open Manhole	1350
S1.004	o	450	S5	35.860	34.010	1.400	Open Manhole	1350
S5.000	o	150	S12	36.300	35.650	0.500	Open Manhole	600
S5.001	o	150	S13	36.300	35.380	0.770	Open Manhole	600
S5.002	o	225	S14	36.200	35.030	0.945	Open Manhole	600

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	26.973	99.9	S2	36.300	35.380	0.770	Open Manhole	600
S1.001	34.693	99.1	S3	36.300	35.030	1.120	Open Manhole	600
S2.000	27.384	44.2	S3	36.300	35.030	1.120	Open Manhole	600
S1.002	34.401	149.6	S4	36.300	34.800	1.275	Open Manhole	600
S1.003	68.184	86.3	S5	35.860	34.010	1.625	Open Manhole	1350
S3.000	8.785	15.1	S7	35.830	34.760	0.920	Open Manhole	1050
S3.001	20.628	98.2	S8	35.750	34.550	1.050	Open Manhole	1200
S3.002	32.947	84.5	S9	35.750	34.160	1.290	Open Manhole	1350
S4.000	55.581	173.7	S9	35.750	34.160	1.215	Open Manhole	1350
S3.003	6.841	136.8	S5	35.860	34.110	1.375	Open Manhole	1350
S1.004	1.610	161.0	S6	35.860	34.000	1.410	Junction	
S5.000	26.623	98.6	S13	36.300	35.380	0.770	Open Manhole	600
S5.001	34.693	99.1	S14	36.200	35.030	1.020	Open Manhole	600
S5.002	22.214	148.1	S15	36.300	34.880	1.195	Open Manhole	600

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd	Diam	MH	C.Level	I.Level	D.Depth	MH	MH DIAM., L*W
	Sect	(mm)	Name	(m)	(m)	(m)	Connection	(mm)
S5.003	o	255	S15	36.300	34.880	1.165	Open Manhole	600
S1.005	o	450	S6	35.860	33.910	1.500	Junction	

Downstream Manhole

PN	Length	Slope	MH	C.Level	I.Level	D.Depth	MH	MH DIAM., L*W
	(m)	(1:X)	Name	(m)	(m)	(m)	Connection	(mm)
S5.003	28.980	31.2	S6	35.860	33.950	1.655	Junction	
S1.005	10.500	105.0	S	35.930	33.810	1.670	Open Manhole	0

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.039	0.039	0.039
1.001	-	-	100	0.013	0.013	0.013
2.000	-	-	100	0.026	0.026	0.026
1.002	-	-	100	0.009	0.009	0.009
1.003	-	-	100	0.000	0.000	0.000
3.000	-	-	100	0.000	0.000	0.000
3.001	-	-	100	0.019	0.019	0.019
3.002	-	-	100	0.187	0.187	0.187
4.000	-	-	100	0.319	0.319	0.319
3.003	-	-	100	0.000	0.000	0.000
1.004	-	-	100	0.000	0.000	0.000
5.000	-	-	100	0.039	0.039	0.039
5.001	-	-	100	0.013	0.013	0.013
5.002	-	-	100	0.026	0.026	0.026
5.003	-	-	100	0.009	0.009	0.009
1.005	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.699	0.699	0.699

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Network Classifications for Storm

PN	USMH	Pipe	Min Cover	Max Cover	Pipe Type	MH	MH	MH Ring	MH Type
	Name	Dia	Depth	Depth		Dia	Width	Depth	
		(mm)	(m)	(m)		(mm)	(mm)	(m)	
S1.000	S1	150	0.500	0.770	Unclassified	600	0	0.500	Unclassified
S1.001	S2	150	0.770	1.120	Unclassified	600	0	0.770	Unclassified
S2.000	S3	150	0.500	1.120	Unclassified	600	0	0.500	Unclassified
S1.002	S3	225	1.045	1.275	Unclassified	600	0	1.045	Unclassified
S1.003	S4	225	1.275	1.625	Unclassified	600	0	1.275	Unclassified
S3.000	S6	150	0.000	0.920	Unclassified	450	0	0.000	Unclassified
S3.001	S7	150	0.920	1.050	Unclassified	1050	0	0.920	Unclassified
S3.002	S8	300	0.900	1.290	Unclassified	1200	0	0.900	Unclassified
S4.000	S9	375	0.895	1.215	Unclassified	1200	0	0.895	Unclassified
S3.003	S9	375	1.215	1.375	Unclassified	1350	0	1.215	Unclassified
S1.004	S5	450	1.400	1.410	Unclassified	1350	0	1.400	Unclassified
S5.000	S12	150	0.500	0.770	Unclassified	600	0	0.500	Unclassified
S5.001	S13	150	0.770	1.020	Unclassified	600	0	0.770	Unclassified
S5.002	S14	225	0.945	1.195	Unclassified	600	0	0.945	Unclassified
S5.003	S15	255	1.165	1.655	Unclassified	600	0	1.165	Unclassified
S1.005	S6	450	1.500	1.670	Unclassified				Junction

Free Flowing Outfall Details for Storm

Outfall	Outfall	C. Level	I. Level	Min	D,L	W
Pipe Number	Name	(m)	(m)	I. Level	(mm)	(mm)
				(m)		
S1.005	S	35.930	33.810	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha	Storage 2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Storm Duration (mins)	30
Ratio R	0.350		

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: S6, DS/PN: S1.005, Volume (m³): 1.6

Unit Reference	MD-SHE-0103-5000-1200-5000
Design Head (m)	1.200
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	103
Invert Level (m)	33.910
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	5.0
Flush-Flo™	0.354	5.0
Kick-Flo®	0.745	4.0
Mean Flow over Head Range	-	4.4

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

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.4	1.200	5.0	3.000	7.7	7.000	11.5
0.200	4.7	1.400	5.4	3.500	8.3	7.500	11.8
0.300	5.0	1.600	5.7	4.000	8.8	8.000	12.2
0.400	5.0	1.800	6.0	4.500	9.3	8.500	12.6
0.500	4.9	2.000	6.3	5.000	9.8	9.000	12.9
0.600	4.7	2.200	6.6	5.500	10.2	9.500	13.3
0.800	4.1	2.400	6.9	6.000	10.7		
1.000	4.6	2.600	7.2	6.500	11.1		

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Storage Structures for Storm

Cellular Storage Manhole: S6, DS/PN: S1.005

Invert Level (m) 33.910 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	420.0	0.0	1.076	0.0	0.0
1.075	420.0	0.0			

Manhole Headloss for Storm

PN	US/MH Name	US/MH Headloss
S1.000	S1	0.500
S1.001	S2	0.500
S2.000	S3	0.500
S1.002	S3	0.500
S1.003	S4	0.500
S3.000	S6	0.500
S3.001	S7	0.500
S3.002	S8	0.500
S4.000	S9	0.500
S3.003	S9	0.500
S1.004	S5	0.500
S5.000	S12	0.500
S5.001	S13	0.500
S5.002	S14	0.500
S5.003	S15	0.500
S1.005	S6	0.000

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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.350
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	ON
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	100
Climate Change (%)	40

	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water
	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level
PN									(m)
S1.000	S1	15 Winter	100	+40%	100/15 Summer				36.124
S1.001	S2	15 Winter	100	+40%	100/15 Summer				35.839
S2.000	S3	15 Winter	100	+40%					35.729
S1.002	S3	15 Winter	100	+40%					35.219
S1.003	S4	15 Winter	100	+40%	100/15 Winter				35.027
S3.000	S6	15 Winter	100	+40%					35.398
S3.001	S7	15 Winter	100	+40%	100/15 Summer				35.400
S3.002	S8	15 Winter	100	+40%	100/15 Summer				35.351
S4.000	S9	15 Winter	100	+40%	100/15 Summer				35.447
S3.003	S9	15 Winter	100	+40%	100/15 Summer				35.062
S1.004	S5	600 Winter	100	+40%	100/15 Summer				34.922
S5.000	S12	15 Winter	100	+40%	100/15 Summer				36.115
S5.001	S13	15 Winter	100	+40%	100/15 Summer				35.830
S5.002	S14	15 Winter	100	+40%					35.197
S5.003	S15	15 Winter	100	+40%					34.981
S1.005	S6	600 Winter	100	+40%	100/30 Summer				34.922

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

PN	US/MH Name	Surcharged		Flooded		Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)			
S1.000	S1	0.324	0.000	1.03		17.5	FLOOD RISK	
S1.001	S2	0.309	0.000	1.31		22.5	SURCHARGED	
S2.000	S3	-0.071	0.000	0.53		13.6	OK	
S1.002	S3	-0.036	0.000	0.96		38.4	OK	
S1.003	S4	0.002	0.000	0.70		37.8	SURCHARGED	
S3.000	S6	-0.092	0.000	0.00		0.1	FLOOD RISK	
S3.001	S7	0.490	0.000	0.55		9.2	SURCHARGED	
S3.002	S8	0.501	0.000	0.87		96.1	SURCHARGED	
S4.000	S9	0.592	0.000	1.06		149.2	SURCHARGED	
S3.003	S9	0.527	0.000	2.26		241.7	SURCHARGED	
S1.004	S5	0.462	0.000	0.26		34.2	SURCHARGED	
S5.000	S12	0.315	0.000	1.03		17.6	FLOOD RISK	
S5.001	S13	0.300	0.000	1.32		22.7	SURCHARGED	
S5.002	S14	-0.058	0.000	0.88		34.3	OK	
S5.003	S15	-0.154	0.000	0.32		38.8	OK	
S1.005	S6	0.562	0.000	0.03		5.0	SURCHARGED*	