

APPENDIX 9

SURFACE WATER STORAGE CALCULATIONS

Integra Consulting						Job No	Date
						3036	06.11.18
						Sheet	By
Calculations		Telephone:		0161 237 3400		01	JS
Job Title							
Storm Water Flood Model							
M5-60 = 18		r = 0.335		Return, T = 100		Area (m²) = 9140	
				CC Factor = 0.3		Limit (l/s) = 6.4	
				Totals		418	593
D (mins)	M5-D (mm)	MT-D (mm)	Rate (mm/hr)	Flow (l/s)	CC Flow (l/s)	Storage (m³)	CC Storage (m³)
10.00	8.88	16.72	100.32	253.07	329.00	148.00	193.56
15.00	10.71	20.75	83.01	209.39	272.21	182.69	239.23
20.00	12.09	23.58	70.75	178.48	232.03	206.50	270.76
25.00	13.20	25.97	62.33	157.24	204.41	226.26	297.02
30.00	14.14	28.00	55.99	141.24	183.62	242.72	318.99
35.00	14.96	29.76	51.01	128.69	167.29	256.80	337.88
40.00	15.68	31.32	46.98	118.52	154.08	269.10	354.44
45.00	16.34	32.73	43.64	110.10	143.13	279.98	369.16
50.00	16.93	34.02	40.82	102.98	133.87	289.74	382.42
55.00	17.49	35.20	38.40	96.87	125.93	298.55	394.45
60.00	18.00	36.29	36.29	91.56	119.02	306.57	405.45
65.00	18.48	37.31	34.44	86.89	112.96	313.91	415.57
70.00	18.93	38.27	32.80	82.75	107.57	320.67	424.93
75.00	19.36	39.17	31.33	79.05	102.76	326.91	433.62
80.00	19.76	40.02	30.01	75.71	98.43	332.70	441.72
85.00	20.15	40.82	28.82	72.69	94.50	338.08	449.30
90.00	20.52	41.59	27.72	69.94	90.92	343.10	456.40
95.00	20.87	42.31	26.72	67.42	87.64	347.80	463.08
100.00	21.21	43.01	25.81	65.10	84.63	352.19	469.37
105.00	21.54	43.67	24.96	62.96	81.84	356.31	475.30
110.00	21.85	44.31	24.17	60.97	79.27	360.18	480.91
115.00	22.15	44.92	23.44	59.13	76.87	363.82	486.22
120.00	22.45	45.51	22.76	57.41	74.63	367.25	491.25
125.00	22.73	46.08	22.12	55.80	72.54	370.48	496.03
130.00	23.01	46.63	21.52	54.29	70.57	373.53	500.56
135.00	23.28	47.16	20.96	52.87	68.73	376.40	504.88
140.00	23.54	47.67	20.43	51.53	66.99	379.12	508.98
145.00	23.79	48.16	19.93	50.27	65.35	381.68	512.89
150.00	24.04	48.64	19.46	49.08	63.80	384.10	516.61
155.00	24.28	49.10	19.01	47.95	62.33	386.39	520.16
160.00	24.51	49.55	18.58	46.87	60.94	388.55	523.55
165.00	24.74	49.99	18.18	45.85	59.61	390.59	526.78
170.00	24.97	50.41	17.79	44.88	58.35	392.52	529.86
175.00	25.19	50.82	17.42	43.96	57.14	394.35	532.81
180.00	25.40	51.22	17.07	43.07	55.99	396.06	535.62
185.00	25.61	51.61	16.74	42.23	54.90	397.69	538.31
190.00	25.82	51.99	16.42	41.42	53.84	399.22	540.87
195.00	26.02	52.36	16.11	40.64	52.84	400.66	543.32
200.00	26.22	52.72	15.82	39.90	51.87	402.02	545.66

205.00	26.42	53.08	15.53	39.19	50.94	403.29	547.89
210.00	26.61	53.42	15.26	38.50	50.05	404.49	550.03
215.00	26.79	53.75	15.00	37.84	49.20	405.61	552.07
220.00	26.98	54.08	14.75	37.21	48.37	406.67	554.01
225.00	27.16	54.40	14.51	36.60	47.58	407.65	555.87
230.00	27.34	54.71	14.27	36.01	46.81	408.57	557.64
235.00	27.52	55.02	14.05	35.44	46.07	409.43	559.33
240.00	27.69	55.32	13.83	34.89	45.35	410.22	560.93
245.00	27.86	55.61	13.62	34.36	44.66	410.96	562.47
250.00	28.03	55.90	13.42	33.84	44.00	411.64	563.93
255.00	28.19	56.18	13.22	33.35	43.35	412.26	565.31
260.00	28.35	56.45	13.03	32.86	42.72	412.83	566.63
265.00	28.52	56.72	12.84	32.40	42.12	413.35	567.88
270.00	28.67	56.98	12.66	31.94	41.53	413.82	569.07
275.00	28.83	57.24	12.49	31.51	40.96	414.25	570.20
280.00	28.98	57.50	12.32	31.08	40.40	414.62	571.27
285.00	29.14	57.74	12.16	30.67	39.87	414.95	572.27
290.00	29.29	57.99	12.00	30.26	39.34	415.24	573.22
295.00	29.43	58.22	11.84	29.87	38.84	415.49	574.12
300.00	29.58	58.46	11.69	29.49	38.34	415.69	574.96
305.00	29.73	58.69	11.55	29.12	37.86	415.86	575.75
310.00	29.87	58.91	11.40	28.76	37.39	415.99	576.50
315.00	30.01	59.14	11.26	28.41	36.94	416.08	577.19
320.00	30.15	59.35	11.13	28.07	36.50	416.13	577.83
325.00	30.29	59.57	11.00	27.74	36.06	416.15	578.43
330.00	30.42	59.78	10.87	27.42	35.64	416.13	578.99
335.00	30.56	59.98	10.74	27.10	35.23	416.08	579.50
340.00	30.69	60.18	10.62	26.79	34.83	416.00	579.97
345.00	30.83	60.38	10.50	26.49	34.44	415.88	580.39
350.00	30.96	60.58	10.38	26.20	34.06	415.74	580.78
355.00	31.09	60.99	10.31	26.00	33.81	417.57	583.74
360.00	31.21	61.21	10.20	25.73	33.45	417.61	584.37
365.00	31.34	61.42	10.10	25.47	33.11	417.64	584.98
370.00	31.47	61.63	9.99	25.21	32.78	417.64	585.56
375.00	31.59	61.84	9.89	24.96	32.45	417.62	586.11
380.00	31.71	62.05	9.80	24.72	32.13	417.58	586.63
385.00	31.83	62.25	9.70	24.47	31.82	417.52	587.13
390.00	31.96	62.46	9.61	24.24	31.51	417.44	587.61
395.00	32.07	62.66	9.52	24.01	31.21	417.35	588.05
400.00	32.19	62.86	9.43	23.78	30.92	417.23	588.48
405.00	32.31	63.05	9.34	23.56	30.63	417.09	588.88
410.00	32.43	63.25	9.26	23.35	30.35	416.94	589.26
415.00	32.54	63.44	9.17	23.14	30.08	416.77	589.61
420.00	32.66	63.63	9.09	22.93	29.81	416.58	589.94
425.00	32.77	63.82	9.01	22.73	29.55	416.38	590.25
430.00	32.88	64.01	8.93	22.53	29.29	416.16	590.54
435.00	32.99	64.19	8.85	22.34	29.04	415.92	590.81
440.00	33.10	64.38	8.78	22.15	28.79	415.67	591.06
445.00	33.21	64.56	8.70	21.96	28.55	415.40	591.29
450.00	33.32	64.74	8.63	21.77	28.31	415.12	591.50

455.00	33.43	64.92	8.56	21.60	28.07	414.82	591.69
460.00	33.54	65.09	8.49	21.42	27.84	414.51	591.86
465.00	33.64	65.27	8.42	21.25	27.62	414.19	592.01
470.00	33.75	65.44	8.35	21.08	27.40	413.85	592.15
475.00	33.85	65.62	8.29	20.91	27.18	413.49	592.26
480.00	33.96	65.79	8.22	20.74	26.97	413.13	592.36
485.00	34.06	65.96	8.16	20.58	26.76	412.75	592.44
490.00	34.16	66.12	8.10	20.43	26.55	412.35	592.51
495.00	34.26	66.29	8.04	20.27	26.35	411.95	592.56
500.00	34.36	66.46	7.97	20.12	26.15	411.53	592.59
505.00	34.46	66.62	7.92	19.97	25.96	411.10	592.61
510.00	34.56	66.78	7.86	19.82	25.77	410.66	592.61
515.00	34.66	66.95	7.80	19.68	25.58	410.21	592.59
520.00	34.76	67.11	7.74	19.53	25.39	409.74	592.57
525.00	34.85	67.26	7.69	19.39	25.21	409.26	592.52
530.00	34.95	67.42	7.63	19.25	25.03	408.78	592.46
535.00	35.05	67.58	7.58	19.12	24.85	408.28	592.39
540.00	35.14	67.73	7.53	18.99	24.68	407.77	592.30
545.00	35.24	67.89	7.47	18.85	24.51	407.25	592.20
550.00	35.33	68.04	7.42	18.72	24.34	406.72	592.09
555.00	35.42	68.19	7.37	18.60	24.18	406.17	591.96
560.00	35.52	68.34	7.32	18.47	24.01	405.62	591.82
565.00	35.61	68.49	7.27	18.35	23.85	405.06	591.67
570.00	35.70	68.64	7.23	18.23	23.70	404.49	591.50
575.00	35.79	68.79	7.18	18.11	23.54	403.91	591.33
580.00	35.88	68.94	7.13	17.99	23.39	403.32	591.13
585.00	35.97	69.08	7.09	17.87	23.24	402.72	590.93
590.00	36.06	69.23	7.04	17.76	23.09	402.11	590.72
595.00	36.15	69.37	7.00	17.65	22.94	401.50	590.49
600.00	36.24	69.51	6.95	17.54	22.80	400.87	590.25
605.00	36.32	69.65	6.91	17.43	22.65	400.24	590.00
610.00	36.41	69.79	6.86	17.32	22.51	399.59	589.74
615.00	36.50	69.93	6.82	17.21	22.37	398.94	589.47
620.00	36.58	70.07	6.78	17.11	22.24	398.28	589.19
625.00	36.67	70.21	6.74	17.00	22.10	397.61	588.89
630.00	36.75	70.35	6.70	16.90	21.97	396.93	588.59
635.00	36.84	70.48	6.66	16.80	21.84	396.25	588.28
640.00	36.92	70.62	6.62	16.70	21.71	395.56	587.95
645.00	37.00	70.75	6.58	16.60	21.58	394.85	587.62
650.00	37.09	70.89	6.54	16.51	21.46	394.15	587.27
655.00	37.17	71.02	6.51	16.41	21.33	393.43	586.92
660.00	37.25	71.15	6.47	16.32	21.21	392.71	586.55
665.00	37.33	71.28	6.43	16.22	21.09	391.98	586.18
670.00	37.42	71.41	6.40	16.13	20.97	391.24	585.79
675.00	37.50	71.54	6.36	16.04	20.85	390.49	585.40
680.00	37.58	71.67	6.32	15.95	20.74	389.74	585.00
685.00	37.66	71.80	6.29	15.86	20.62	388.98	584.59
690.00	37.74	71.92	6.25	15.78	20.51	388.21	584.17
695.00	37.81	72.05	6.22	15.69	20.40	387.44	583.74
700.00	37.89	72.18	6.19	15.61	20.29	386.66	583.30

705.00	37.97	72.30	6.15	15.52	20.18	385.87	582.85
710.00	38.05	72.42	6.12	15.44	20.07	385.08	582.40
715.00	38.13	72.55	6.09	15.36	19.96	384.28	581.93
720.00	38.20	72.67	6.06	15.28	19.86	383.48	581.46
725.00	38.28	72.79	6.02	15.20	19.76	382.66	580.98
730.00	38.36	72.91	5.99	15.12	19.65	381.85	580.49
735.00	38.43	73.03	5.96	15.04	19.55	381.02	580.00
740.00	38.51	73.15	5.93	14.96	19.45	380.19	579.49
745.00	38.58	73.27	5.90	14.89	19.35	379.35	578.98
750.00	38.66	73.39	5.87	14.81	19.25	378.51	578.46
755.00	38.73	73.51	5.84	14.74	19.16	377.66	577.94
760.00	38.81	73.63	5.81	14.66	19.06	376.81	577.40
765.00	38.88	73.74	5.78	14.59	18.97	375.95	576.86
770.00	38.95	73.86	5.76	14.52	18.87	375.08	576.31
775.00	39.03	73.98	5.73	14.45	18.78	374.21	575.75
780.00	39.10	74.09	5.70	14.38	18.69	373.33	575.19
785.00	39.17	74.20	5.67	14.31	18.60	372.45	574.62
790.00	39.25	74.32	5.64	14.24	18.51	371.56	574.04
795.00	39.32	74.43	5.62	14.17	18.42	370.67	573.46
800.00	39.39	74.54	5.59	14.10	18.33	369.77	572.86
805.00	39.46	74.66	5.56	14.04	18.25	368.87	572.27
810.00	39.53	74.77	5.54	13.97	18.16	367.96	571.66
815.00	39.60	74.88	5.51	13.91	18.08	367.05	571.05
820.00	39.67	74.99	5.49	13.84	17.99	366.13	570.43
825.00	39.74	75.10	5.46	13.78	17.91	365.20	569.80
830.00	39.81	75.21	5.44	13.71	17.83	364.27	569.17
835.00	39.88	75.32	5.41	13.65	17.75	363.34	568.54
840.00	39.95	75.42	5.39	13.59	17.67	362.40	567.89
845.00	40.02	75.53	5.36	13.53	17.59	361.46	567.24
850.00	40.09	75.64	5.34	13.47	17.51	360.51	566.59
855.00	40.15	75.75	5.32	13.41	17.43	359.56	565.92
860.00	40.22	75.85	5.29	13.35	17.35	358.60	565.25
865.00	40.29	75.96	5.27	13.29	17.28	357.64	564.58
870.00	40.36	76.06	5.25	13.23	17.20	356.67	563.90
875.00	40.42	76.17	5.22	13.18	17.13	355.70	563.21
880.00	40.49	76.27	5.20	13.12	17.05	354.73	562.52
885.00	40.56	76.37	5.18	13.06	16.98	353.75	561.82
890.00	40.62	76.48	5.16	13.01	16.91	352.76	561.12
895.00	40.69	76.58	5.13	12.95	16.84	351.78	560.41
900.00	40.75	76.68	5.11	12.90	16.76	350.78	559.70
905.00	40.82	76.78	5.09	12.84	16.69	349.79	558.98
910.00	40.88	76.88	5.07	12.79	16.62	348.78	558.25
915.00	40.95	76.98	5.05	12.73	16.56	347.78	557.52
920.00	41.01	77.09	5.03	12.68	16.49	346.77	556.79
925.00	41.08	77.19	5.01	12.63	16.42	345.76	556.04
930.00	41.14	77.28	4.99	12.58	16.35	344.74	555.30
935.00	41.21	77.38	4.97	12.53	16.28	343.72	554.55
940.00	41.27	77.48	4.95	12.48	16.22	342.69	553.79
945.00	41.33	77.58	4.93	12.43	16.15	341.66	553.03
950.00	41.40	77.68	4.91	12.38	16.09	340.63	552.26

955.00	41.46	77.78	4.89	12.33	16.02	339.59	551.49
960.00	41.52	77.87	4.87	12.28	15.96	338.55	550.71
965.00	41.58	77.97	4.85	12.23	15.90	337.51	549.93
970.00	41.64	78.06	4.83	12.18	15.84	336.46	549.14
975.00	41.71	78.16	4.81	12.13	15.77	335.41	548.35
980.00	41.77	78.26	4.79	12.09	15.71	334.35	547.56
985.00	41.83	78.35	4.77	12.04	15.65	333.29	546.76
990.00	41.89	78.44	4.75	11.99	15.59	332.23	545.95
995.00	41.95	78.54	4.74	11.95	15.53	331.17	545.14
1000.00	42.01	78.63	4.72	11.90	15.47	330.10	544.33
1005.00	42.07	78.73	4.70	11.86	15.41	329.02	543.51
1010.00	42.13	78.82	4.68	11.81	15.36	327.95	542.68
1015.00	42.19	78.91	4.66	11.77	15.30	326.87	541.85
1020.00	42.25	79.00	4.65	11.72	15.24	325.78	541.02
1025.00	42.31	79.09	4.63	11.68	15.18	324.70	540.19
1030.00	42.37	79.19	4.61	11.64	15.13	323.61	539.34
1035.00	42.43	79.28	4.60	11.59	15.07	322.51	538.50
1040.00	42.49	79.37	4.58	11.55	15.02	321.42	537.65
1045.00	42.55	79.46	4.56	11.51	14.96	320.32	536.79
1050.00	42.61	79.55	4.55	11.47	14.91	319.21	535.94
1055.00	42.67	79.64	4.53	11.43	14.85	318.11	535.07
1060.00	42.73	79.73	4.51	11.38	14.80	317.00	534.21
1065.00	42.78	79.82	4.50	11.34	14.75	315.88	533.34
1070.00	42.84	79.90	4.48	11.30	14.69	314.77	532.46
1075.00	42.90	79.99	4.46	11.26	14.64	313.65	531.58
1080.00	42.96	80.08	4.45	11.22	14.59	312.53	530.70
1085.00	43.01	80.17	4.43	11.18	14.54	311.40	529.81
1090.00	43.07	80.25	4.42	11.14	14.49	310.27	528.92
1095.00	43.13	80.34	4.40	11.11	14.44	309.14	528.03
1100.00	43.18	80.43	4.39	11.07	14.39	308.01	527.13
1105.00	43.24	80.51	4.37	11.03	14.34	306.87	526.23
1110.00	43.30	80.60	4.36	10.99	14.29	305.73	525.32
1115.00	43.35	80.69	4.34	10.95	14.24	304.59	524.41
1120.00	43.41	80.77	4.33	10.92	14.19	303.44	523.50
1125.00	43.47	80.86	4.31	10.88	14.14	302.30	522.58
1130.00	43.52	80.94	4.30	10.84	14.09	301.14	521.66
1135.00	43.58	81.03	4.28	10.81	14.05	299.99	520.74
1140.00	43.63	81.11	4.27	10.77	14.00	298.83	519.81
1145.00	43.69	81.19	4.25	10.73	13.95	297.67	518.88
1150.00	43.74	81.28	4.24	10.70	13.91	296.51	517.95
1155.00	43.80	81.36	4.23	10.66	13.86	295.35	517.01
1160.00	43.85	81.44	4.21	10.63	13.81	294.18	516.06
1165.00	43.91	81.52	4.20	10.59	13.77	293.01	515.12
1170.00	43.96	81.61	4.18	10.56	13.72	291.84	514.17
1175.00	44.01	81.69	4.17	10.52	13.68	290.66	513.22
1180.00	44.07	81.77	4.16	10.49	13.64	289.48	512.26
1185.00	44.12	81.85	4.14	10.45	13.59	288.30	511.30
1190.00	44.18	81.93	4.13	10.42	13.55	287.12	510.34
1195.00	44.23	82.01	4.12	10.39	13.50	285.93	509.38
1200.00	44.28	82.09	4.10	10.35	13.46	284.74	508.41

1205.00	44.34	82.17	4.09	10.32	13.42	283.55	507.43
1210.00	44.39	82.25	4.08	10.29	13.38	282.36	506.46
1215.00	44.44	82.33	4.07	10.26	13.33	281.16	505.48
1220.00	44.49	82.41	4.05	10.22	13.29	279.96	504.50
1225.00	44.55	82.49	4.04	10.19	13.25	278.76	503.51
1230.00	44.60	82.57	4.03	10.16	13.21	277.56	502.52
1235.00	44.65	82.65	4.02	10.13	13.17	276.35	501.53
1240.00	44.70	82.73	4.00	10.10	13.13	275.15	500.54
1245.00	44.75	82.81	3.99	10.07	13.09	273.94	499.54
1250.00	44.81	82.89	3.98	10.04	13.05	272.72	498.54
1255.00	44.86	82.96	3.97	10.01	13.01	271.51	497.54
1260.00	44.91	83.04	3.95	9.98	12.97	270.29	496.53
1265.00	44.96	83.12	3.94	9.95	12.93	269.07	495.52
1270.00	45.01	83.19	3.93	9.92	12.89	267.85	494.51
1275.00	45.06	83.27	3.92	9.89	12.85	266.62	493.49
1280.00	45.11	83.35	3.91	9.86	12.81	265.40	492.47
1285.00	45.16	83.42	3.90	9.83	12.77	264.17	491.45
1290.00	45.21	83.50	3.88	9.80	12.74	262.94	490.43
1295.00	45.27	83.57	3.87	9.77	12.70	261.71	489.40
1300.00	45.32	83.65	3.86	9.74	12.66	260.47	488.37
1305.00	45.37	83.73	3.85	9.71	12.62	259.23	487.34
1310.00	45.42	83.80	3.84	9.68	12.59	257.99	486.30
1315.00	45.47	83.88	3.83	9.65	12.55	256.75	485.26
1320.00	45.52	83.95	3.82	9.63	12.51	255.51	484.22
1325.00	45.56	84.02	3.80	9.60	12.48	254.26	483.18
1330.00	45.61	84.10	3.79	9.57	12.44	253.01	482.13
1335.00	45.66	84.17	3.78	9.54	12.41	251.76	481.08
1340.00	45.71	84.24	3.77	9.52	12.37	250.51	480.03
1345.00	45.76	84.32	3.76	9.49	12.34	249.26	478.98
1350.00	45.81	84.39	3.75	9.46	12.30	248.00	477.92
1355.00	45.86	84.46	3.74	9.43	12.27	246.74	476.86
1360.00	45.91	84.54	3.73	9.41	12.23	245.48	475.80
1365.00	45.96	84.61	3.72	9.38	12.20	244.22	474.73
1370.00	46.01	84.68	3.71	9.36	12.16	242.95	473.66
1375.00	46.05	84.75	3.70	9.33	12.13	241.69	472.59
1380.00	46.10	84.83	3.69	9.30	12.09	240.42	471.52
1385.00	46.15	84.90	3.68	9.28	12.06	239.15	470.45
1390.00	46.20	84.97	3.67	9.25	12.03	237.88	469.37
1395.00	46.25	85.04	3.66	9.23	11.99	236.60	468.29
1400.00	46.29	85.11	3.65	9.20	11.96	235.33	467.20
1405.00	46.34	85.18	3.64	9.18	11.93	234.05	466.12
1410.00	46.39	85.25	3.63	9.15	11.90	232.77	465.03
1415.00	46.44	85.32	3.62	9.13	11.86	231.49	463.94
1420.00	46.48	85.39	3.61	9.10	11.83	230.20	462.85
1425.00	46.53	85.46	3.60	9.08	11.80	228.92	461.75
1430.00	46.58	85.53	3.59	9.05	11.77	227.63	460.66
1435.00	46.62	85.60	3.58	9.03	11.74	226.34	459.56
1440.00	46.67	85.67	3.57	9.00	11.71	225.05	458.45
1445.00	46.72	85.74	3.56	8.98	11.68	223.76	457.35
1450.00	46.76	85.81	3.55	8.96	11.64	222.46	456.24

1455.00	46.81	85.88	3.54	8.93	11.61	221.17	455.13
1460.00	46.86	85.94	3.53	8.91	11.58	219.87	454.02
1465.00	46.90	86.01	3.52	8.89	11.55	218.57	452.91
1470.00	46.95	86.08	3.51	8.86	11.52	217.27	451.79
1475.00	46.99	86.15	3.50	8.84	11.49	215.96	450.67
1480.00	47.04	86.22	3.50	8.82	11.46	214.66	449.55
1485.00	47.09	86.28	3.49	8.79	11.43	213.35	448.43
1490.00	47.13	86.35	3.48	8.77	11.40	212.04	447.30
1495.00	47.18	86.42	3.47	8.75	11.37	210.73	446.18
1500.00	47.22	86.49	3.46	8.73	11.34	209.42	445.05
1505.00	47.27	86.55	3.45	8.70	11.32	208.11	443.92
1510.00	47.31	86.62	3.44	8.68	11.29	206.79	442.78
1515.00	47.36	86.69	3.43	8.66	11.26	205.48	441.65
1520.00	47.40	86.75	3.42	8.64	11.23	204.16	440.51
1525.00	47.45	86.82	3.42	8.62	11.20	202.84	439.37
1530.00	47.49	86.88	3.41	8.60	11.17	201.52	438.23
1535.00	47.54	86.95	3.40	8.57	11.15	200.19	437.08
1540.00	47.58	87.01	3.39	8.55	11.12	198.87	435.93
1545.00	47.62	87.08	3.38	8.53	11.09	197.54	434.79
1550.00	47.67	87.15	3.37	8.51	11.06	196.21	433.64
1555.00	47.71	87.21	3.37	8.49	11.04	194.88	432.48
1560.00	47.76	87.28	3.36	8.47	11.01	193.55	431.33
1565.00	47.80	87.34	3.35	8.45	10.98	192.22	430.17
1570.00	47.85	87.40	3.34	8.43	10.95	190.88	429.01
1575.00	47.89	87.47	3.33	8.41	10.93	189.55	427.85
1580.00	47.93	87.53	3.32	8.39	10.90	188.21	426.69
1585.00	47.98	87.60	3.32	8.36	10.87	186.87	425.52
1590.00	48.02	87.66	3.31	8.34	10.85	185.53	424.36
1595.00	48.06	87.72	3.30	8.32	10.82	184.19	423.19
1600.00	48.11	87.79	3.29	8.30	10.80	182.84	422.02
1605.00	48.15	87.85	3.28	8.28	10.77	181.50	420.84
1610.00	48.19	87.91	3.28	8.26	10.74	180.15	419.67
1615.00	48.24	87.98	3.27	8.25	10.72	178.80	418.49
1620.00	48.28	88.04	3.26	8.23	10.69	177.45	417.32
1625.00	48.32	88.10	3.25	8.21	10.67	176.10	416.13
1630.00	48.36	88.17	3.25	8.19	10.64	174.75	414.95
1635.00	48.41	88.23	3.24	8.17	10.62	173.40	413.77
1640.00	48.45	88.29	3.23	8.15	10.59	172.04	412.58
1645.00	48.49	88.35	3.22	8.13	10.57	170.69	411.40
1650.00	48.53	88.41	3.22	8.11	10.54	169.33	410.21
1655.00	48.58	88.48	3.21	8.09	10.52	167.97	409.01
1660.00	48.62	88.54	3.20	8.07	10.49	166.61	407.82
1665.00	48.66	88.60	3.19	8.05	10.47	165.24	406.63
1670.00	48.70	88.66	3.19	8.04	10.45	163.88	405.43
1675.00	48.74	88.72	3.18	8.02	10.42	162.52	404.23
1680.00	48.79	88.78	3.17	8.00	10.40	161.15	403.03
1685.00	48.83	88.84	3.16	7.98	10.37	159.78	401.83
1690.00	48.87	88.90	3.16	7.96	10.35	158.41	400.62
1695.00	48.91	88.96	3.15	7.94	10.33	157.04	399.42
1700.00	48.95	89.02	3.14	7.93	10.30	155.67	398.21

1705.00	48.99	89.08	3.13	7.91	10.28	154.30	397.00
1710.00	49.04	89.14	3.13	7.89	10.26	152.92	395.79
1715.00	49.08	89.20	3.12	7.87	10.23	151.55	394.58
1720.00	49.12	89.26	3.11	7.86	10.21	150.17	393.36
1725.00	49.16	89.32	3.11	7.84	10.19	148.79	392.15
1730.00	49.20	89.38	3.10	7.82	10.17	147.41	390.93
1735.00	49.24	89.44	3.09	7.80	10.14	146.03	389.71
1740.00	49.28	89.50	3.09	7.79	10.12	144.65	388.49
1745.00	49.32	89.56	3.08	7.77	10.10	143.26	387.27
1750.00	49.36	89.62	3.07	7.75	10.08	141.88	386.04
1755.00	49.40	89.68	3.07	7.73	10.05	140.49	384.81
1760.00	49.44	89.74	3.06	7.72	10.03	139.10	383.59
1765.00	49.48	89.80	3.05	7.70	10.01	137.71	382.36
1770.00	49.52	89.85	3.05	7.68	9.99	136.32	381.13
1775.00	49.56	89.91	3.04	7.67	9.97	134.93	379.89
1780.00	49.60	89.97	3.03	7.65	9.95	133.54	378.66
1785.00	49.64	90.03	3.03	7.63	9.92	132.15	377.42
1790.00	49.68	90.09	3.02	7.62	9.90	130.75	376.19
1795.00	49.72	90.14	3.01	7.60	9.88	129.36	374.95
1800.00	49.76	90.20	3.01	7.58	9.86	127.96	373.71
1805.00	49.80	90.26	3.00	7.57	9.84	126.56	372.46
1810.00	49.84	90.32	2.99	7.55	9.82	125.16	371.22
1815.00	49.88	90.37	2.99	7.54	9.80	123.76	369.97
1820.00	49.92	90.43	2.98	7.52	9.78	122.36	368.73
1825.00	49.96	90.49	2.97	7.50	9.76	120.95	367.48
1830.00	50.00	90.54	2.97	7.49	9.74	119.55	366.23
1835.00	50.04	90.60	2.96	7.47	9.71	118.14	364.98
1840.00	50.08	90.66	2.96	7.46	9.69	116.74	363.73
1845.00	50.12	90.71	2.95	7.44	9.67	115.33	362.47
1850.00	50.16	90.77	2.94	7.43	9.65	113.92	361.22
1855.00	50.20	90.83	2.94	7.41	9.63	112.51	359.96
1860.00	50.24	90.88	2.93	7.40	9.61	111.10	358.70
1865.00	50.27	90.94	2.93	7.38	9.59	109.68	357.44
1870.00	50.31	90.99	2.92	7.36	9.57	108.27	356.18
1875.00	50.35	91.05	2.91	7.35	9.55	106.86	354.91
1880.00	50.39	91.10	2.91	7.33	9.54	105.44	353.65
1885.00	50.43	91.16	2.90	7.32	9.52	104.02	352.38
1890.00	50.47	91.21	2.90	7.30	9.50	102.60	351.11
1895.00	50.51	91.27	2.89	7.29	9.48	101.19	349.85
1900.00	50.54	91.32	2.88	7.28	9.46	99.77	348.57
1905.00	50.58	91.38	2.88	7.26	9.44	98.34	347.30
1910.00	50.62	91.43	2.87	7.25	9.42	96.92	346.03
1915.00	50.66	91.49	2.87	7.23	9.40	95.50	344.75
1920.00	50.70	91.54	2.86	7.22	9.38	94.07	343.48
1925.00	50.73	91.60	2.85	7.20	9.36	92.65	342.20
1930.00	50.77	91.65	2.85	7.19	9.34	91.22	340.92
1935.00	50.81	91.71	2.84	7.17	9.33	89.79	339.64
1940.00	50.85	91.76	2.84	7.16	9.31	88.36	338.36
1945.00	50.88	91.81	2.83	7.14	9.29	86.93	337.08
1950.00	50.92	91.87	2.83	7.13	9.27	85.50	335.79