

APPENDIX 1 Infiltration Results

Site Location: Pine Trees - Edge of Pine Forest 27 Elmslie Rd				Soil Type: Loam on crumbly clay over fractured greywacke								
Date 4/07/2019		Testers S. Pattinson & Glen										
Test #1												
Time	Difference			Water Levels mm		Infiltration	Infiltration Rate		Cumulative Infiltration		Notes	
Hours	Min	Sec	sec	Before	After	mm	mm / min	mm/hr	mm	Time Sec	Time Hrs	
0	0	0		0	100					0	0.00	Test used 230lt of water
0	0	12	12	45	100	55	275	16500	55	12.00	0.00	Water in outer ring soaked away 2 to 3 times faster than inner ring
0	0	41	29	30	100	70	145	8690	125	41.00	0.01	Ground wet from last nights rain
0	1	22	41	25	100	75	110	6585	200	82.00	0.02	Rain started previous day at approx 2pm
0	2	2	46	40	100	60	78	4696	260	128.00	0.04	Rain stopped about 6 am today
0	3	53	111	30	100	70	38	2270	330	239.00	0.07	Rain total 26.5mm from raingauge
0	4	50	57	30	100	70	74	4421	400	296.00	0.08	read at 6.09 am
0	6	0	76	45	100	55	43	2605	455	372.00	0.10	
0	7	0	60	60	100	40	40	2400	495	432.00	0.12	Double ring infiltrometer
0	8	0	60	60	100	40	40	2400	535	492.00	0.14	Outer Ring 300mm dia
0	9	0	60	55	100	45	45	2700	580	552.00	0.15	Inner Ring 100mm dia
0	10	0	60	65	100	35	35	2100	615	612.00	0.17	Outer Ring 110mm below GL
0	11	0	60	66	100	34	34	2040	649	672.00	0.19	120 mm above GL
0	12	0	60	70	100	30	30	1800	679	732.00	0.20	Inner Ring 70mm below GL
0	14	0	120	46	100	54	27	1620	733	852.00	0.24	Inner Ring 90mm above GL
0	16	0	120	50	100	50	25	1500	783	972.00	0.27	
0	18	0	120	55	100	45	23	1350	828	1092.00	0.30	
0	20	0	120	63	100	37	19	1110	865	1212.00	0.34	
0	22	0	120	63	100	37	19	1110	902	1332.00	0.37	
0	25	0	180	45	100	55	18	1100	957	1512.00	0.42	
0	28	0	180	53	100	47	16	940	1004	1692.00	0.47	
0	32	0	240	49	100	51	13	765	1055	1932.00	0.54	
0	36	0	240	33	100	67	17	1005	1122	2172.00	0.60	
0	40	0	240	35	100	65	16	975	1187	2412.00	0.67	
0	45	0	300	43	100	57	11	684	1244	2712.00	0.75	
0	50	0	300	46	100	54	11	648	1298	3012.00	0.84	
0	55	0	300	42	100	58	12	696	1356	3312.00	0.92	
1	0	0	300	50	100	50	10	600	1406	3612.00	1.00	
1	5	0	300	55	100	45	9	540	1451	3912.00	1.09	
1	10	0	300	57	100	43	9	516	1494	4212.00	1.17	
1	15	0	300	57	100	43	9	516	1537	4512.00	1.25	

APPENDIX 1 Infiltration Results

Site Location: Middle of Pine Forest 27 Elmslie Rd			Soil Type: Humus on yellow clay over fractured greywacke										
Date 8/07/2019		Testers	S. Pattinson & A.K. Ross			Time 2.30pm - 3.50pm							
Test #2													
Time		Difference		Water Levels mm		Infiltration	Infiltration Rate		Cumulative Infiltration		Notes		
Hours	Min	Sec	sec	Before	After	mm	mm / min	mm/hr	mm	Time Sec	Time Hrs	Weather	
0	0	0		0	100				0	0	0.00	Rained wed 26.5mm, Thurs 10mm Fri 25.5mm	
0	0	30	30	60	100	40	80	4800	40	30	0.01	and Saturday	
0	1	0	30	84	100	16	32	1920	56	60	0.02	Ground was Damp to Wet	
0	1	30	30	86	100	14	28	1680	70	90	0.03		
0	2	0	30	80	100	20	40	2400	90	120	0.03		
0	2	30	30	90	100	10	20	1200	100	150	0.04		
0	3	0	30	88	100	12	24	1440	112	180	0.05		
0	4	0	60	75	100	25	25	1500	137	240	0.07		
0	5	0	60	76	100	24	24	1440	161	300	0.08	Double ring infiltrometer	
0	6	0	60	75	100	25	25	1500	186	360	0.10	Outer Ring 300mm dia	
0	7	0	60	76	100	24	24	1440	210	420	0.12	Inner Ring 100mm dia	
0	8	0	60	74	100	26	26	1560	236	480	0.13	Outer Ring 130mm below GL	
0	10	0	120	58	100	42	21	1260	278	600	0.17	100 mm above GL	
0	12	0	120	57	100	43	22	1290	321	720	0.20	Inner Ring 130mm below GL	
0	15	0	180	43	100	57	19	1140	378	900	0.25	Inner Ring 100mm above GL	
0	20	0	300	25	100	75	15	900	453	1200	0.33		
0	25	0	300	23	100	77	15	924	530	1500	0.42		
0	30	0	300	24	100	76	15	912	606	1800	0.50		
0	35	0	300	23	100	77	15	924	683	2100	0.58		
0	40	0	300	25	100	75	15	900	758	2400	0.67		
0	45	0	300	27	100	73	15	876	831	2700	0.75		
0	50	0	300	29	100	71	14	852	902	3000	0.83		
0	55	0	300	22	100	78	16	936	980	3300	0.92		
1	0	0	300	29	100	71	14	852	1051	3600	1.00		
1	5	0	300	23	100	77	15	924	1128	3900	1.08		
1	10	0	300	22	100	78	16	936	1206	4200	1.17		
1	15	0	300	25	100	75	15	900	1281	4500	1.25		
1	20	0	300	23	100	77	15	924	1358	4800	1.33		

APPENDIX 1 Infiltration Results

Site Location: Regenerating Bush 27 Elmslie Rd			Soil Type: Humus on yellow clay over fractured greywake										
Date 9/07/2019			Testers S. Pattinson & A.K. Ross		41 deg 9.7700 min E, 175 deg 1.2350 min S								
Test #3													
Time			Difference	Water Levels mm		Infiltration	Infiltration Rate		Cumulative Infiltration		Notes		
Hours	Min	Sec	sec	Before	After	mm	mm / min	mm/hr	mm	Time Sec	Time Hrs	Weather fine all day, fine yesterday	
0	0	0			100					0	0.00	Rained Wed 26.5mm, Thurs 10mm Fri 25.5mm	
0	0	30	30	70	100	30	60	3600	30	30	0.01	and Saturday	
0	1	0	30	78	100	22	44	2640	52	60	0.02	Ground was Damp	
0	1	30	30	75	100	25	50	3000	77	90	0.03		
0	2	0	30	46	100	54	108	6480	131	120	0.03		
0	3	0	60	50	100	50	50	3000	181	180	0.05		
0	4	0	60	55	100	45	45	2700	226	240	0.07		
0	5	0	60	52	100	48	48	2880	274	300	0.08	Double ring infiltrometer	
0	6	0	60	57	100	43	43	2580	317	360	0.10	Outer Ring 300mm dia	
0	7	0	60	55	100	45	45	2700	362	420	0.12	Inner Ring 100mm dia	
0	8	0	60	58	100	42	42	2520	404	480	0.13	Outer Ring 130mm below GL	
0	10	0	120	62	100	38	19	1140	442	600	0.17	100 mm above GL	
0	12	0	120	27	100	73	37	2190	515	720	0.20	Inner Ring 130mm below GL	
0	14	0	120	29	100	71	36	2130	586	840	0.23	Inner Ring 100mm above GL	
0	16	0	120	35	100	65	33	1950	651	960	0.27		
0	18	0	120	36	100	64	32	1920	715	1080	0.30		
0	20	0	120	40	100	60	30	1800	775	1200	0.33		
0	22	0	120	40	100	60	30	1800	835	1320	0.37		
0	24	0	120	42	100	58	29	1740	893	1440	0.40		
0	26	0	120	40	100	60	30	1800	953	1560	0.43		
0	28	0	120	47	100	53	27	1590	1006	1680	0.47		
0	30	0	120	43	100	57	29	1710	1063	1800	0.50		
0	33	0	180	28	100	72	24	1440	1135	1980	0.55		
0	36	0	180	29	100	71	24	1420	1206	2160	0.60		
0	39	0	180	23	100	77	26	1540	1283	2340	0.65		
0	42	0	180	29	100	71	24	1420	1354	2520	0.70		
0	45	0	180	28	100	72	24	1440	1426	2700	0.75		
0	48	0	180	36	100	64	21	1280	1490	2880	0.80		
0	51	0	180	33	100	67	22	1340	1557	3060	0.85		
0	54	0	180	32	100	68	23	1360	1625	3240	0.90		
0	57	0	180	31	100	69	23	1380	1694	3420	0.95		
1	0	0	180	38	100	62	21	1240	1756	3600	1.00		
1	3	0	180	35	100	65	22	1300	1821	3780	1.05		
1	6	0	180	40	100	60	20	1200	1881	3960	1.10		
1	9	0	180	41	100	59	20	1180	1940	4140	1.15		
1	12	0	180	43	100	57	19	1140	1997	4320	1.20		
1	15	0	180	45	100	55	18	1100	2052	4500	1.25		
1	18	0	180	40	100	60	20	1200	2112	4680	1.30		
1	21	0	180	45	100	55	18	1100	2167	4860	1.35		
1	24	0	180	46	100	54	3	18	1080	2221	5040	1.40	
1	27	0	180	46	100	54	18	1080	2275	5220	1.45		
1	30	0	180	50	100	50	17	1000	2325	5400	1.50		
1	33	0	180	49	100	51	17	1020	2376	5580	1.55		
1	36	0	180	46	100	54	18	1080	2430	5760	1.60		
1	39	0	180	53	100	47	16	940	2477	5940	1.65		

APPENDIX 1 Infiltration Results

1	21	0	180	45	100	55	18	1100	2167	4860	1.35
1	24	0	180	46	100	54	18	1080	2221	5040	1.40
1	27	0	180	46	100	54	18	1080	2275	5220	1.45
1	30	0	180	50	100	50	17	1000	2325	5400	1.50
1	33	0	180	49	100	51	17	1020	2376	5580	1.55
1	36	0	180	46	100	54	18	1080	2430	5760	1.60
1	39	0	180	53	100	47	16	940	2477	5940	1.65
1	42	0	180	53	100	47	16	940	2524	6120	1.70
1	45	0	180	53	100	47	16	940	2571	6300	1.75
1	48	0	180	57	100	43	14	860	2614	6480	1.80
1	51	0	180	55	100	45	15	900	2659	6660	1.85
1	54	0	180	58	100	42	14	840	2701	6840	1.90
1	57	0	180	58	100	42	14	840	2743	7020	1.95
2	0	0	180	56	100	44	15	880	2787	7200	2.00
2	3	0	180	60	100	40	13	800	2827	7380	2.05
2	6	0	180	60	100	40	13	800	2867	7560	2.10
2	9	0	180	60	100	40	13	800	2907	7740	2.15
2	12	0	180	58	100	42	14	840	2949	7920	2.20
2	15	0	180	63	100	37	12	740	2986	8100	2.25

APPENDIX 1 Infiltration Results

Site Location: Back Lawn 27 Elmslie Rd				Soil Type: Clay						
Date 10/07/2019		Tester S. Pattinson								
Test #4										
Time		Difference		Water Levels mm		Infiltration	Infiltration Rate		Cumulative Infiltration	Notes
Hours	Min	Sec	sec	Before	After	mm	mm / min	mm/hr	mm	Weather overcast with cloud
0	0	0			100					
1	0	0	3600	98	100	2	0	2	2	Test used less than 10lt of water Ground Wet Double ring infiltrometer Outer Ring 300mm dia Inner Ring 100mm dia Outer Ring 130mm below GL 100 mm above GL Inner Ring 130mm below GL Inner Ring 100mm above GL

Site Location: Middle Lawn 27 Elmslie Rd				Soil Type: Short grass on thin Humus over Clay						
Date 10/07/2019		Tester S. Pattinson								
Test #5										
Time		Difference		Water Levels mm		Infiltration	Infiltration Rate		Cumulative Infiltration	Notes
Hours	Min	Sec	sec	Before	After	mm	mm / min	mm/hr	mm	Weather overcast with cloud
0	0	0			100					
1	0	0	3600	99	100	1	0	1	1	Test used less than 10lt of water Ground Wet Double ring infiltrometer Outer Ring 300mm dia Inner Ring 100mm dia Outer Ring 130mm below GL 100 mm above GL Inner Ring 130mm below GL Inner Ring 100mm above GL

APPENDIX 1 Infiltration Results

Site Location: Front Lawn 27 Elmslie Rd				Soil Type: Short grass on thin Humus over Clay						
Date 10/07/2019		Tester S. Pattinson								
Test #6										
Time		Difference		Water Levels mm		Infiltration	Infiltration Rate		Cumulative Infiltration	Notes
Hours	Min	Sec	sec	Before	After	mm	mm / min	mm/hr	mm	Weather overcast with cloud
0	0	0			90					
1	0	0	3600	89		1	0	1	1	Test used less than 10lt of water Ground Wet Double ring infiltrometer Outer Ring 300mm dia Inner Ring 100mm dia Outer Ring 130mm below GL 100 mm above GL Inner Ring 140mm below GL Inner Ring 90mm above GL

Site Location: Pinehaven Reserve South of access Road				Soil Type: Grass on thin Humus over Clay						
Date 17/07/2019		Testers S. Pattinson & A.K. Ross		Location: 41deg 9.5460 min S, 175 deg 0.8620 min E						
Test #7										
Time		Difference		Water Levels mm		Infiltration	Infiltration Rate		Cumulative Infiltration	Notes
Hours	Min	Sec	sec	Before	After	mm	mm / min	mm/hr	mm	Weather overcast with cloud
0	0	0			100					
1	0	0	3600	99		1	0	1	1	Test used less than 10lt of water Ground Wet Double ring infiltrometer Outer Ring 300mm dia Inner Ring 100mm dia Outer Ring 130mm below GL 100 mm above GL Inner Ring 130mm below GL Inner Ring 100mm above GL

APPENDIX 1 Infiltration Results

Site Location: Pinehaven Reserve North of access Road
 Date 17/07/2019 Testers S. Pattinson & A.K. Ross
 Test #8

Soil Type: Grass on thin Humus over Clay

Location: 41deg 9.5080 min S, 175 deg 0.8690 min E

Time			Difference sec	Water Levels mm		Infiltration mm	Infiltration Rate		Cumulative Infiltration mm	Notes
Hours	Min	Sec		Before	After		mm / min	mm/hr		
0	0	0			100					Weather overcast with cloud
1	0	0	3600	99		1	0	1	1	Test used less than 10lt of water Ground Wet Double ring infiltrometer Outer Ring 300mm dia Inner Ring 100mm dia Outer Ring 130mm below GL 100 mm above GL Inner Ring 130mm below GL Inner Ring 100mm above GL

APPENDIX 1 Infiltration Results

Single Ring Infiltrometer Tests		Testers A.K. Ross, S. Pattinson				
Regenerating Bush		Tube Diameter 100 mm				
20mm	Head of water after 2 or 3 soakings					
Time taken to soak away		Deg	Min		Deg	Min
Test No 1	36 sec	Location:	41	10.6090 S	175	0.7780 E
Test No 2	56 sec		41	10.6120 S	175	0.7820 E
Test No 3	106 sec		41	10.0600 S	175	0.7790 E
Test No 4	453 sec		41	10.6110 S	175	0.7880 E
Single Ring Infiltrometer Tests		Testers A.K. Ross, S. Pattinson				
Mature Pine Forest		Tube Diameter 100 mm				
20mm	Head of water after 2 or 3 soakings					
Time taken to soak away						
Test No 5	60 sec	Location:	41	10.4270	175	0.6130
Test No 6	7 sec		41	10.4580	175	0.6860
Test No 7	40 sec	Test was farther down track				
Test No 8	85 sec	Test farther down track				