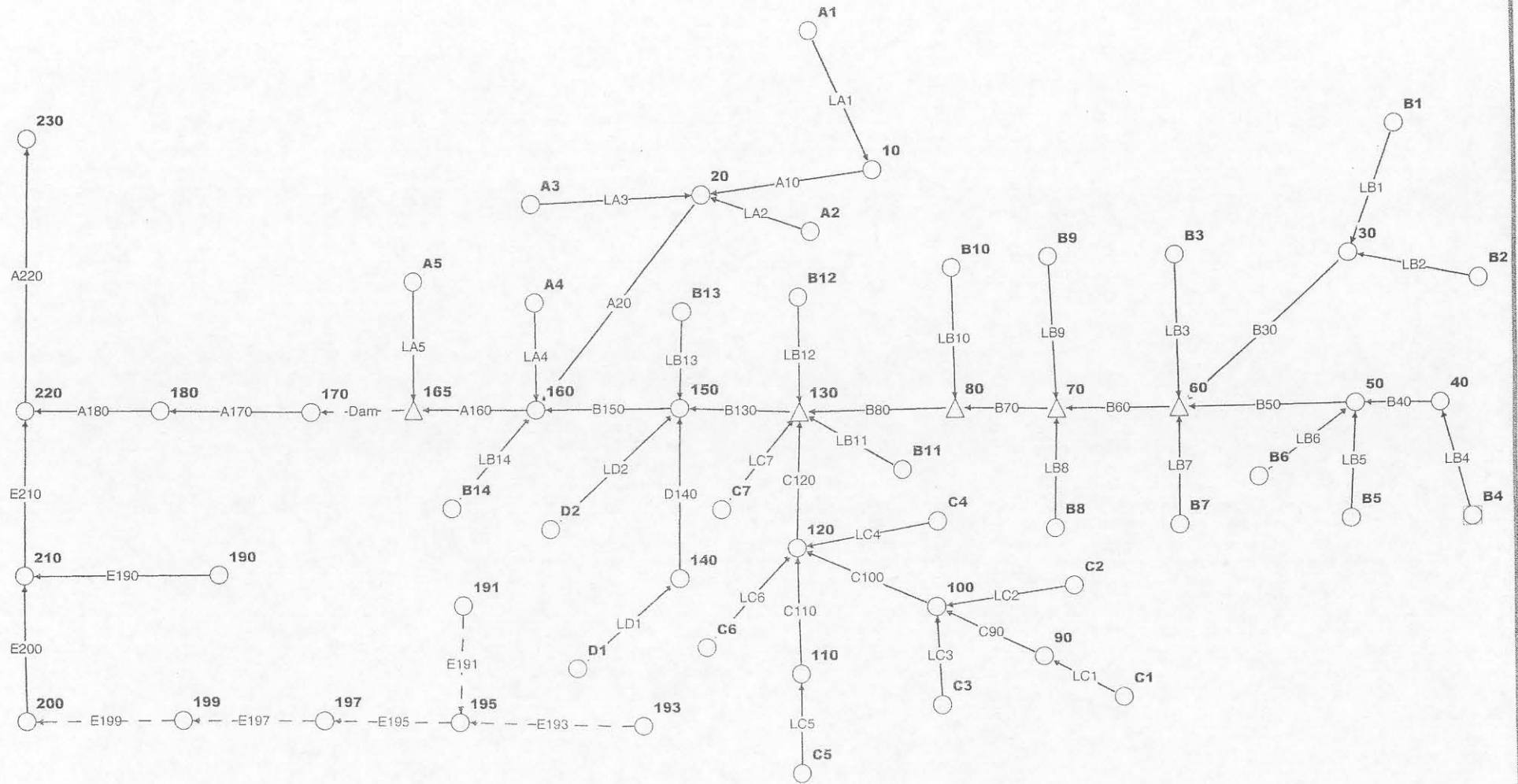


***Appendix 4 -
Hills Road
Mean Flows
and Flow
Distribution***



XP-SWMM. East Tamaki - Future Unmitigated, 100YR ARI

Version 7.10

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06/12/00

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East Tamaki Catchment Management Plan

Job No: 2108771/20

2 Year ARI Flood Flows 24 hour Rainfall = 83 mm

Existing								Existing			
Sub-catchment	Down-stream Node	Type	Area ha	Weighted la mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³
A1	10	UC	90.2	4.5	9	73	43	3.4	35	31,415	31,415
A2	20	UC	57.2	4.8	4	65	66	1.3	27	15,646	15,646
A3	20	UC	62.9	4.8	4	66	82	1.3	28	17,701	17,701
B1	30	UC	92.9	4.8	4	74	41	3.7	36	33,792	33,792
B2	30	UC	120.1	4.8	4	74	41	4.8	36	43,764	43,764
B4	40	UC	85.6	4.7	6	76	26	4.5	39	33,151	33,151
B5	50	UC	33.3	4.8	3	74	34	1.4	36	12,012	12,012
B6	50	UC	75.6	4.8	5	74	44	2.9	36	26,879	26,879
B3	60	UC	47.4	4.8	4	69	42	1.6	32	15,073	15,073
B7	60	UC	79.2	4.8	4	72	58	2.5	34	26,716	26,716
B8	70	UC	66.6	4.8	4	67	58	1.8	29	19,615	19,615
B9	70	UC	161.6	4.8	4	72	57	5.1	34	54,309	54,309
B10	80	UC	71.3	4.5	10	71	46	2.5	34	24,024	24,024
C1	90	UC	122.3	4.5	9	76	41	5.1	38	46,311	46,311
C2	100	UC	66.1	4.84	3	67	63	1.7	29	19,221	19,221
C3	100	UC	56.1	4.82	4	69	43	1.9	32	17,720	17,720
C5	110	UC	57.5	4.7	5	70	38	2.1	33	18,853	18,853
C4	120	UC	40.8	4.8	4	65	66	0.9	27	11,191	11,191
C6	120	UC	37.5	4.8	4	62	69	0.8	26	9,687	9,687
B11	130	UC	67.7	4.8	4	69	90	1.5	31	20,728	20,728
B12	130	UC	25.1	4.8	4	66	68	0.6	28	7,077	7,077
C7	130	UC	20.5	4.8	4	65	43	0.6	28	5,691	5,691
D1	140	C	7.1	1.0	20	98	23	1.8	76	5,425	22,032
D1	140	UC	59.3	4.5	20	65	55		28	16,607	
B13	150	UC	23.4	4.8	4	63	55	0.6	27	6,270	6,270
D2	150	UC	19.6	4.8	4	66	29	0.7	29	5,606	5,606
A4	160	UC	66.5	3.8	23	63	51	1.7	27	17,840	17,840
B14	160	UC	21.0	4.6	8	64	53	0.5	27	5,682	5,682
A5	165	UC	9.8	4.5	10	58	28	0.3	24	2,310	2,310
A6	170	UC	54.8	3.8	25	70	66	1.5	33	17,998	17,998
A7	180	C	40.0	0.0	52	98	33	4.0	77	30,766	43,372
A7	180	UC	49.5	4.4	52	62	85		25	12,606	
E1	190	C	9.4	0.0	19	98	27	3.4	77	7,251	40,870
E1	190	UC	101.3	4.4	19	71	61		33	33,619	
E3	191	C	18.4	0.0	44	98	17	3.4	77	14,207	29,705
E3	191	UC	41.2	4.0	44	75	37		38	15,498	
E4	193	C	13.2	0.0	46	98	12	2.9	77	10,207	21,736
E4	193	UC	27.9	4.0	46	78	26		41	11,529	
E5	195	C	20.4	0.0	44	98	21	4.9	77	15,766	33,645
E5	195	UC	47.5	4.0	44	75	46		38	17,878	
E6	195	C	9.4	0.0	44	98	21		77	7,280	14,227
E6	195	UC	21.3	4.0	44	70	48		33	6,947	
E7	197	C	31.1	0.0	42	98	32	3.7	77	23,925	44,876
E7	197	UC	63.4	4.3	42	71	73		33	20,950	
E8	199	C	29.6	0.0	48	98	25	9.1	77	22,893	42,423
E8	199	UC	56.7	3.9	48	72	55		34	19,530	
E9	199	C	39.6	0.0	44	98	33		77	30,401	64,638
E9	199	UC	94.6	4.0	44	74	72		36	34,237	
E10	200	C	4.2	0.0	42	98	13	0.8	77	3,233	6,514
E10	200	UC	10.4	4.1	42	68	30		32	3,281	
E11	210	C	42.8	0.0	48	98	41	8.4	77	32,881	61,392
E11	210	UC	79.2	4.0	48	74	90		36	28,511	
E2	210	C	29.9	0.0	30	98	42		77	22,932	64,015
E2	210	UC	140.6	4.3	30	67	101		29	41,083	
E12	220	C	28.0	0.0	45	98	26	3.6	77	21,642	36,721
E12	220	UC	47.7	4.3	45	69	59		32	15,079	

Note: UC = Unconnected Area C = Connected Area

Future Unmitigated								Future Unmitigated			
Sub-catchment	Down-stream Node	Type	Area ha	Weighted la mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³
A1	10	C	25.2	0.0	37	98	19	4.6	75	19,009	43,302
A1	10	UC	65.0	4.4	37	75	42		37	24,293	
A2	20	C	24.3	0.0	58	98	27	2.9	77	18,643	29,935
A2	20	UC	32.9	3.7	58	72	60		34	11,292	
A3	20	C	18.7	0.0	41	98	34	2.2	77	14,348	28,529
A3	20	UC	44.2	4.2	41	70	78		32	14,180	
B1	30	C	8.2	0.0	12	98	19	4.0	77	6,310	37,773
B1	30	UC	84.7	4.8	12	75	41		37	31,464	
B2	30	C	13.1	0.0	15	98	19	5.2	78	10,163	49,905
B2	30	UC	107.0	4.8	15	75	40		37	39,742	
B4	40	C	10.1	0.0	16	98	12	4.6	77	7,795	36,065
B4	40	UC	75.8	4.8	16	75	26		37	28,270	
B5	50	C	7.4	0.0	31	98	16	1.8	75	5,578	15,859
B5	50	UC	25.9	4.4	31	77	33		40	10,281	
B6	50	C	17.5	0.0	31	98	20	3.7	78	13,596	35,887
B6	50	UC	58.0	4.5	31	76	42		38	22,291	
B3	60	C	15.0	0.0	42	98	18	2.5	77	11,549	23,082
B3	60	UC	32.4	4.2	42	73	40		36	11,533	
B7	60	C	24.1	0.0	42	98	26	3.6	77	18,513	39,046
B7	60	UC	55.1	4.2	42	75	56		37	20,533	
B8	70	C	23.4	0.0	48	98	24	3.2	77	18,068	32,528
B8	70	UC	43.1	4.0	48	71	55		34	14,460	
B9	70	C	54.3	0.0	46	98	25	8.0	76	41,533	82,796
B9	70	UC	107.3	4.1	46	76	54		38	41,263	
B10	80	C	20.0	0.0	39	98	20	3.4	77	15,429	33,583
B10	80	UC	51.3	4.3	39	73	45		35	18,154	
C1	90	C	28.3	0.0	31	98	19	6.0	77	21,766	57,924
C1	90	UC	94.0	4.5	31	76	41		38	36,158	
C2	100	C	17.6	0.0	37	98	26	2.6	77	13,501	29,711
C2	100	UC	48.5	4.3	37	71	59		33	16,210	
C3	100	C	17.4	0.0	43	98	19	2.9	78	13,499	26,884
C3	100	UC	36.7	4.2	43	74	41		36	13,386	
C5	110	C	21.5	0.0	51	98	17	3.6	78	16,707	30,289
C5	110	UC	36.0	3.9	51	75	37		38	13,582	
C4	120	C	14.6	0.0	49	98	27	1.8	77	11,201	19,713
C4	120	UC	26.2	4.0	49	70	62		32	8,512	
C6	120	C	11.5	0.0	42	98	28	1.5	77	8,834	16,550
C6	120	UC	26.0	4.2	42	67	65		30	7,716	
B11	130	C	26.0	0.0	54	98	39	2.8	77	20,003	35,466
B11	130	UC	41.6	3.7	54	75	83		37	15,462	
B12	130	C	2.7	0.0	18	98	28	0.7	77	2,075	8,667
B12	130	UC	22.4	4.6	18	67	67		29	6,592	
C7	130	C	1.9	0.0	15	98	18	0.6	77	1,459	6,683
C7	130	UC	18.6	4.7	15	65	43		28	5,224	
D1	140	C	17.5	0.0	38	98	23	2.6	76	13,362	27,960
D1	140	UC	48.9	4.2	38	67	54		30	14,597	
B13	150	C	6.9	0.0	37	98	22	1.0	77	5,302	10,107
B13	150	UC	16.5	4.5	37	65	53		29	4,806	
D2	150	UC	6.7	4.1	72	70	27	1.9	33	2,204	12,233
D2	150	C	12.9	0.0	72	98	12		78	10,029	
A4	160	UC	19.4	4.6	73	54	58	5.4	20	3,954	40,253
A4	160	C	47.1	0.0	73	98	21		77	36,299	
B14	160	UC	5.3	4.9	75	62	54	1.8	26	1,365	13,502
B14	160	C	15.7	0.0	75	98	21		77	12,137	
A5	165	UC	3.0	4.9	70	51	31	1.0	18	546	5,902
A5	165	C	6.9	0.0	70	98	10		78	5,357	
A6	170	UC	13.3	5.0	76	61	74	4.1	25	3,267	35,069
A6	170	C	41.5	0.0	76	98	29		77	31,802	
A7	180	UC	43.0	4.4	58	61	86	4.5	25	10,621	46,387
A7	180	C	46.5	0.0	58	98	33		77	35,766	
E1	190	C	39.2	0.0	49	98	27	5.2	77	30,240	56,394
E1	190	UC	71.4	3.9	49	73	59		37	26,153	
E3	191	C	25.5	0.0	54	98	17	4.0	77	19,689	32,898
E3	191	UC	34.1	4.0	54	76	36		39	13,210	
E4	193	C	18.2	0.0	55	98	12	3.3	77	14,073	23,470
E4	193	UC	22.9	4.0	55	78	26		41	9,398	
E5	195	C	28.4	0.0	53	98	21	5.8	77	21,949	36,804
E5	195	UC	39.5	4.0	53	75	46		38	14,854	
E6	195	C	13.4	0.0							

East Tamaki Catchment Management Plan

Job No: 2108771/20

5 Year ARI Flood Flows 24 hour Rainfall = 120 mm

Existing											Future Unmitigated											Analysis For Subcatchment				
Sub-catchment	Down-stream Node	Type	Area ha	Weighted la mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³	Sub-catchment	Down-stream Node	Type	Area ha	Weighted la mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³	Q _{future} / Q _{exist}	V _{future} - V _{exist} m ³	0.025 x Subcatch. Area m ³
A1	10	UC	90.2	4.5	9	73	43	6.1	62	56,145	56,145	A1	10	C	25.2	0.0	37	98	19	7.4	114	28,840	71,708	1.21	15,564	22,538
A2	20	UC	57.2	4.8	4	65	66	2.5	51	29,063	29,063	A2	20	C	24.3	0.0	58	98	27	4.5	113	27,555	47,690	1.81	18,627	14,291
A3	20	UC	62.9	4.8	4	66	82	2.5	52	32,740	32,740	A2	20	UC	32.9	3.7	58	72	60	61	20,134	20,134	1.39	14,096	15,716	
B1	30	UC	92.9	4.8	4	74	41	6.7	65	60,015	60,015	A3	20	C	18.7	0.0	41	98	34	113	21,208	46,837	1.04	4,991	23,222	
B2	30	UC	120.1	4.8	4	74	41	8.7	65	77,677	77,677	A3	20	UC	44.2	4.2	41	70	78	58	25,628	25,628	1.04	7,672	30,013	
B4	40	UC	85.6	4.7	6	76	26	8.1	68	58,260	58,260	B1	30	C	8.2	0.0	12	98	19	6.9	114	9,326	65,005	1.00	3,262	21,390
B5	50	UC	33.3	4.8	3	74	34	2.6	64	21,374	21,374	B1	30	UC	84.7	4.8	12	75	41	66	55,680	55,680	1.16	4,818	8,325	
B6	50	UC	75.6	4.8	5	74	44	5.2	63	47,904	47,904	B2	30	C	13.1	0.0	15	98	19	9.1	115	15,020	85,348	1.16	11,351	18,894
B3	60	UC	47.4	4.8	4	69	42	3.0	58	27,396	27,396	B2	30	UC	107.0	4.8	15	75	40	66	70,328	70,328	1.36	10,198	11,851	
B7	60	UC	79.2	4.8	4	72	58	4.5	61	48,025	48,025	B4	40	C	10.1	0.0	16	98	12	8.0	114	11,521	61,521	1.28	15,537	19,789
B8	70	UC	66.6	4.8	4	67	58	3.3	55	36,737	36,737	B4	40	UC	75.8	4.8	16	75	26	66	50,001	50,001	1.50	15,923	16,640	
B9	70	UC	161.6	4.8	4	72	57	9.3	60	97,737	97,737	B5	50	C	7.4	0.0	31	98	16	3.0	111	8,244	26,192	1.36	35,964	40,411
B10	80	UC	71.3	4.5	10	71	46	4.5	59	42,315	42,315	B5	50	UC	25.9	4.4	31	77	33	6.0	115	17,948	17,948	1.22	12,825	17,822
C1	90	UC	122.3	4.5	9	76	41	9.1	67	81,513	81,513	B6	50	C	17.5	0.0	31	98	20	6.0	115	20,094	59,255	1.09	14,177	30,573
C2	100	UC	66.1	4.84	3	67	63	3.1	54	35,404	35,404	B6	50	UC	58.0	4.5	31	76	42	6.0	115	39,161	39,161	1.34	13,715	16,513
C3	100	UC	56.1	4.82	4	69	43	3.5	57	32,235	32,235	B3	60	C	15.0	0.0	42	98	18	4.0	114	17,069	37,594	1.34	11,422	14,018
C5	110	UC	57.5	4.7	5	70	38	3.9	59	34,088	34,088	B3	60	UC	32.4	4.2	42	73	40	6.0	114	20,525	20,525	1.45	14,482	14,380
C4	120	UC	40.8	4.8	4	65	66	1.8	51	20,791	20,791	B7	60	C	24.1	0.0	42	98	26	5.7	114	27,363	63,562	1.60	11,117	10,206
C6	120	UC	37.5	4.8	4	62	69	1.5	48	18,145	18,145	B7	60	UC	55.1	4.2	42	75	56	6.0	114	36,199	36,199	1.51	9,036	9,383
B11	130	UC	67.7	4.8	4	69	90	2.8	56	37,858	37,858	B8	70	C	23.4	0.0	48	98	24	5.0	114	26,705	52,660	1.57	18,897	16,923
B12	130	UC	25.1	4.8	4	66	68	1.1	52	13,084	13,084	B8	70	UC	43.1	4.0	48	71	55	6.0	114	25,955	25,955	1.07	2,087	6,271
C7	130	UC	20.5	4.8	4	65	43	1.1	52	10,558	10,558	B9	70	C	54.3	0.0	46	98	25	12.6	113	61,387	133,701	1.05	1,269	5,122
D1	140	C	7.1	1.0	20	98	23	3.3	113	8,018	38,727	B9	70	UC	107.3	4.1	46	76	54	6.0	113	72,315	72,315	1.24	7,733	16,590
D1	140	UC	59.3	4.5	20	65	55	3.0	52	30,708	30,708	B10	80	C	20.0	0.0	39	98	20	5.5	114	22,803	55,140	1.24	7,733	16,590
B13	150	UC	23.4	4.8	4	63	55	1.1	50	11,693	11,693	B10	80	UC	51.3	4.3	39	73	45	6.0	114	32,337	32,337	1.39	4,724	5,852
D2	150	UC	19.6	4.8	4	66	29	1.3	53	10,354	10,354	C1	90	C	28.3	0.0	31	98	19	9.9	114	32,170	95,690	2.16	8,440	4,896
A4	160	UC	66.5	3.8	23	63	51	3.2	50	33,113	33,113	C1	90	UC	94.0	4.5	31	76	41	6.0	114	63,520	63,520	2.46	28,154	16,628
B14	160	UC	21.0	4.6	8	64	53	1.0	50	10,563	10,563	C2	100	C	17.6	0.0	37	98	26	4.2	113	19,955	49,118	2.57	9,937	5,250
A5	165	UC	9.8	4.5	10	58	28	0.6	45	4,379	4,379	C2	100	UC	48.5	4.3	37	71	59	6.0	113	29,163	29,163	2.61	4,601	2,455
A6	170	UC	54.8	3.8	25	70	66	2.8	59	32,371	32,371	C3	100	C	17.4	0.0	43	98	19	4.7	115	19,950	43,657	2.12	20,799	13,700
A7	180	C	40.0	0.0	52	98	33	6.0	114	45,476	69,068	C3	100	UC	36.7	4.2	43	74	41	6.0	115	23,706	23,706	1.12	3,753	22,370
A7	180	UC	49.5	4.4	52	62	85	4.8	48	23,592	23,592	C5	110	C	21.5	0.0	51	98	17	5.6	115	24,692	48,570	1.34	13,715	16,513
E1	190	C	9.4	0.0	19	98	27	6.1	114	10,718	71,260	C5	110	UC	36.0	3.9	51	75	37	6.0	115	23,878	23,878	1.45	14,482	14,380
E1	190	UC	101.3	4.4	19	71	61	6.0	60	60,542	60,542	C4	120	C	14.6	0.0	49	98	27	2.9	113	16,555	31,908	1.60	11,117	10,206
E3	191	C	18.4	0.0	44	98	17	5.4	114	20,997	48,267	C4	120	UC	26.2	4.0	49	70	62	6.0	114	15,353	15,353	1.57	18,897	16,923
E3	191	UC	41.2	4.0	44	75	37	4.7	66	27,271	27,271	C6	120	C	11.5	0.0	42	98	28	2.3	114	13,057	27,181	1.07	2,087	6,271
E4	193	C	13.2	0.0	46	98	12	4.7	114	15,084	35,040	C6	120	UC	26.0	4.2	42	67	65	6.0	114	14,124	14,124	1.05	1,269	5,122
E4	193	UC	27.9	4.0	46	78	26	4.7	72	19,956	19,956	B11	130	C	26.0	0.0	54	98	39	4.4	114	29,567	56,755	1.24	7,733	16,590
E5	195	C	20.4	0.0	44	98	21	7.7	114	23,302	54,764	B11	130	UC	41.6	3.7	54	75	83	6.0	114	27,188	27,188	1.57	18,897	16,923
E5	195	UC	47.5	4.0	44	75	46	7.7	66	31,461	31,461	B12	130	C	2.7	0.0	18	98	28	1.2	114	3,067	15,171	1.07	2,087	6,271
E6	195	C	9.4	0.0	44	98	21	10.761	114	10,761	23,285	B12	130	UC	22.4	4.6	18	67	67	1.2	114	12,104	12,104	1.05	1,269	5,122
E6	195	UC	21.3	4.0	44	70	48	10.761	59	12,524	12,524	C7	130	C	1.9	0.0	15	98	18	1.2	113	2,156	11,828	1.05	1,269	5,122
E7	197	C	31.1	0.0	42	98	32	5.9	114	35,368	73,090	C7	130	UC	18.6	4.7	15	65	43	1.2	113	9,672	9,672	1.24	7,733	16,590
E7	197	UC	63.4	4.3	42	71	73	37,723	60	37,723	37,723	D1	140	C	17.5	0.0	38	98	23	4.2	113	19,750	46,460	1.39	4,724	5,852
E8	199	C	29.6	0.0	48	98	25	14.4	114	33,839	68,720	D1	140	UC	48.9	4.2	38	67	54	6.0	113	26,710	26,710	2.16	8,440	4,896
E8	199	UC	56.7	3.9	48	72	55	34,881	62	34,881	34,881	B13	150	C	6.9	0.0	37	98	22	1.5	114	7,836	16,417	2.46	28,154	16,628
E9	199	C	39.6	0.0	44	98	33	44,935	113	44,935	105,533	B13	150	UC	16.5	4.5	37	65	53	2.9	114	8,581	8,581	2.61	4,601	2,455
E9	199	UC	94.6	4.0	44	74	72	60,597	64	60,597	60,597	D2	150	C	6.7	4.1	72	70	27	2.9	115	3,973	18,795	2.12	20,799	13,700
E10	200	C	4.2	0.0	42	98	13	4,778	114	4,778	10,745	D2	150	UC	12.9	0.0	72	98	12	115	14,821	14,821	1.60	11,117	10,206	
E10	200	UC	10.4	4.1	42	68	30	5,967	57	5,967	5,967	A4	160	C	19.4	4.6	73	54	58	7.9	114	7,618	61,267	1.57	18,897	16,923
E11	210	C	42.8	0.0	48	98	41	13.4	114	48,603	99,102	A4	160	UC	47.1	0.0	73	98	21	6.0	114	53,649	53,649	1.07	2,087	6,271
E11	210	UC	79.2	4.0	48	74	90	50,498	64	50,498	50,498	B14	160	C	5.3	4.9										

East Tamaki Catchment Management Plan

Job No: 2108771/20

10 Year ARI Flood Flows 24 hour Rainfall = 150 mm

Existing											Future Unmitigated											Analysis For Subcatchment				
Sub-catchment	Down-stream Node	Type	Area ha	Weighted Ia mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³	Sub-catchment	Down-stream Node	Type	Area ha	Weighted Ia mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³	Q _{future} / Q _{exist}	V _{future} - V _{exist} m ³	0.025 x Subcatch. Area m ²
A1	10	UC	90.2	4.5	9	73	43	8.6	87	78,088	78,088	A1	10	C	25.2	0.0	37	98	19	9.9	145	36,419	95,610	1.15	17,522	22,538
A2	20	UC	57.2	4.8	4	65	66	3.6	72	41,358	41,358	A2	20	C	24.3	0.0	58	98	27	5.9	143	34,797	62,790	1.64	21,432	14,291
A3	20	UC	62.9	4.8	4	66	82	3.6	74	46,466	46,466	A2	20	UC	32.9	3.7	58	72	60	85	27,993			1.28	16,211	15,716
B1	30	UC	92.9	4.8	4	74	41	9.3	89	83,128	83,128	A3	20	C	18.7	0.0	41	98	34	4.6	143	26,782	62,678	1.02	5,619	23,222
B2	30	UC	120.1	4.8	4	74	41	12.1	90	107,563	107,563	A3	20	UC	44.2	4.2	41	70	78	81	35,895			1.03	8,625	30,013
B4	40	UC	85.6	4.7	6	76	26	11.1	94	80,228	80,228	B1	30	C	8.2	0.0	12	98	19	9.6	144	11,776	88,747	0.99	3,421	21,390
B5	50	UC	33.3	4.8	3	74	34	3.6	89	29,641	29,641	B1	30	UC	84.7	4.8	12	75	41	91	76,971			1.12	5,399	8,325
B6	50	UC	75.6	4.8	5	74	44	7.3	88	66,494	66,494	B2	30	C	13.1	0.0	15	98	19	12.5	145	18,967	116,188	1.12	12,809	18,894
B3	60	UC	47.4	4.8	4	69	42	4.2	81	38,472	38,472	B2	30	UC	107.0	4.8	15	75	40	91	97,221			1.26	11,570	11,851
B7	60	UC	79.2	4.8	4	72	58	6.3	85	66,997	66,997	B4	40	C	10.1	0.0	16	98	12	11.0	144	14,548	83,649	1.20	17,524	19,789
B8	70	UC	66.6	4.8	4	67	58	4.8	77	51,010	51,010	B4	40	UC	75.8	4.8	16	75	26	91	69,101			1.37	18,928	16,640
B9	70	UC	161.6	4.8	4	72	57	13.0	84	136,440	136,440	B5	50	C	7.4	0.0	31	98	16	4.1	141	10,410	35,040	1.27	40,568	40,411
B10	80	UC	71.3	4.5	10	71	46	6.4	85	60,254	60,254	B5	50	UC	25.9	4.4	31	77	33	8.1	95	24,631	79,304	1.16	13,440	17,822
C1	90	UC	122.3	4.5	9	76	41	12.6	92	112,360	112,360	B6	50	C	17.5	0.0	31	98	20	8.1	145	25,374		1.06	15,735	30,573
C2	100	UC	66.1	4.84	3	67	63	4.5	76	50,116	50,116	B6	50	UC	58.0	4.5	31	76	42	93	53,929			1.25	15,815	16,513
C3	100	UC	56.1	4.82	4	69	43	4.9	81	45,289	45,289	B3	60	C	15.0	0.0	42	98	18	5.3	144	21,554	50,043	1.25	12,713	14,018
C5	110	UC	57.5	4.7	5	70	38	5.5	83	47,728	47,728	B3	60	UC	32.4	4.2	42	73	40	88	28,488			1.34	16,372	14,380
C4	120	UC	40.8	4.8	4	65	66	2.6	72	29,588	29,588	B7	60	C	24.1	0.0	42	98	26	7.6	143	34,555	84,521	1.45	12,802	10,206
C6	120	UC	37.5	4.8	4	62	69	2.2	69	25,957	25,957	B7	60	UC	55.1	4.2	42	75	56	91	49,966			1.37	10,467	9,383
B11	130	UC	67.7	4.8	4	69	90	4.0	79	53,316	53,316	B8	70	C	23.4	0.0	48	98	24	6.5	144	33,723	69,938	1.44	21,515	16,923
B12	130	UC	25.1	4.8	4	66	68	1.6	74	18,564	18,564	B8	70	UC	43.1	4.0	48	71	55	84	36,215			1.05	2,416	6,271
C7	130	UC	20.5	4.8	4	65	43	1.6	73	15,014	15,014	B9	70	C	54.3	0.0	46	98	25	16.5	143	77,519	177,009	1.03	1,446	5,122
D1	140	C	7.1	1.0	20	98	23	4.7	143	10,125	53,724	B9	70	UC	107.3	4.1	46	76	54	93	99,490			1.17	8,908	16,590
D1	140	UC	59.3	4.5	20	65	55	7.4	74	43,599	53,724	B10	80	C	20.0	0.0	39	98	20	7.4	144	28,795	73,694	1.27	5,396	5,852
B13	150	UC	23.4	4.8	4	63	55	1.6	71	16,682	16,682	B10	80	UC	51.3	4.3	39	73	45	88	44,899			1.93	9,589	4,896
D2	150	UC	19.6	4.8	4	66	29	1.9	75	14,684	14,684	C1	90	C	28.3	0.0	31	98	19	13.3	144	40,623	128,096	2.16	31,679	16,628
A4	160	UC	66.5	3.8	23	63	51	4.6	71	47,171	47,171	C1	90	UC	94.0	4.5	31	76	41	93	87,472			2.26	11,277	5,250
B14	160	UC	21.0	4.6	8	64	53	1.5	72	15,045	15,045	C2	100	C	17.6	0.0	37	98	26	5.6	143	25,199	65,932	2.26	5,241	2,455
A5	165	UC	9.8	4.5	10	58	28	0.8	64	6,316	6,316	C2	100	UC	48.5	4.3	37	71	59	84	40,733			1.90	22,981	13,700
A6	170	UC	54.8	3.8	25	70	66	4.0	83	45,236	45,236	C3	100	C	17.4	0.0	43	98	19	6.1	145	25,193	58,002	1.11	4,200	22,370
A7	180	C	40.0	0.0	52	98	33	7.7	144	57,428	91,181	C3	100	UC	36.7	4.2	43	74	41	89	32,809			1.26	24,571	27,680
A7	180	UC	49.5	4.4	52	62	85	6.8	68	33,752	91,181	C5	110	C	21.5	0.0	51	98	17	7.4	145	31,181	64,100	1.13	4,422	14,895
E1	190	C	9.4	0.0	19	98	27	8.5	144	13,535	98,126	C5	110	UC	36.0	3.9	51	75	37	91	32,919			1.09	2,184	10,268
E1	190	UC	101.3	4.4	19	71	61	8.3	83	84,591	98,126	C4	120	C	14.6	0.0	49	98	27	3.7	143	20,907	42,390	1.14	4,212	16,980
E3	191	C	18.4	0.0	44	98	17	7.2	144	26,514	64,123	C4	120	UC	26.2	4.0	49	70	62	82	21,483			1.11	5,059	21,578
E3	191	UC	41.2	4.0	44	75	37	91	91	37,609	64,123	C6	120	C	11.5	0.0	42	98	28	3.0	143	16,489	36,425	4.679	33,555	
E4	193	C	13.2	0.0	46	98	12	6.2	144	19,048	46,313	C6	120	UC	26.0	4.2	42	67	65	77	19,936			1.12	968	3,648
E4	193	UC	27.9	4.0	46	78	26	98	98	27,266	46,313	B11	130	C	26.0	0.0	54	98	39	5.7	144	37,339	74,830	1.27	6,266	30,505
E5	195	C	20.4	0.0	44	98	21	10.2	144	29,426	72,818	B11	130	UC	41.6	3.7	54	75	83	90	37,491			1.11	5,059	21,578
E5	195	UC	47.5	4.0	44	75	46	91	91	43,392	72,818	B12	130	C	2.7	0.0	18	98	28	1.7	143	3,874	20,980	1.11	5,059	21,578
E6	195	C	9.4	0.0	44	98	21	145	145	13,588	31,110	B12	130	UC	22.4	4.6	18	67	67	76	17,106			1.14	4,212	16,980
E6	195	UC	21.3	4.0	44	70	48	82	82	17,521	31,110	C7	130	C	1.9	0.0	15	98	18	1.7	143	2,723	16,460	2.204	7,663	
E7	197	C	31.1	0.0	42	98	32	7.7	144	44,663	97,368	C7	130	UC	18.6	4.7	15	65	43	74	13,737			1.11	3,710	23,623
E7	197	UC	63.4	4.3	42	71	73	83	83	52,705	97,368	D1	140	C	17.5	0.0	38	98	23	5.5	143	24,940	62,632	1.11	5,059	21,578
E8	199	C	29.6	0.0	48	98	25	19.0	144	42,732	91,258	D1	140	UC	48.9	4.2	38	67	54	77	37,692			1.11	5,059	21,578
E8	199	UC	56.7	3.9	48	72	55	86	86	48,526	91,258	B13	150	C	6.9	0.0	37	98	22	2.0	143	9,895	22,079	1.11	5,059	21,578
E9	199	C	39.6	0.0	44	98	33	143	143	56,746	140,601	B13	150	UC	16.5	4.5	37	65	53	74	12,183			1.11	5,059	21,578
E9	199	UC	94.6	4.0	44	74	72	89	89	83,855	140,601	D2	150	C	6.7	4.1	72	70	27	3.7	83	5,558	24,274	1.11	5,059	21,578
E10	200	C	4.2	0.0	42	98	13	1.8	144	6,033	14,425	D2	150	UC	12.9	0.0	72	98	12	145	18,716			1.11	5,059	21,578
E10	200	UC	10.4	4.1	42	68	30	81	81	8,392	14,425	A4	160	C	19.4	4.6	73	54	58	10.0	57	11,103	78,850	1.11	5,059	21,578
E11	210	C	42.8	0.0	48	98	41	17.9	143	61,379	131,285	A4	160	C	47.1	0.0	73	98	21	3.3	69	67,747	26,322	1.11	5,059	21,578
E11	210	UC	79.2	4.0	48	74	90	88	88	69,906	131,285	B14	160	UC	5.3	4.9	75	62	54	3.3	89	3,669	26,322	1.11	5,059	21,578
E2	210	C	29.9	0.0	30	98	42	143	143	42,807	149,237	B14	160	C	15.7	0.0	75									

East Tamaki Catchment Management Plan

Job No: 2108771/20

50 Year ARI Flood Flows 24 hour Rainfall = 200 mm

Existing											Future Unmitigated											Analysis For Subcatchment					
Sub-catchment	Down-stream Node	Type	Area ha	Weighted la mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³	Sub-catchment	Down-stream Node	Type	Area ha	Weighted la mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³	Q _{future} / Q _{exist}	V _{future} - V _{exist} m ³	0.025 x Subcatch. Area m ³	
A1	10	UC	90.2	4.5	9	73	43	12.9	130	116,833	116,833	A1	10	C	25.2	0.0	37	98	19	14.1	195	49,037	136,835	1.09	20,002	22,538	
A2	20	UC	57.2	4.8	4	65	66	5.6	111	63,640	63,640	A2	20	C	24.3	0.0	58	98	27	8.1	193	46,854	88,743	1.46	25,103	14,291	
A3	20	UC	62.9	4.8	4	66	82	5.6	113	71,255	71,255	A2	20	UC	32.9	3.7	58	72	60	6.6	128	41,889			1.18	18,935	15,716
B1	30	UC	92.9	4.8	4	74	41	13.9	133	123,730	123,730	A3	20	C	18.7	0.0	41	98	34		193	36,013	90,190	1.01	6,423	23,222	
B2	30	UC	120.1	4.8	4	74	41	18.1	133	160,050	160,050	A3	20	UC	44.2	4.2	41	70	78		123	54,177			1.01	9,853	30,013
B4	40	UC	85.6	4.7	6	76	26	16.5	139	118,596	118,596	B1	30	C	8.2	0.0	12	98	19	14.1	193	15,856	130,153	0.98	3,571	21,390	
B5	50	UC	33.3	4.8	3	74	34	5.4	133	44,184	44,184	B1	30	UC	84.7	4.8	12	75	41		135	114,297			1.08	6,103	8,325
B6	50	UC	75.6	4.8	5	74	44	10.9	131	99,223	99,223	B2	30	C	13.1	0.0	15	98	19	18.3	195	25,538	169,903	1.07	14,678	18,894	
B3	60	UC	47.4	4.8	4	69	42	6.4	123	58,227	58,227	B2	30	UC	107.0	4.8	15	75	40		135	144,365			1.18	13,321	11,851
B7	60	UC	79.2	4.8	4	72	58	9.5	127	100,580	100,580	B4	40	C	10.1	0.0	16	98	12	16.1	194	19,588	122,166	1.13	20,044	19,789	
B8	70	UC	66.6	4.8	4	67	58	7.3	117	77,867	77,867	B4	40	UC	75.8	4.8	16	75	26		135	102,579			1.26	21,956	16,640
B9	70	UC	161.6	4.8	4	72	57	19.6	127	205,001	205,001	B5	50	C	7.4	0.0	31	98	16	5.8	189	14,016	50,287	1.18	46,348	40,411	
B10	80	UC	71.3	4.5	10	71	46	9.6	127	90,502	90,502	B5	50	UC	25.9	4.4	31	77	33		140	36,271			1.10	15,318	17,822
C1	90	UC	122.3	4.5	9	76	41	18.7	136	166,318	166,318	B6	50	C	17.5	0.0	31	98	20	11.6	195	34,166	113,901	1.03	17,707	30,573	
C2	100	UC	66.1	4.84	3	67	63	6.9	116	76,603	76,603	B6	50	UC	58.0	4.5	31	76	42		137	79,735			1.16	18,591	16,513
C3	100	UC	56.1	4.82	4	69	43	7.5	122	68,585	68,585	B3	60	C	15.0	0.0	42	98	18	7.6	193	29,022	71,548	1.16	14,145	14,018	
C5	110	UC	57.5	4.7	5	70	38	8.3	125	71,978	71,978	B3	60	UC	32.4	4.2	42	73	40		131	42,526			1.24	18,762	14,380
C4	120	UC	40.8	4.8	4	65	66	4.0	112	45,531	45,531	B7	60	C	24.1	0.0	42	98	26	10.8	193	46,527	120,624	1.32	15,015	10,206	
C6	120	UC	37.5	4.8	4	62	69	3.4	107	40,211	40,211	B7	60	UC	55.1	4.2	42	75	56		135	74,096			1.25	12,372	9,383
B11	130	UC	67.7	4.8	4	69	90	6.1	120	80,972	80,972	B8	70	C	23.4	0.0	48	98	24	9.2	194	45,407	99,824	1.31	24,857	16,923	
B12	130	UC	25.1	4.8	4	66	68	2.5	113	28,458	28,458	B8	70	UC	43.1	4.0	48	71	55		126	54,416			1.03	2,859	6,271
C7	130	UC	20.5	4.8	4	65	43	2.5	113	23,082	23,082	B9	70	C	54.3	0.0	46	98	25	23.3	192	104,379	251,349	1.01	1,675	5,122	
D1	140	C	7.1	1.0	20	98	23	7.2	192	13,633	80,547	B9	70	UC	107.3	4.1	46	76	54		137	146,970			1.11	10,457	16,590
D1	140	UC	59.3	4.5	20	65	55		113	66,913		B10	80	C	20.0	0.0	39	98	20	10.5	194	38,772	105,820	1.16	6,269	5,852	
B13	150	UC	23.4	4.8	4	63	55	2.5	110	25,753	25,753	B10	80	UC	51.3	4.3	39	73	45		131	67,048			1.70	11,078	4,896
D2	150	UC	19.6	4.8	4	66	29	2.9	115	22,499	22,499	C1	90	C	28.3	0.0	31	98	19	19.2	193	54,698	184,024	1.87	36,096	16,628	
A4	160	UC	66.5	3.8	23	63	51	7.2	109	72,755	72,755	C1	90	UC	94.0	4.5	31	76	41		138	129,326			1.93	6,067	2,455
B14	160	UC	21.0	4.6	8	64	53	2.3	110	23,181	23,181	C2	100	C	17.6	0.0	37	98	26	8.0	193	33,931	95,194	1.69	25,610	13,700	
A5	165	UC	9.8	4.5	10	58	28	1.3	101	9,892	9,892	C2	100	UC	48.5	4.3	37	71	59		126	61,263			1.10	4,753	22,370
A6	170	UC	54.8	3.8	25	70	66	6.0	124	68,112	68,112	C3	100	C	17.4	0.0	43	98	19	8.7	195	33,921	82,730	1.18	24,133	27,680	
A7	180	C	40.0	0.0	52	98	33	10.6	193	77,328	129,643	C3	100	UC	36.7	4.2	43	74	41		133	48,808			1.11	5,005	14,895
A7	180	UC	49.5	4.4	52	62	85		106	52,315		C5	110	C	21.5	0.0	51	98	17	10.3	195	41,984	90,740	1.08	2,345	10,268	
E1	190	C	9.4	0.0	19	98	27	12.7	194	18,224	145,500	C5	110	UC	36.0	3.9	51	75	37		135	48,756			1.12	4,686	16,980
E1	190	UC	101.3	4.4	19	71	61		126	127,276		C6	120	C	14.6	0.0	49	98	27	5.2	193	28,151	60,545	1.09	4,056	23,623	
E3	191	C	18.4	0.0	44	98	17	10.1	194	35,700	91,422	C6	120	UC	26.2	4.0	49	70	62		124	32,394			1.09	5,733	21,578
E3	191	UC	41.2	4.0	44	75	37		135	55,721		C6	120	C	11.5	0.0	42	98	28	4.3	193	22,202	52,582	1.09	5,078	33,555	
E4	193	C	13.2	0.0	46	98	12	8.7	194	25,647	65,603	C6	120	UC	26.0	4.2	42	67	65		117	30,380			1.09	5,733	21,578
E4	193	UC	27.9	4.0	46	78	26		143	39,957		B11	130	C	26.0	0.0	54	98	39	8.0	193	50,279	105,829	1.09	5,733	21,578	
E5	195	C	20.4	0.0	44	98	21	14.5	194	39,622	103,917	B11	130	UC	41.6	3.7	54	75	83		133	55,551			1.12	4,686	16,980
E5	195	UC	47.5	4.0	44	75	46		135	64,296		B12	130	C	2.7	0.0	18	98	28	2.5	193	5,216	31,317	1.12	4,686	16,980	
E6	195	C	9.4	0.0	44	98	21		195	18,297	44,708	B12	130	UC	22.4	4.6	18	67	67		117	26,101			1.12	4,686	16,980
E6	195	UC	21.3	4.0	44	70	48		124	26,412		C7	130	C	1.9	0.0	15	98	18	2.5	193	3,666	24,757	1.12	4,686	16,980	
E7	197	C	31.1	0.0	42	98	32	10.9	193	60,140	139,441	C7	130	UC	18.6	4.7	15	65	43		113	21,091			1.12	4,686	16,980
E7	197	UC	63.4	4.3	42	71	73		125	79,301		D1	140	C	17.5	0.0	38	98	23	8.0	192	33,579	91,004	1.12	4,686	16,980	
E8	199	C	29.6	0.0	48	98	25	26.9	194	57,538	130,196	D1	140	UC	48.9	4.2	38	67	54		118	57,425			1.12	4,686	16,980
E8	199	UC	56.7	3.9	48	72	55		128	72,658		B13	150	C	6.9	0.0	37	98	22	2.9	193	13,324	32,022	1.12	4,686	16,980	
E9	199	C	39.6	0.0	44	98	33		193	76,409	201,157	B13	150	UC	16.5	4.5	37	65	53		113	18,699			1.12	4,686	16,980
E9	199	UC	94.6	4.0	44	74	72		132	124,748		D2	150	C	6.7	4.1	72	70	27	5.0	125	8,377	33,577	1.12	4,686	16,980	
E10	200	C	4.2	0.0	42	98	13	2.5	193	8,123	20,855	D2	150	UC	12.9	0.0	72	98	12		195	25,200			1.12	4,686	16,980
E10	200	UC	10.4	4.1	42	68	30		123	12,732		A4	160	C	19.4	4.6	73	54	58	13.5	91	17,631	108,851	1.12	4,686	16,980	
E11	210	C	42.8	0.0	48	98	41	25.8	193	82,650	186,689	A4	160	C	47.1	0.0	73	98	21	2.5	85	2,499	15,959	1.12	4,686	16,980	
E11	210	UC	79.2	4.0	48	74	90		131	104,039		A5	165	C	3.0	4.9	70	51	31		195	13,460			1.12	4,686	16,980
E2	210	C	29.9	0.0	30	98	42		193																		

East Tamaki Catchment Management Plan

Job No: 2108771/20

100 Year ARI Flood Flows 24 hour Rainfall = 230 mm

Existing												Future Unmitigated												Analysis For Subcatchment			
Sub-catchment	Down-stream Node	Type	Area ha	Weighted la mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³	Sub-catchment	Down-stream Node	Type	Area ha	Weighted la mm	% Impervious	Weighted CN Number	Response Time min	Max Flow m ³ /s	Total Runoff Depth mm	Runoff Volume m ³	Subcatchment Runoff Volume m ³	Q _{future} / Q _{exist}	V _{future} - V _{exist} m ³	0.025 x Subcatch. Area m ³	
A1	10	UC	90.2	4.5	9	73	43	15.6	156	141,000	141,000	A1	10	C	25.2	0.0	37	98	19	16.7	225	56,622	162,174	1.07	21,174	22,538	
A2	20	UC	57.2	4.8	4	65	66	6.8	136	77,798	77,798	A1	10	UC	65.0	4.4	37	75	42		162	105,553			1.40	26,870	14,291
A3	20	UC	62.9	4.8	4	66	82	6.9	138	86,966	86,966	A2	20	C	24.3	0.0	58	98	27	9.5	223	54,102	104,668				
B1	30	UC	92.9	4.8	4	74	41	16.8	160	148,963	148,963	A2	20	UC	32.9	3.7	58	72	60		154	50,566			1.14	20,325	15,716
B2	30	UC	120.1	4.8	4	74	41	21.8	160	192,661	192,661	A3	20	C	18.7	0.0	41	98	34	7.8	223	41,642	107,291				
B4	40	UC	85.6	4.7	6	76	26	19.7	166	142,359	142,359	A3	20	UC	44.2	4.2	41	70	78		149	65,649					
B5	50	UC	33.3	4.8	3	74	34	6.5	160	53,230	53,230	B1	30	C	8.2	0.0	12	98	19	16.9	223	18,309	155,772				
B6	50	UC	75.6	4.8	5	74	44	13.1	158	119,599	119,599	B1	30	UC	84.7	4.8	12	75	41		162	137,463			1.01	6,809	23,222
B3	60	UC	47.4	4.8	4	69	42	7.8	149	70,629	70,629	B2	30	C	13.1	0.0	15	98	19	22.0	225	29,488	203,115				
B7	60	UC	79.2	4.8	4	72	58	11.5	154	121,560	121,560	B2	30	UC	107.0	4.8	15	75	40		162	173,627			1.01	10,454	30,013
B8	70	UC	66.6	4.8	4	67	58	9.0	142	94,840	94,840	B4	40	C	10.1	0.0	16	98	12	19.3	224	22,617	145,970				
B9	70	UC	161.6	4.8	4	72	57	23.8	153	247,866	247,866	B4	40	UC	75.8	4.8	16	75	26		163	123,354			0.98	3,611	21,390
B10	80	UC	71.3	4.5	10	71	46	11.6	153	109,417	109,417	B5	50	C	7.4	0.0	31	98	16	6.9	219	16,184	59,648				
C1	90	UC	122.3	4.5	9	76	41	22.4	163	199,758	199,758	B5	50	UC	25.9	4.4	31	77	33		168	43,464			1.06	6,418	8,325
C2	100	UC	66.1	4.84	3	67	63	8.4	141	93,348	93,348	B6	50	C	17.5	0.0	31	98	20	13.8	225	39,450	135,169				
C3	100	UC	56.1	4.82	4	69	43	9.1	148	83,225	83,225	B6	50	UC	58.0	4.5	31	76	42		165	95,718			1.06	15,570	18,894
C5	110	UC	57.5	4.7	5	70	38	10.1	152	87,176	87,176	B3	60	C	15.0	0.0	42	98	18	8.9	223	33,512	84,785				
C4	120	UC	40.8	4.8	4	65	66	4.9	136	55,659	55,659	B3	60	UC	32.4	4.2	42	73	40		158	51,274			1.15	14,156	11,851
C6	120	UC	37.5	4.8	4	62	69	4.2	131	49,310	49,310	B7	60	C	24.1	0.0	42	98	26	12.7	223	53,719	142,791				
B11	130	UC	67.7	4.8	4	69	90	7.4	145	98,382	98,382	B7	60	UC	55.1	4.2	42	75	56		162	89,072			1.10	21,231	19,789
B12	130	UC	25.1	4.8	4	66	68	3.0	138	34,727	34,727	B8	70	C	23.4	0.0	48	98	24	10.9	224	52,432	118,239				
C7	130	UC	20.5	4.8	4	65	43	3.1	138	28,205	28,205	B8	70	UC	43.1	4.0	48	71	55		153	65,807			1.21	23,399	16,640
D1	140	C	7.1	1.0	20	98	23	8.8	222	15,742	97,449	B9	70	C	54.3	0.0	46	98	25	27.4	222	120,524	296,901				
D1	140	UC	59.3	4.5	20	65	55	138	138	81,707		B9	70	UC	107.3	4.1	46	76	54		164	176,376			1.15	49,034	40,411
B13	150	UC	23.4	4.8	4	63	55	3.0	135	31,530	31,530	B10	80	C	20.0	0.0	39	98	20	12.5	224	44,769	125,622				
D2	150	UC	19.6	4.8	4	66	29	3.6	140	27,449	27,449	B10	80	UC	51.3	4.3	39	73	45		158	80,852			1.07	16,205	17,822
A4	160	UC	66.5	3.8	23	63	51	8.9	134	89,085	89,085	C1	90	C	28.3	0.0	31	98	19	22.7	223	63,157	218,406				
B14	160	UC	21.0	4.6	8	64	53	2.8	135	28,357	28,357	C1	90	UC	94.0	4.5	31	76	41		165	155,249			1.01	18,647	30,573
A5	165	UC	9.8	4.5	10	58	28	1.6	124	12,197	12,197	C2	100	C	17.6	0.0	37	98	26	9.6	223	39,179	113,294				
A6	170	UC	54.8	3.8	25	70	66	7.3	150	82,454	82,454	C2	100	UC	48.5	4.3	37	71	59		153	74,115			1.13	19,946	16,513
A7	180	C	40.0	0.0	52	98	33	12.4	223	89,291	153,472	C3	100	C	17.4	0.0	43	98	19	10.3	225	39,168	97,925				
A7	180	UC	49.5	4.4	52	62	85	130	130	64,181		C3	100	UC	36.7	4.2	43	74	41		160	58,757			1.13	14,701	14,018
E1	190	C	9.4	0.0	19	98	27	15.3	224	21,044	175,040	C5	110	C	21.5	0.0	51	98	17	12.1	225	48,478	107,060				
E1	190	UC	101.3	4.4	19	71	61	152	152	153,996		C5	110	UC	36.0	3.9	51	75	37		163	58,583			1.20	19,884	14,380
E3	191	C	18.4	0.0	44	98	17	12.0	224	41,216	108,175	C4	120	C	14.6	0.0	49	98	27	6.2	223	32,506	71,744				
E3	191	UC	41.2	4.0	44	75	37	163	163	66,959		C4	120	UC	26.2	4.0	49	70	62		150	39,239			1.26	16,085	10,206
E4	193	C	13.2	0.0	46	98	12	10.2	224	29,613	77,396	C6	120	C	11.5	0.0	42	98	28	5.1	223	25,637	62,616				
E4	193	UC	27.9	4.0	46	78	26	171	171	47,783		C6	120	UC	26.0	4.2	42	67	65		142	36,979			1.20	13,306	9,383
E5	195	C	20.4	0.0	44	98	21	17.2	224	45,749	123,016	B11	130	C	26.0	0.0	54	98	39	9.4	223	58,057	124,818				
E5	195	UC	47.5	4.0	44	75	46	163	163	77,267		B11	130	UC	41.6	3.7	54	75	83		160	66,761			1.26	26,435	16,923
E6	195	C	9.4	0.0	44	98	21	225	225	21,127	53,114	B12	130	C	2.7	0.0	18	98	28	3.1	223	6,023	37,806				
E6	195	UC	21.3	4.0	44	70	48	151	151	31,988		B12	130	UC	22.4	4.6	18	67	67		142	31,783			1.02	3,079	6,271
E7	197	C	31.1	0.0	42	98	32	12.8	223	69,443	165,396	C7	130	C	1.9	0.0	15	98	18	3.1	223	4,233	29,990				
E7	197	UC	63.4	4.3	42	71	73	151	151	95,953		C7	130	UC	18.6	4.7	15	65	43		139	25,757			1.01	1,785	5,122
E8	199	C	29.6	0.0	48	98	25	31.8	224	66,437	154,162	D1	140	C	17.5	0.0	38	98	23	9.5	221	38,675	108,531				
E8	199	UC	56.7	3.9	48	72	55	155	155	87,725		D1	140	UC	48.9	4.2	38	67	54		143	69,856			1.08	11,081	16,590
E9	199	C	39.6	0.0	44	98	33	223	223	88,229	238,410	B13	150	C	6.9	0.0	37	98	22	3.4	223	15,385	38,217				
E9	199	UC	94.6	4.0	44	74	72	159	159	150,181		B13	150	UC	16.5	4.5	37	65	53		138	22,833			1.12	6,687	5,852
E10	200	C	4.2	0.0	42	98	13	3.0	223	9,379	24,844	D2	150	UC	6.7	4.1	72	70	27	5.8	152	10,144	39,242				
E10	200	UC	10.4	4.1	42	68	30	149	149	15,464		D2	150	C	12.9	0.0	72	98	12		226	29,098			1.61	11,793	4,896
E11	210	C	42.8	0.0	48	98	41	30.9	223	95,401	220,672	A4	160	UC	19.4	4.6	73	54	58	15.6	113	21,883	127,213				
E11	210	UC	79.2	4.0	48	74	90	158	158	125,271		A4	160	C	47.1	0.0	73	98	21		224	105,330			1.76	38,148	16,628
E2	210	C	29.9	0.0	30	98	42	223	223	66,557	264,255	B14	160	UC	5.3	4.9	75	62	54	5.2	131	6,985	42,204				
E2	210	UC	140.6	4.3	30	67	101	141	141	197,698		B14	160	C	15.7	0.0	75	98	21		224	35,219			1.84	13,847	5,250
E12	220	C	28.0	0.0	45	98	26	11.9	224	62,804	133,479	A5	165	UC	3.0	4.9	70	51	31	2.9	106	3,116	18,657				
E12	220	UC	47.7	4.3	45	69	59	148	148	70,675		A5															