

Appendix A

Monitoring Location Plan

Water levels are monitored in the piezometers listed in Table A-1 (a total of 110 piezometers) at the locations shown in the Plans following. The completion depths are given in Table A-1. Shallow (screen completion in or just above peat) and deep piezometer (screen completion in sand below peat or silt) pairs are installed at wetlands following the general design shown in Appendix C.

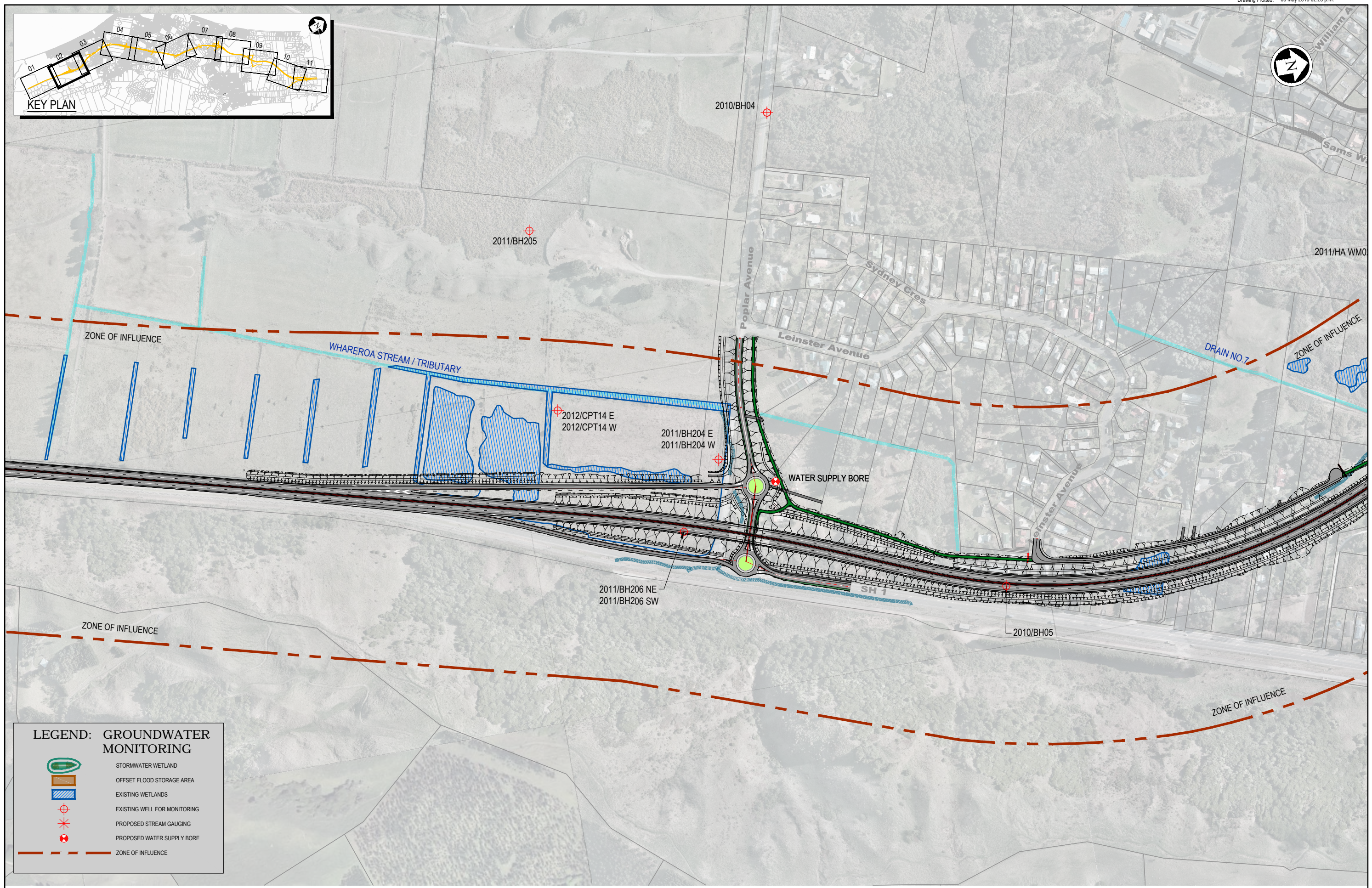
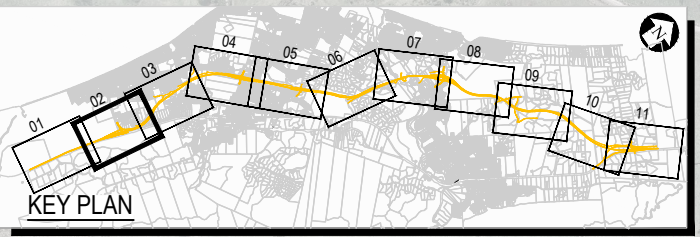
Table A-1 Monitoring Bores/ Piezometers

Piezo ID	Surface Elevation (mRL)	Screen Depth (mBGL)		Screen Elevation (mRL)		Screened Material
		Top	Bottom	Top	Bottom	
2011/BH206 NE	6.10	5.50	9.00	0.60	-2.90	GRAVEL
2011/BH206 SW	6.10	1.00	2.50	5.10	3.60	PEAT
2011/BH204 E	5.80	6.00	9.00	-0.20	-3.20	GRAVEL
2011/BH204 W	5.80	1.00	2.50	4.80	3.30	PEAT
2010/BH05	7.80	3.70	11.70	4.10	-3.90	GRAVEL/SAND
2012/CPT14 E	6.10	5.00	6.00	1.10	0.10	GRAVEL
2012/CPT14 W	6.10	3.00	3.50	3.10	2.60	PEAT
2011/BH205	8.50	2.40	5.40	6.10	3.10	PEAT
2010/BH04	8.20	6.00	15.00	2.20	-6.80	GRAVEL/SAND
2012/BH02 GW E	7.03	5.00	6.00	2.03	1.03	SAND
2012/BH02 GW W	7.03	0.40	0.80	6.63	6.23	ORGANIC SILT
2012/BH01 GW E	7.13	1.50	2.50	5.63	4.63	PEAT
2012/BH01 GW W	7.13	4.50	5.50	2.63	1.63	SAND
2011/BH302 N	6.30	1.00	2.80	5.30	3.50	PEAT
2011/BH302 S	6.30	4.00	7.70	2.30	-1.40	SAND
2011/BH301 E	8.40	2.50	3.50	5.90	4.90	PEAT
2011/BH301 W	8.40	5.00	8.00	3.40	0.40	SAND/GRAVEL
2011/ HA WM02	7.20	0.20	2.10	7.00	5.10	PEAT
2007/BH-A	21.80	26.00	29.00	-4.20	-7.20	SAND
2012/BH03 E	7.20	2.00	5.00	5.20	2.20	PEAT
2012/BH03 W	7.20	7.00	10.00	0.20	-2.80	SAND
2012/BH03 GW	4.50	4.00	5.00	0.50	-0.50	SAND
2012/BH04 GW	3.92	4.00	5.00	-0.08	-1.08	SAND
2011/BH213 N	4.80	9.00	10.00	-4.20	-5.20	GRAVEL
2011/BH213 S	4.80	5.00	6.00	-0.20	-1.20	SAND
2011/BH303 N	3.90	7.00	10.00	-3.10	-6.10	SAND
2011/BH303 S	3.90	2.00	5.00	1.90	-1.10	SAND
2011/HA WM10	4.00	0.30	0.60	3.70	3.40	PEAT

Piezo ID	Surface Elevation (mRL)	Screen Depth (mBGL)		Screen Elevation (mRL)		Screened Material
		Top	Bottom	Top	Bottom	
2011/HA WM09	4.00	0.30	0.60	3.70	3.40	PEAT
2012/BH24 GW	4.54	4.00	5.00	0.54	-0.46	SAND
2012/BH06 GW	5.68	5.00	8.00	0.68	-2.32	SAND
2011/HA WM08	4.00	0.20	0.50	3.80	3.50	PEAT
2012/BH05 GW	5.64	5.00	6.00	0.64	-0.36	SAND
2007/BH-C	4.80	12.00	15.00	-7.20	-10.20	SAND
2007/BH-B	5.10	10.00	13.00	-4.90	-7.90	GRAVEL
2012/BH07 GW (N)	8.43	7.00	8.00	1.43	0.43	SAND
2012/BH07 GW (S)	8.43	2.00	3.00	6.43	5.43	SAND
2007/BH-U	6.10	7.00	10.00	-0.90	-3.90	SAND
2007/BH-E	11.10	7.00	10.00	4.10	1.10	SAND/SILT
2012/BH21 GW	7.95	5.00	6.00	2.95	1.95	SAND
2007/BH-D	3.30	7.00	10.00	-3.70	-6.70	SAND
2007/BH-T	8.00	7.00	10.00	1.00	-2.00	SAND
2012/BH09 GW	8.24	4.00	6.00	4.24	2.24	SAND
2007/BH-J	6.30	4.00	7.00	2.30	-0.70	SAND
2012/HA25	7.00	0.81	0.91	6.19	6.09	SAND
2007/BH-I	9.70	6.00	9.00	3.70	0.70	SAND/GRAVEL
2011/BH214	7.10	9.50	10.50	-2.40	-3.40	SAND
2007/BH-K	6.20	7.00	10.00	-0.80	-3.80	SAND
2007/BH-L	3.70	10.00	13.00	-6.30	-9.30	SAND
2011/HA WM04	2.60	1.00	1.25	1.60	1.35	SAND
2008/BH202	13.50	9.50	12.50	4.00	1.00	SAND
2007/BH-M	3.60	1.50	4.50	2.10	-0.90	GRAVEL
2012/BH14 GW	3.49	5.00	6.00	-1.51	-2.51	SAND/GRAVEL
2011/BH216	10.30	15.50	17.50	-5.20	-7.20	GRAVEL
2012/BH11 GW	13.93	8.30	11.30	5.63	2.63	SAND
2007/BH-V	7.30	6.00	9.00	1.30	-1.70	SAND
2012/BH10 GW	8.48	3.50	6.00	4.98	2.48	SAND
2011/BH307 N	8.40	1.00	2.00	7.40	6.40	FILL

Piezo ID	Surface Elevation (mRL)	Screen Depth (mBGL)		Screen Elevation (mRL)		Screened Material
		Top	Bottom	Top	Bottom	
2011/BH307 S	8.40	7.50	10.50	0.90	-2.10	SAND
2011/BH306 N	8.25	0.70	2.20	7.55	6.05	PEAT
2011/BH306 S	8.25	7.00	10.50	1.25	-2.25	SAND
2011/BH305 N	9.30	2.50	4.00	6.80	5.30	SAND
2011/BH305 S	9.30	7.50	10.50	1.80	-1.20	SAND
2012/BH20 N	3.60	1.80	2.30	1.80	1.30	ALLUVIUM (SILT)
2012/BH20 S	3.60	7.00	10.00	-3.40	-6.40	SAND
2007/BH-N(A)	3.40	6.00	9.00	-2.60	-5.60	SAND
2007/BH-N	10.00	5.00	8.00	5.00	2.00	SAND
2008/BH204	13.00	18.80	21.80	-5.80	-8.80	SAND
2007/BH-O	2.90	10.00	13.00	-7.10	-10.10	SAND
2011/HA WM05	2.90	0.60	0.90	2.30	2.00	SAND
2011/BH215	3.80	9.00	10.00	-5.20	-6.20	SAND
2012/BH15 GW (N)	3.40	5.00	6.00	-1.60	-2.60	GRAVEL
2012/BH15 GW (S)	3.40	1.50	2.00	1.90	1.40	ALLUVIUM (SAND)
2008/BH205	3.30	6.40	9.40	-3.10	-6.10	SAND
2007/BH-R	4.10	7.00	10.00	-2.90	-5.90	SAND
2012/BH25 GW (E)	3.62	4.00	5.00	-0.38	-1.38	SAND
2012/BH25 GW (W)	3.62	1.00	2.00	2.62	1.62	SAND
2012/BH16 GW (E)	3.45	5.00	6.00	-1.55	-2.55	GRAVEL
2012/BH16 GW (W)	3.45	1.50	2.50	1.95	0.95	SILT
2012/BH22 GW (E)	3.95	3.50	4.50	0.45	-0.55	ALLUVIUM
2012/BH22 GW (W)	3.95	7.00	8.00	-3.05	-4.05	GRAVEL
2010/BH07	3.60	3.00	15.00	0.60	-11.40	GRAVEL/SAND
2012/BH26	2.60	3.00	4.50	-0.40	-1.90	GRAVEL
2011/BH207 E	5.10	5.00	8.00	0.10	-2.90	GRAVEL
2011/BH207 W	5.10	20.00	23.00	-14.90	-17.90	GRAVEL/SAND
2007/BH-S	4.60	7.00	10.00	-2.40	-5.40	SAND
2007/BH-Q	25.70	27.00	30.00	-1.30	-4.30	SAND
2012/BH17 GW	15.80	9.00	12.00	6.80	3.80	SAND

Piezo ID	Surface Elevation (mRL)	Screen Depth (mBGL)		Screen Elevation (mRL)		Screened Material
		Top	Bottom	Top	Bottom	
2011/BH208	21.70	19.00	21.00	2.70	0.70	SAND
2012/BH18 GW	10.66	7.00	8.00	3.66	2.66	SAND
2011/BH209	12.50	17.00	20.00	-4.50	-7.50	SAND
2010/BH12	8.60	2.00	15.00	6.60	-6.40	SAND
2011/BH211	7.50	15.00	18.00	-7.50	-10.50	SAND
2011/BH211A	9.20	14.00	20.00	-4.80	-10.80	SAND
2012/BH 20 GW	6.86	4.00	5.00	2.86	1.86	SAND
2012/BH23 GW	5.66	4.00	5.00	1.66	0.66	SAND
2011/BH210	8.60	17.00	20.00	-8.40	-11.40	SAND
2012/BH28	18.10	16.00	22.00	2.10	-3.90	SAND
2010/BH13 N	7.20	0.40	1.40	6.80	5.80	ORGANICS
2010/BH13 S	7.20	3.50	14.50	3.70	-7.30	SAND
2012/BH19 GW	6.23	4.00	6.00	2.23	0.23	SAND
2011/BH309 N	8.40	0.50	3.50	7.90	4.90	PEAT
2011/BH309 S	8.40	9.00	12.00	-0.60	-3.60	SAND
2011/BH308 N	8.00	0.40	2.40	7.60	5.60	PEAT
2011/BH308 S	8.00	8.00	10.00	0.00	-2.00	SAND
2012/BH37 E	9.00	0.90	1.10	8.10	7.90	PEAT
2012/BH37 W	9.00	6.00	7.50	3.00	1.50	GRAVEL
2011/BH310 E	8.80	0.50	3.50	8.30	5.30	PEAT
2011/BH310 W	8.80	7.10	10.10	1.70	-1.30	SAND/GRAVEL
2010/BH16	11.30	6.00	15.00	5.30	-3.70	SAND



LEGEND: GROUNDWATER MONITORING

- STORMWATER WETLAND
- OFFSET FLOOD STORAGE AREA
- EXISTING WETLANDS
- EXISTING WELL FOR MONITORING
- PROPOSED STREAM GAUGING
- PROPOSED WATER SUPPLY BORE
- ZONE OF INFLUENCE

4	WETLANDS LABELLED, ZONE OF INFLUENCE & WATER BORES SHOWN	RAL	ATG	PEB	26.04.13
3	ARCHAEOLOGICAL POINTS ADDED	WZC	ATG	PEB	25.03.13
2	ARCHAEOLOGICAL POINTS ADDED	WZC	ATG	PEB	12.06.12
1	FOR CONSTRUCTION	AMcL	ATG	PEB	18.05.12
No.	Revision	By	Chk	Appd	Date

Original Scale (A1)	Design	LC/ATG	15.05.12	Approved For Construction
1:2500	Drawn	AMcL	15.05.12	P. Bradshaw
Reduced Scale (A3)	Design Checker	ALW	16.05.12	Date 16.05.12
1:5000	Design Checker	WGH	16.05.12	

* Refer to Revision 1 for Original Signature

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: GROUND WATER MONITORING LOCATIONS
SHEET 2 OF 11

Document Set: M2PP-TOC-SKT	
Drawing No: GT-GW-102	Rev: 4

FOR CONSTRUCTION