Contaminant Load Model

Version MAY06

Auckland Regional Council
TE RAUHITANGA TAIAO

SOURCE	SOURCE TYPE		Source Area (m^2)	First management option	Second management option	Third management option	Fraction of area draining to train	Sediment Yield (g m^{-2} a^{-1})	Sediment Initial load (g a^{-1})	Sediment Load reduction efficiency	Sediment Reduced load (g a^{-1})	Zinc Yield (g m^{-2} a^{-1})	Zinc Initial load (g a^{-1})	Zinc Load reduction efficiency	Zinc Reduced load (g a^{-1})	Copper Yield (g m^{-2} a^{-1})	Copper Initial load (g a^{-1})	Copper Load reduction efficiency	Copper Reduced load (g a^{-1})	Total Petroleum Hydrocarbons Yield (g m^{-2} a^{-1})	Total Petroleum Hydrocarbons Initial load (g a^{-1})	Total Petroleum Hydrocarbons Load reduction efficiency	Total Petroleum Hydrocarbons Reduced load (g a^{-1})
	Site area (m^2)		**16166010**	**Source contaminant management train**				**Contaminant yields, loads, and load reduction efficiencies**															
Roofs	Galvanised unpainted							5	0	0.00	0	2.200	0.0	0.00	0.0	0.0008	0.0	0.00	0.0				
	Galvanised steel poor paint		2315					5	11575	0.00	11575	1.600	3703.9	0.00	3703.88	0.0008	1.9	0.00	1.9				
	Galvanised well painted		2315					5	11575	0.00	11575	0.150	347.2	0.00	347.24	0.0008	1.9	0.00	1.9				
	Zinc/aiuminium unpainted							5	0	0.00	0	0.300	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Colorsteel/colorcote		18519					5	92597	0.00	92597	0.040	740.8	0.00	740.78	0.0008	14.8	0.00	14.8				
	Concrete							10	0	0.00	0	0.020	0.0	0.00	0.00	0.0013	0.0	0.00	0.0				
	Clay							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Slate							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Copper							5	0	0.00	0	0.000	0.0	0.00	0.00	3.0000	0.0	0.00	0.0				
	Decramastic		9260					5	46299	0.00	46299	0.200	1851.9	0.00	1851.94	0.0017	15.7	0.00	15.7				
	Other materials		60188					5	300940	0.00	300940	0.020	1203.8	0.00	1203.76	0.0008	48.2	0.00	48.2				
	Unknown (no galvanised steel/copper)							7	0	0.00	0	0.200	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
Roads		*Length (m)*																					
	<1000	9790	166430					4	665721	0.00	665721	0.021	3573.4	0.00	3573.35	0.0070	1161.3	0.00	1161.3	0.11	17866.8	0.00	17866.8
	1000-500	2116	35964					30	1081040	0.00	1081040	0.107	3860.9	0.00	3860.86	0.0349	1254.8	0.00	1254.8	0.54	19304.3	0.00	19304.3
Vehicles/day	5000-20000		0					150	0	0.00	0	0.537	0.0	0.00	0.00	0.1744	0.0	0.00	0.0	2.68	0.0	0.00	0.0
	20000-50	4184	85769					299	25655394	0.00	25655394	1.068	91626.4	0.00	91626.41	0.3472	29778.6	0.00	29778.6	5.34	458132.0	0.00	458132.0
	50000-100000		0					300	0	0.00	0	2.281	0.0	0.00	0.00	0.7414	0.0	0.00	0.0	11.41	0.0	0.00	0.0
	>100000		0					300	0	0.00	0	3.532	0.0	0.00	0.00	1.1480	0.0	0.00	0.0	17.66	0.0	0.00	0.0
Paved Surfaces other than roads	Residential		218119					20	4362374	0.00	4362374	0.070	15268.3	0.00	15268.31	0.0100	2181.2	0.00	2181.2				
	Industrial							50	0	0.00	0	0.100	0.0	0.00	0.00	0.1300	0.0	0.00	0.0				
	Commercial		274					100	27423	0.00	27423	0.050	13.7	0.00	13.71	0.0500	13.7	0.00	13.7				
Urban Grass lands		<10	347157					35	12150511	0.00	12150511				425.3				85.1				
	Slope	10-20						80	0	0.00	0				0.0				0.0				
		>20						160	0	0.00	0				0.0				0.0				
Urban Stream Channel	*length x width*							6000	0	0.00	0				0.0				0.0				
	Urban area without construction sites		**946310.6907**					**Totals**	**44405448**	**0.00**	**44405448**	**Totals**	**122190.2**	**0.00**	**122615.5**	**Totals**	**34472.0**	**0.00**	**34557.1**	**Totals**	**495303.1**	**0.00**	**495303.1**
Construction Site (1) open for 2 months/year		<10						400	0	0.00	0				0.0				0.0				
	Slope	10-20						2500	0	0.00	0				0.0				0.0				
		>20						7000	0	0.00	0				0.0				0.0				
Construction Site (2) open for 6 months/year		<10						1300	0	0.00	0				0.0				0.0				
	Slope	10-20						7500	0	0.00	0				0.0				0.0				
		>20						20000	0	0.00	0				0.0				0.0				
Construction Site (3) open for 12 months/year		<10						2500	0	0.00	0				0.0				0.0				
	Slope	10-20						15000	0	0.00	0				0.0				0.0				
		>20						40000	0	0.00	0				0.0				0.0				
	Urban area with construction sites		**946311**					**Totals**	**44405448**	**0.00**	**44405448**	**Totals**	**122190.2**	**0.00**	**122615.5**	**Totals**	**34472.0**	**0.00**	**34557.1**	**Totals**	**495303.1**	**0.00**	**495303.1**
Exotic production forest		<10	134435					10	1344351	0.00	1344351				47.1				9.4				
		10-20	180132					60	10807917	0.00	10807917				378.3				75.7				
	Slope	20-30	399712					200	79942376	0.00	79942376				2798.0				559.6				
		>30	1388859					500	694429670	0.00	694429670				24305.0				4861.0				
Stable bush		<10	513024					5	2565121	0.00	2565121				89.8				18.0				
		10-20	416469					30	12494083	0.00	12494083				437.3				87.5				
	Slope	20-30	807813					100	80781325	0.00	80781325				2827.3				565.5				
		>30	1603113					250	400778267	0.00	400778267				14027.2				2805.4				
Farmed pasture		<10	4577405					50	228870231	0.00	228870231				8010.5				1602.1				
		10-20	1332599					100	133259923	0.00	133259923				4664.1				932.8				
	Slope	20-30	1483138					500	741568814	0.00	741568814				25954.9				5191.0				
		>30	2383000					1000	2382999853	0.00	2382999853				83405.0				16681.0				
Retired pasture		<10						20	0	0.00	0				0.0				0.0				
		10-20						100	0	0.00	0				0.0				0.0				
	Slope	20-30						200	0	0.00	0				0.0				0.0				
		>30						500	0	0.00	0				0.0				0.0				
Horticulture		Volcanic						50	0	0.00	0				0.0				0.0				
	Soil type	Sediment						100	0	0.00	0				0.0				0.0				
		Unknown						100	0	0.00	0				0.0				0.0				
	Total area of sources (m^2)		**16166010**					**Site totals**	**4814247380**	**0.00**	**4814247380**	**Site totals**	**122190.2**	**-1.37**	**289560.0**	**Site totals**	**34472.0**	**-0.97**	**67946.0**	**Site totals**	**495303.1**	**0.00**	**495303.1**

ERROR!!! Site and source area's do not agree

Difference = 0

Bottom of Site contaminant management train				Bottom of Site out-fall Loads (kg a^{-1})				Average yields				Average concentrations (mg kg^{-1})			
First management option	Second management option	Third management option	Fraction of area draining to train	TSS	Zn	Cu	TPH	TSS kg ha^{-1} a^{-1}	Zn g ha^{-1} a^{-1}	Cu g ha^{-1} a^{-1}	TPH g ha^{-1} a^{-1}	TSS	Zn	Cu	TPH
				4814247.4	289.6	67.9	495.3	2978	179	42	306		60	14	103

Whareroa Stream Catchment – Existing

Contaminant Load Model

Version MAY06

Auckland Regional Council
TE RAUHITANGA TAIAO

SOURCE	SOURCE TYPE		Source Area (m^2)	First management option	Second management option	Third management option	Fraction of area draining to train	Sediment Yield (g m^{-2} a^{-1})	Sediment Initial load (g a^{-1})	Sediment Load reduction efficiency	Sediment Reduced load (g a^{-1})	Zinc Yield (g m^{-2} a^{-1})	Zinc Initial load (g a^{-1})	Zinc Load reduction efficiency	Zinc Reduced load (g a^{-1})	Copper Yield (g m^{-2} a^{-1})	Copper Initial load (g a^{-1})	Copper Load reduction efficiency	Copper Reduced load (g a^{-1})	Total Petroleum Hydrocarbons Yield (g m^{-2} a^{-1})	Total Petroleum Hydrocarbons Initial load (g a^{-1})	Total Petroleum Hydrocarbons Load reduction efficiency	Total Petroleum Hydrocarbons Reduced load (g a^{-1})
	Site area (m^2)		**16166010**	**Source contaminant management train**				**Contaminant yields, loads, and load reduction efficiencies**															
Roofs	Galvanised unpainted							5	0	0.00	0	2.200	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Galvanised steel poor paint		2315					5	11575	0.00	11575	1.600	3703.9	0.00	3703.88	0.0008	1.9	0.00	1.9				
	Galvanised well painted		2315					5	11575	0.00	11575	0.150	347.2	0.00	347.24	0.0008	1.9	0.00	1.9				
	Zinc/aluminium unpainted							5	0	0.00	0	0.300	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Colorsteel/colorcote		18519					5	92597	0.00	92597	0.040	740.8	0.00	740.78	0.0008	14.8	0.00	14.8				
	Concrete							10	0	0.00	0	0.020	0.0	0.00	0.00	0.0013	0.0	0.00	0.0				
	Clay							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Slate							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Copper							5	0	0.00	0	0.000	0.0	0.00	0.00	3.0000	0.0	0.00	0.0				
	Decramastic		9260					5	46299	0.00	46299	0.200	1851.9	0.00	1851.94	0.0017	15.7	0.00	15.7				
	Other materials		60188					5	300940	0.00	300940	0.020	1203.8	0.00	1203.76	0.0008	48.2	0.00	48.2				
	Unknown (no galvanised steel/copper)							7	0	0.00	0	0.200	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
		Length (m)																					
Roads	<1000	9790	166430					4	665721	0.00	665721	0.021	3573.4	0.00	3573.35	0.0070	1161.3	0.00	1161.3	0.11	17866.8	0.00	17866.8
	1000-500	719	12230					30	367610	0.00	367610	0.107	1312.9	0.00	1312.89	0.0349	426.7	0.00	426.7	0.54	6564.5	0.00	6564.5
	Vehicles/day 5000-20000	7438	126444					150	19003826	0.00	19003826	0.537	67870.8	0.00	67870.81	0.1744	22058.0	0.00	22058.0	2.68	339354.0	0.00	339354.0
	20000-50000		0					299	0	0.00	0	1.068	0.0	0.00	0.00	0.3472	0.0	0.00	0.0	5.34	0.0	0.00	0.0
	50000-100000		0					300	0	0.00	0	2.281	0.0	0.00	0.00	0.7414	0.0	0.00	0.0	11.41	0.0	0.00	0.0
	>100000		0					300	0	0.00	0	3.532	0.0	0.00	0.00	1.1480	0.0	0.00	0.0	17.66	0.0	0.00	0.0
Paved Surfaces other than roads	Residential		212605					20	4252107	0.00	4252107	0.070	14882.4	0.00	14882.38	0.0100	2126.1	0.00	2126.1				
	Industrial							50	0	0.00	0	0.100	0.0	0.00	0.00	0.1300	0.0	0.00	0.0				
	Commercial		274					100	27423	0.00	27423	0.050	13.7	0.00	13.71	0.0500	13.7	0.00	13.7				
Urban Grass lands	<10		345893					35	12106238	0.00	12106238				423.7				84.7				
	Slope 10-20							80	0	0.00	0				0.0				0.0				
	>20							160	0	0.00	0				0.0				0.0				
Urban Stream Channel	*length x width*							6000	0	0.00	0				0.0				0.0				
	Urban area without construction sites		**956473.1718**					**Totals**	**36885910**	**0.00**	**36885910**	**Totals**	**95500.7**	**0.00**	**95924.5**	**Totals**	**25868.2**	**0.00**	**25953.0**	**Totals**	**363785.3**	**0.00**	**363785.3**
Construction Site (1) open for 2 months/year	<10							400	0	0.00	0				0.0				0.0				
	Slope 10-20							2500	0	0.00	0				0.0				0.0				
	>20							7000	0	0.00	0				0.0				0.0				
Construction Site (2) open for 6 months/year	<10							1300	0	0.00	0				0.0				0.0				
	Slope 10-20							7500	0	0.00	0				0.0				0.0				
	>20							20000	0	0.00	0				0.0				0.0				
Construction Site (3) open for 12 months/year	<10							2500	0	0.00	0				0.0				0.0				
	Slope 10-20							15000	0	0.00	0				0.0				0.0				
	>20							40000	0	0.00	0				0.0				0.0				
	Urban area with construction sites		**956473**					**Totals**	**36885910**	**0.00**	**36885910**	**Totals**	**95500.7**	**0.00**	**95924.5**	**Totals**	**25868.2**	**0.00**	**25953.0**	**Totals**	**363785.3**	**0.00**	**363785.3**
Exotic production forest	<10		134435					10	1344351	0.00	1344351				47.1				9.4				
	10-20		180198					60	10811868	0.00	10811868				378.4				75.7				
	Slope 20-30		399712					200	79942376	0.00	79942376				2798.0				559.6				
	>30		1388859					500	694429670	0.00	694429670				24305.0				4861.0				
Stable bush	<10		513024					5	2565121	0.00	2565121				89.8				18.0				
	10-20		416761					30	12502818	0.00	12502818				437.6				87.5				
	Slope 20-30		807813					100	80781325	0.00	80781325				2827.3				565.5				
	>30		1603113					250	400778267	0.00	400778267				14027.2				2805.4				
Farmed pasture	<10		4577405					50	228870231	0.00	228870231				8010.5				1602.1				
	10-20		1322080					100	132207973	0.00	132207973				4627.3				925.5				
	Slope 20-30		1483138					500	741568814	0.00	741568814				25954.9				5191.0				
	>30		2383000					1000	2382999853	0.00	2382999853				83405.0				16681.0				
Retired pasture	<10							20	0	0.00	0				0.0				0.0				
	10-20							100	0	0.00	0				0.0				0.0				
	Slope 20-30							200	0	0.00	0				0.0				0.0				
	>30							500	0	0.00	0				0.0				0.0				
Horticulture	Volcanic							50	0	0.00	0				0.0				0.0				
	Soil type Sediment							100	0	0.00	0				0.0				0.0				
	Unknown							100	0	0.00	0				0.0				0.0				
	Total area of sources (m^2)		**16166010**					**Site totals**	**4805688579**	**0.00**	**4805688579**	**Site totals**	**95500.7**	**-1.75**	**262832.5**	**Site totals**	**25868.2**	**-1.29**	**59334.6**	**Site totals**	**363785.3**	**0.00**	**363785.3**

ERROR!!! Site and source area's do not agree
Difference = 0

Bottom of Site contaminant management train				Bottom of Site out-fall Loads (kg a^{-1})				Average yields				Average concentrations (mg kg^{-1})			
First management option	Second management option	Third management option	Fraction of area draining to train	TSS	Zn	Cu	TPH	TSS kg ha^{-1} a^{-1}	Zn g ha^{-1} a^{-1}	Cu g ha^{-1} a^{-1}	TPH g ha^{-1} a^{-1}	TSS	Zn	Cu	TPH
				4805688.6	262.8	59.3	363.8	2973	163	37	225		55	12	76

Whareroa Stream Catchment – Future (2031) with Expressway – Unmitigated

Contaminant Load Model

Version MAY06

Auckland Regional Council
TE RAUHITANGA TAIAO

SOURCE	SOURCE TYPE		Source Area (m^2)	First management option	Second management option	Third management option	Fraction of area draining to train	Sediment Yield (g m^{-2} a^{-1})	Sediment Initial load (g a^{-1})	Sediment Load reduction efficiency	Sediment Reduced load (g a^{-1})	Zinc Yield (g m^{-2} a^{-1})	Zinc Initial load (g a^{-1})	Zinc Load reduction efficiency	Zinc Reduced load (g a^{-1})	Copper Yield (g m^{-2} a^{-1})	Copper Initial load (g a^{-1})	Copper Load reduction efficiency	Copper Reduced load (g a^{-1})	Total Petroleum Hydrocarbons Yield (g m^{-2} a^{-1})	Total Petroleum Hydrocarbons Initial load (g a^{-1})	Total Petroleum Hydrocarbons Load reduction efficiency	Total Petroleum Hydrocarbons Reduced load (g a^{-1})
	Site area (m^2)		**16166010**	**Source contaminant management train**				**Contaminant yields, loads, and load reduction efficiencies**															
Roofs	Galvanised unpainted							5	0	0.00	0	2.200	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Galvanised steel poor paint		2315					5	11575	0.00	11575	1.600	3703.9	0.00	3703.88	0.0008	1.9	0.00	1.9				
	Galvanised well painted		2315					5	11575	0.00	11575	0.150	347.2	0.00	347.24	0.0008	1.9	0.00	1.9				
	Zinc/aluminium unpainted							5	0	0.00	0	0.300	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Colorsteel/colorcote		18519					5	92597	0.00	92597	0.040	740.8	0.00	740.78	0.0008	14.8	0.00	14.8				
	Concrete							10	0	0.00	0	0.020	0.0	0.00	0.00	0.0013	0.0	0.00	0.0				
	Clay							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Slate							5	0	0.00	0	0.020	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
	Copper							5	0	0.00	0	0.000	0.0	0.00	0.00	3.0000	0.0	0.00	0.0				
	Decramastic		9260					5	46299	0.00	46299	0.200	1851.9	0.00	1851.94	0.0017	15.7	0.00	15.7				
	Other materials		60188					5	300940	0.00	300940	0.020	1203.8	0.00	1203.76	0.0008	48.2	0.00	48.2				
	Unknown (no galvanised steel/copper)							7	0	0.00	0	0.200	0.0	0.00	0.00	0.0008	0.0	0.00	0.0				
		Length (m)																					
Roads	<1000	9790	166430					4	665721	0.00	665721	0.021	3573.4	0.00	3573.35	0.0070	1161.3	0.00	1161.3	0.11	17866.8	0.00	17866.8
	1000-500	719	12230					30	367610	0.00	367610	0.107	1312.9	0.00	1312.89	0.0349	426.7	0.00	426.7	0.54	6564.5	0.00	6564.5
Vehicles/day	5000-20000	7438	126444	Swale			0.18	150	19003826	0.75	16438310	0.537	67870.8	0.47	62128.94	0.1744	22058.0	0.57	19794.9	2.68	339354.0	0.47	310644.7
	20000-50000		0					299	0	0.00	0	1.068	0.0	0.00	0.00	0.3472	0.0	0.00	0.0	5.34	0.0	0.00	0.0
	50000-100000		0					300	0	0.00	0	2.281	0.0	0.00	0.00	0.7414	0.0	0.00	0.0	11.41	0.0	0.00	0.0
	>100000		0					300	0	0.00	0	3.532	0.0	0.00	0.00	1.1480	0.0	0.00	0.0	17.66	0.0	0.00	0.0
Paved Surfaces other than roads	Residential		212605					20	4252107	0.00	4252107	0.070	14882.4	0.00	14882.38	0.0100	2126.1	0.00	2126.1				
	Industrial							50	0	0.00	0	0.100	0.0	0.00	0.00	0.1300	0.0	0.00	0.0				
	Commercial		274					100	27423	0.00	27423	0.050	13.7	0.00	13.71	0.0500	13.7	0.00	13.7				
Urban Grass lands		<10	345893					35	12106238	0.00	12106238				423.7				84.7				
	Slope	10-20						80	0	0.00	0				0.0				0.0				
		>20						160	0	0.00	0				0.0				0.0				
Urban Stream Channel	*length x width*							6000	0	0.00	0				0.0				0.0				
	Urban area without construction sites		**956473.1718**					**Totals**	**36885910**	**0.07**	**34320394**	**Totals**	**95500.7**	**0.06**	**90182.6**	**Totals**	**25868.2**	**0.08**	**23689.8**	**Totals**	**363785.3**	**0.08**	**335075.9**
Construction Site (1) open for 2 months/year		<10						400	0	0.00	0				0.0				0.0				
	Slope	10-20						2500	0	0.00	0				0.0				0.0				
		>20						7000	0	0.00	0				0.0				0.0				
Construction Site (2) open for 6 months/year		<10						1300	0	0.00	0				0.0				0.0				
	Slope	10-20						7500	0	0.00	0				0.0				0.0				
		>20						20000	0	0.00	0				0.0				0.0				
Construction Site (3) open for 12 months/year		<10						2500	0	0.00	0				0.0				0.0				
	Slope	10-20						15000	0	0.00	0				0.0				0.0				
		>20						40000	0	0.00	0				0.0				0.0				
	Urban area with construction sites		**956473**					**Totals**	**36885910**	**0.07**	**34320394**	**Totals**	**95500.7**	**0.06**	**90182.6**	**Totals**	**25868.2**	**0.08**	**23689.8**	**Totals**	**363785.3**	**0.08**	**335075.9**
Exotic production forest		<10	134435					10	1344351	0.00	1344351				47.1				9.4				
		10-20	180198					60	10811868	0.00	10811868				378.4				75.7				
	Slope	20-30	399712					200	79942376	0.00	79942376				2798.0				559.6				
		>30	1388859					500	694429670	0.00	694429670				24305.0				4861.0				
Stable bush		<10	513024					5	2565121	0.00	2565121				89.8				18.0				
		10-20	416761					30	12502818	0.00	12502818				437.6				87.5				
	Slope	20-30	807813					100	80781325	0.00	80781325				2827.3				565.5				
		>30	1603113					250	400778267	0.00	400778267				14027.2				2805.4				
Farmed pasture		<10	4577405					50	228870231	0.00	228870231				8010.5				1602.1				
		10-20	1322080					100	132207973	0.00	132207973				4627.3				925.5				
	Slope	20-30	1483138					500	741568814	0.00	741568814				25954.9				5191.0				
		>30	2383000					1000	2382999853	0.00	2382999853				83405.0				16681.0				
Retired pasture		<10						20	0	0.00	0				0.0				0.0				
		10-20						100	0	0.00	0				0.0				0.0				
	Slope	20-30						200	0	0.00	0				0.0				0.0				
		>30						500	0	0.00	0				0.0				0.0				
Horticulture		Volcanic						50	0	0.00	0				0.0				0.0				
	Soil type	Sediment						100	0	0.00	0				0.0				0.0				
		Unknown						100	0	0.00	0				0.0				0.0				
	Total area of sources (m^2)		**16166010**					**Site totals**	**4805688579**	**0.00**	**4803123062**	**Site totals**	**95500.7**	**-1.69**	**257090.7**	**Site totals**	**25868.2**	**-1.21**	**57071.4**	**Site totals**	**363785.3**	**0.08**	**335075.9**

ERROR!!! Site and source area's do not agree

Difference = 0

Bottom of Site contaminant management train: First management option	Second management option	Third management option	Fraction of area draining to train	Bottom of Site out-fall Loads (kg a^{-1}): TSS	Zn	Cu	TPH	Average yields: TSS (kg ha^{-1} a^{-1})	Zn (g ha^{-1} a^{-1})	Cu (g ha^{-1} a^{-1})	TPH (g ha^{-1} a^{-1})	Average concentrations (mg kg^{-1}): TSS	Zn	Cu	TPH
				4803123.1	257.1	57.1	335.1	2971	159	35	207		54	12	70

Whareroa Stream Catchment – Future (2031) with Expressway – Mitigated