TABLES

PEAK FLOWS - 2000 to 2020
10% ARI*

TABLE1

Catchment ID	Area (ha)	Weighted Runoff Coefficient	Time of Concentration (min)	Discharge Outlet of Catchment (L/s)	Discharge Point**
O1	0.668	0.60	10	138	open drain 5m upstream of lake shore (DP1)
O2 + O3	167.551	SCS Curve Number Method	24rhs storm design	1,600	open grass space 20m usptream of lake shore (DP2)
O4	0.797	0.54	10	148	ductile 5m upstream of lake shore (DP4)
O5	5.156	0.54	20	696	open drain 10m usptream of lake shore (DP5)
O6	10.980	0.40	20	1,098	open drain 43m upstream of lake shore (DP6)
O7	123.356	0.15	60	2,672	open drain 43m upstream of lake shore (DP7)
O8	4.294	0.58	15	692	open drain 12m upstream of lake shore (DP8)
O9	1.065	0.57	10	209	Lake through a submerged pipe (DP9)

*Annual Recurrence Interval
** Refer to drawing XX for locations of discharge points (DP)

DISCHARGE POINT LAND OWNERS

TABLE 2

Catchment ID	Discharge Outlet of Catchment (L/s)	Discharge Point	PROPERTY OWNER	PROPERTY DESCRIPTION
O1	138	open drain 5m upstream of lake shore (DP1)	Rotorua District Council	LOT4 DPS 34146
O2 + O3	1,600	open grass space 20m usptream of lake shore (DP2)	Crown Land	SO33897
O4	148	ductile 5m upstream of lake shore (DP4)	Crown Land	SO33898
O5	696	open drain 10m usptream of lake shore (DP5)	Crown Land	SO33899
O6	1,098	open drain 43m upstream of lake shore (DP6)	Rotorua District Council	Public Road
O7	2,672	open drain 43m upstream of lake shore (DP7)	Rotorua District Council	Public Road
O8	692	open drain 12m upstream of lake shore (DP8)	Rotorua District Council	Public Road
O9	209	Lake through a submerged pipe (DP9)	Te Awara Trust	Lake Okareka Bed

TABLE 3 STORMWATER QUALITY TRIGGER LEVELS

		CONSTITUENTS	TRIGGER LEVELS*	UNITS
Physical Determinants		Suspended Solids	150	mg/L
		pH	6.5-8.5	pH units
		COD chemical Oxygen Demand		mg/L
Chemical Determinants	Nutrients	NH4-N	0.5	mg/L
		TKN Total Kjeldahl Nitrogen	1	mg/L
		TN Total Nitrogen		
		TOXN Total Oxidized Nitrogen	0.5	mg/L
		Diss. Reactive Phosphorus	0.1	mg/L
		Total Phosphorus	0.5	mg/L
	Toxic Substances	Zinc	0.1	mg/L
		Diss. Zinc		
		Copper	0.05	mg/L
		Diss. Copper		
		Lead	0.05	mg/L
		Diss. Lead		
		Fe		
		Diss. Fe		
		Arsenic	0.05	mg/L
		Diss. Arsenic		
		Cadmium	0.005	mg/L
		Diss. Cadmium		
		Chromium	0.05	mg/L
		Diss. Chromium		
		Nickel	0.1	mg/L
		Diss. Nickel		
		Total Petroleum Hydrocarbons	15	mg/L

*** Based on EBOP Regional Water and Land Plan Rules 30 to 30c; Table 9 - Stormwater Trigger Levels - Mamaku Stormwater Catchment Management Plan**

TABLE 4 TEST RESULTS FROM STORMWATER DISCHARGE SAMPLES

		CONSTITUENTS	22-Jan-10	24-Mar-10	TRIGGER LEVELS*	UNITS
Physical Determinants		Suspended Solids	205	362	150	mg/L
		pH	5.7	6.3	6.5-8.5	pH units
		COD Chemical Oxygen Demand	85	108		mg/L
Chemical Determinants	Nutrients	NH4-N	0.1	0.08	0.5	mg/L
		TKN Total Kjeldahl Nitrogen	0.5	0.95	1	mg/L
		TN Total Nitrogen	0.55	1.14		
		TOXN Total Oxidized Nitrogen	0.05	0.19	0.5	mg/L
		Diss. Reactive Phosphorus	0.09	0.22	0.1	mg/L
		Total Phosphorus	0.34	0.55	0.5	mg/L
	Toxic Substances	Zinc	0.28	0.14	0.1	mg/L
		Diss. Zinc	0.031	0.084		
		Copper	0.024	0.028	0.05	mg/L
		Diss. Copper	0.0042	0.004		
		Lead	0.015	0.019	0.05	mg/L
		Diss. Lead	0.00059	0.00062		
		Fe	1.8	1.9		
		Diss. Fe	<0.02	0.021		
		Arsenic	0.0073	0.0055	0.05	mg/L
		Diss. Arsenic	0.0031	0.0014		
		Cadmium	0.000093	0.00011	0.005	mg/L
		Diss. Cadmium	<0.00005	<0.00005		
		Chromium	0.0048	0.0045	0.05	mg/L
		Diss. Chromium	0.00084	<0.0005		
		Nickel	0.0019	0.0018	0.1	mg/L
		Diss. Nickel	<0.0005	<0.0005		
		Total Petroleum Hydrocarbons	<0.7	<0.7	15	mg/L

NOTES

First Flush of rain event

First Flush of rain event following a drought period

*** Derived from the EBOP Regional Water and Land Plan Rules 30 to 30c; Table 9 - Stormwater Trigger Levels - Mamaku Stormwater Catchment Management Plan**

DRAWINGS


U16-1000/68.11
U16-1000/69.11
The Wash
Steep Street
Lake Okareka
U16-1000/68.12
U16-1000/69.12
Branch Road
Okareka Loop Road
Pryce Road
Acacia Road
U16-1000/67.13
U16-1000/68.13
U16-1000/69.13


DP1
01
DP2
Steep St
Miller Road
02
The Wash
Lake Okareka
DP4
04
Calder Road
05
SP1
DP5
Branch Road
Sunnyside Road
DP6
DP7
09
Bryce Rd
DP8
Acacia Road
DP9
Wattle Grove Rd
08