

APPENDIX 6

Discharge Calculations

Catchment		Flow length m	Slope m/m	"n"	Time (mins)	Intensity (mm/h) I	Fraction impervious "f"	Runoff Coeff C	Area (ha)	Q=CIA/360 m3/s	Remarks
1	Pre development	700	0.086	0.12	35	75	0	0.5	10	1.04	
1	Post development	700	0.086	0.12	35	75	0.04	0.52	10	1.08	if dam is constructed, this would be reduced
2	Pre development	410	0.085	0.12	25	90	0	0.5	3	0.37	
2	Post development	530	0.07	0.12	32	75	0.05	0.52	3.5	0.38	flow length longer and area larger due to diversion bank
3	Pre development	200	0.09	0.12	15	95	0	0.5	2	0.26	
3	Post development	200	0.09	0.12	15	95	0.04	0.52	2	0.27	

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Pollutant Load Estimates 13/06/2008 4:48:46 PM

Pre-development site information

	Primary	Secondary
Landuse	Grazing	N/A
Area in hectares	10	N/A
Percentage impervious area	0	N/A
Location or average annual rainfall for the development site	600 mm/year	600 mm/year

Post-development site information

	Primary	Secondary
Landuse	Rural	Residential
Area in hectares	9.8	0.2
Percentage impervious area	0	50
Location or average annual rainfall for the development site	600 mm/year	600 mm/year

Treatment options

Grassed swale	
Total length metres	150
Top width metres	1
Bed width metres	1
Depth metres	0.6

Pollutant loads (kg/year)

Pollutant	Pre-development	Untreated post-development	Treated post-development	Additional loads	Stormwater treatment efficiency (%)
Total nitrogen	20	16	15	No net increase	5%
Total phosphorus	2	2	2	No net increase	8%
Total suspended solids	1,025	727	646	No net increase	11%

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