

## Worksheet B.5-2: Calculation of Alternative Minimum Footprint Sizing Factor

Alternative Minimum Footprint Sizing Factor			Worksheet B.5-2
1	Area draining to the BMP		sq-ft
2	Adjusted Runoff Factor for drainage area (Refer to Appendix B.1 and B.2)		
3	Load to Clog <sup>1</sup> (See Table B.5-2 for guidance; L <sub>c</sub> )	2.0	lb/sq-ft
4	Allowable Period to Accumulate Clogging Load (T <sub>L</sub> )	10	years
<b>Volume Weighted EMC Calculation</b>			
	<b>Land Use</b>	<b>Fraction of Total DCV</b>	<b>TSS EMC (mg/L)</b>
	Single Family Residential		123
	Commercial		128
	Industrial		125
	Education (Municipal)		132
	Transportation		78
	Multi-family Residential		40
	Roof Runoff		14
	Low Traffic Areas		50
	Open Space		216
	Other, specify:		
	Other, specify:		
	Other, specify:		
5	Volume Weighted EMC (sum of all products)		mg/L
<b>BMP Parameters</b>			
6	If pretreatment measures are included in the design, apply an adjustment of 25% <sup>2</sup> [Line 5 x (1-0.25)]		mg/L
7	Average Annual Precipitation		inches
8	Calculate the Average Annual Runoff (Line 7 x 43,560/12) x Line 2		cu-ft/yr
9	Calculate the Average Annual TSS Load (Line 8 x 62.4 x Line 6)/10 <sup>6</sup>		lb/yr
10	Calculate the BMP Footprint Needed (Line 9 x Line 4)/Line 3		sq-ft
11	Calculate the Alternative Minimum Footprint Sizing Factor [ Line 10/ (Line 1 x Line 2)]		

<sup>1</sup> Load to clog value should be in the range of 2 – 5 lb/sq-ft per Pitt and Clark (2010). If selecting a value other than 2, a justification for the value selected is required. See guidance in Table B.5-2.

<sup>2</sup> A value of 25 percent is supported by Maniquiz-Redillas et al. (2014) study, which found a pretreatment sediment capture range of 15% - 35%. If using a value outside of this range, documentation of the selected value is required. A value of 50 percent can be claimed for a system with an active Washington State TAPE approval rating for “pre-treatment.”