



WATER QUALITY SERVICES – SEDIMENT CONTAINMENT SYSTEMS – P-VALUE UPDATES

This Bulletin is to provide Calgary specific sediment containment system efficiency ratings to improve the accuracy of soil loss calculations and reduce the risk of sediment releases from construction sites. Effective July 1, 2016, the following design volumes and efficiency ratings shall apply:

Design Volume in m3	Percent Efficiency	P-Value
150	34	0.7
200	39	0.6
300	49	0.5
500	61	0.4
750	70	0.3
1200	80	0.2
1750	86	0.1

Sediment containment systems, such as sediment ponds, traps and storage ditches, are a common best management practice used on construction sites to reduce soil loss. These practices are given a P-value, or support practice factor, which is indicative of how effective they are at reducing soil loss from a construction site. The P-value is consequently used in soil loss calculations, where the goal is to propose best management practices that will reduce soil estimated from all slopes on site to below 2 tonnes/ha*yr. Calculations which are below this limit indicate a high probability that soil loss from the site will not have an adverse effect on our rivers, impair the quality of storm drainage or the integrity of the storm drainage system.

Recent modeling, using fifty years of rainfall data for The Calgary area, have resulted in more accurate local efficiency ratings for different sized sediment containment systems. The model was run to include pond volumes ranging from 150m3 to 1750m3. This new range of numbers provides consultants greater flexibility in their designs than the previous single volume of 250m3.

Implementation of these updated targets will increase the accuracy of predicted soil losses from construction sites. There will be a reduction in the number of sediment releases on sites using sediment ponds and this will result in improved compliance with municipal, provincial and federal legislation.

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