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Entering Watershed Data – Enter data in the yellow areas shown in the figure below, proceed to subsequent rows for additional watersheds.

Watershed Name: Enter the Name of your watershed
Landuse: Select between 9 land uses
Area: Enter the total area of your watershed in acres
Sanded?: Select Yes or No if winter sanding occurs in your watershed
Sanded Area: Enter the total area in the watershed that is sanded. This value cannot exceed the **Area**.

Annual Rainfall: Enter the annual rainfall for the watershed. Annual rainfall for each town can be obtained from:

http://realestate.yahoo.com/re/neighborhood/massachusetts/

Note: If the impervious areas described in the landuse table are not representative for your watershed, subdivide your watershed into Open Urban land, Roadway/parking lot and Residential Roof landuses and enter them separately.

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No.	Watershed Name	Landuse	Area (acres)	Sanded?	Sanded Area (acres)	% Impervious	Runoff (in)	Annual Runoff (cf)	Annual TSS (lbs)	Annual TP (lbs)	Annual TN (lbs)
1						0	0	0	0	0.00	0.0
2						0	0	0	0	0.00	0.0
3						0	0	0	0	0.00	0.0
4						0	0	0	0	0.00	0.0
5						0	0	0	0	0.00	0.0
6						0	0	0	0	0.00	0.0
7						0	0	0	0	0.00	0.0
8						0	0	0	0	0.00	0.0
9						0	0	0	0	0.00	0.0
10						0	0	0	0	0.00	0.0
11						0	0	0	0	0.00	0.0
12						0	0	0	0	0.00	0.0
13						0	0	0	0	0.00	0.0
14						0	0	0	0	0.00	0.0
15						0	0	0	0	0.00	0.0
Total			0		0			0	0	0.0	0.0

Landuse[1]	% Impervious	TSS (mg/l)	TP (mg/l)	TN (mg/l)
Commerical	85	75	0.2	2
Industrial	75	120	0.4	2.5
Multifamily	60	100	0.4	2.2
Open Urban Land	9	48.5	0.31	0.74
Residential-High Density	40	100	0.4	2.2
Residential-Low Density	10	100	0.4	2.2
Residential-Med. Density	30	100	0.4	2.2
Residential Roof	100	19	0.11	1.5
Roadway/Parking Lot	80	150	0.5	3

[1] High density residential (<1/4 acre lots); Medium density residential (1/4 to 1/2 acre lot
Low density residential (>1 acre lots); Multifamily (>7 dwellings per acre).

Annual Rainfall		inches; user specified
P_j	0.9	%; default
Sanding Rate	500	lbs/acre; default
Sanding Applications	10	times/year; default

Simple Method Equations:

$$L = 0.226 * R * C * A$$
Where:
L = Annual Load (lbs)
R = Annual Runoff (inches)
C = Pollutant Concentration (mg/l)
A = Area (acres)
0.226 = Unit Conversion Factor

$$R = P * P_j * Rv$$
Where:
R = Annual Runoff (inches)
P = Annual Rainfall (inches)
P_j = % of rainfall events producing runoff
Rv = Runoff Coefficient

$$Rv = 0.05 + 0.9 * Ia$$
Ia = Impervious Fraction (%)

References:
Pitt, Robert. (2004, February 16). The National Stormwater Quality Database (NSQD, version 1.1). Retrieved July 22, 2005 from the World Wide Web: http://unix.eng.ua.edu/~rpitt/Research/ms4/Paper/recentpaper.htm
The New York Stormwater Management Design Manual Appendix A. Retrieved July 22, 2005 from the World Wide Web: http://www.dec.state.ny.us/website/dow/toolbox/simple.pdf
The Simple Method to Calculate Urban Stormwater Loads. Retrieved July 22, 2005 from the World Wide Web: http://www.stormwatercenter.net/monitoring%20and%20assessment/simple%20meth/simple.htm

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Entering BMP data – Enter data in the yellow areas shown in the figure below, proceed to subsequent rows for additional watersheds.

BMP Type: Select between the 6 types of BMPs listed

BMP Drainage Area: Enter total area to be treated by BMP within watershed
                                      (BMP Drainage Area cannot exceed the **Area)**

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No.	Watershed Name	BMP Type	BMP Drainage Area (acres)	TSS Removal (%)	TP Removal (%)	TN Removal (%)	Annual TSS Removed (lbs)	Annual TP Removed (lbs)	Annual TN Removed (lbs)
1							0	0	0
2							0	0	0
3							0	0	0
4							0	0	0
5							0	0	0
6							0	0	0
7							0	0	0
8							0	0	0
9							0	0	0
10							0	0	0
11							0	0	0
12							0	0	0
13							0	0	0
14							0	0	0
15							0	0	0
Total							0	0.00	0.0

BMP Type	TSS Removal (%)	TP Removal (%)	TN Removal (%)
Baffle Tank	70%	30%	0%
Constructed Wetland	80%	55%	30%
Detention Basin (dry)	48%	30%	30%
Infiltration - 1"	90%	65%	58%
Raingarden - 1"	90%	65%	58%
Swale	48%	30%	30%

References:

Comparative Pollutant Removal Capability of Stormwater Treatment Practices, Technical Note #95 from Watershed Protection Techniques. 2(4): 515-520, Article 64. Retrieved July 22, 2005 from the World Wide Web: http://www.stormwatercenter.net/Practice/64-Comparative%20Pollutant%20Removal.pdf

Choi, J & Engel, B. Urban BMPs and Cost Estimation, Structural BMP Expected Pollutant Removal Efficiency & Median Event Mean Concentration for Urban Land Uses. US EPA. (1993) Handbook Urban Runoff Pollution and Control Planning. Retrieved July 22, 2005 from the World Wide Web: http://danpatch.ecn.purdue.edu/~jycho/lubmp0/emc2.htm