



"It is important that we are fully aware that we cannot realize sustainability and water security if the massive and global alcohol industry continues to use up precious water resources." Brenda Mkwesha

Posted on August 31, 2016 in Alcohol Industry

Large water volume consumers in Calgary & Edmonton pay between \$.98 and \$1.33 per m³. The greater cost however is the wastewater discharge surcharges. The city of Calgary bylaw indicates for breweries the following surcharges based upon the example given below.

A brewery dispensing 12,000 m³ of wastewater a month at a 3:1 water to beer ratio, would purchase approximately 18,000 m³ of water for beer production. At an average BOD (biological oxygen demand) level of 4000 and TSS (total suspended solids) level of 1600 the following surcharges would apply.

Wastewater discharge rates and applicable surcharges:

BOD - 4,000 - 300 base = 3,700 (chargeable amount)
3,700 x **0.1443** = 533.91 cents per m³ or **\$5.34 m³**.

TSS - 1,300 - 300 base = 1,000 (chargeable amount)
1,000 x **0.1147** = 114.7 cents per m³ or **\$1.15 m³**.

Total combined surcharge = **\$6.49 m³** (\$5.34 + \$1.15).

In our example, a brewery dispensing 12,000 m³ per month of wastewater would incur total discharge fees of \$77,880. Adding the cost of water at .98 m³ with a volume of 18,000 m³ (3:1 ratio) water costs would be \$17,640, a combined total cost of \$95,520 a month, well in excess of 1.1 million dollars a year.

WHAT IF THERE WAS ANOTHER WAY



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With the application of different technologies, the TSS and BOD levels can be reduced dramatically, ultimately to the point of negligible discharge fees being applied to the brewery. In fact wastewater levels may be reduced to as low as 5 ppm, enabling the re-use of water for plant applications, saving on both, the discharge surcharges and initial water costs. In the example provided, the brewery's combined annual cost is over 1 million dollars, potential savings may be as much as 70 to 90 percent. Depending upon certain factors such as, infrastructure, water and wastewater rates, etc. The pay back of a solutions initial capital cost could potentially be 18 months or less.

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Water and wastewater treatment costs are not on the decline, nor are government regulations. Public pressure on large volume water users and wastewater creating companies can diminish efforts spent on branding and marketing. Wet Tech Environmental can provide viable solutions to reduce costs and maintain a positive public image.

"The Brewers Association states that "In many communities, breweries may be the largest consumer of water and the largest source of organic effluent that must be treated by the municipal treatment plant. This presents unique supply and cost concerns.



For more information how your brewery can experience savings please contact Ken at k.parke@wettechenvironmental.com



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