

# Bristol Water Department – Explanation of Quarterly Bills

## How is my bill calculated?

Quarterly bills are calculated based on a Usage Charge and a Service Charge. It can be confusing and frustrating to understand your water bill, but a few key concepts should help. Please feel free to contact the Water Department if you are having trouble understanding the charges on your account. The water system is operated as an enterprise fund; these fees cover the entire cost of providing water service to the community - without the use of tax revenue. Generally, the Service Charge covers long-term bond and debt service obligations. The Usage Charge covers all of the remaining costs of providing water service. Most expenses associated with the operation of a water utility are consistent and predictable. The amount of water produced by a utility generally has little impact on its budget; most costs are tied up in having the capacity to serve water when needed. When an individual customer uses 10 gallons of water one month and 10,000 gallons the next month, the incremental cost of the increased water production is small. The minimum Usage Charge ensures that capacity exists, within reason, for any customer to increase water usage when necessary. The minimum Service Charge helps ensure that debt service obligations can be met. A consistent source of revenue enables the Water Department to meet your expectations – which should include on-time bond payments and the delivery of pressurized, potable water to your home or business, day and night. In the event of a fire, you may also expect that a reliable supply of water will be available at the nearest hydrant to protect life and property.

## Service Charge

Over time, the service charge helps finance critical investments like water main replacement and treatment plant upgrades. But how do we ensure that customers of all sizes pay an appropriate share of these costs? Each quarter, a customer's average water usage for the previous four quarters is calculated. One equivalent unit, or 1 E.U., is the equivalent of 100 gallons of usage per day. If your quarterly average is less than 100 gallons of usage per day, a minimum service charge value based on 1.0 E.U. is assigned. If the average of your past four quarters is over 100 gallons of usage per day, an appropriate number of E.U.s are assigned to your bill. As of July 2017, the service fee is \$89.88 per year for every E.U., or approximately 25 cents per day per E.U. To calculate the service fee portion of the bill, it is necessary to first figure out how many E.U.s have been assigned to your account by dividing your long-term Average Daily Usage (averaged over the past four bills) by 100. The "Average Daily Usage" value reported on your bill is for the current billing period; your long-term Average Daily Usage may be obtained by reviewing the most recent four bills or by contacting the Water Department. If your usage does not change significantly over time, you may use the current "Average Daily Usage" value on your bill as an estimate.

## Usage Charge

Your water meter is read quarterly. Usage is recorded in gallons. Effective in July of 2017, the charge for water usage is \$4.33 per 1,000 gallons of usage – or, less than half of a penny per gallon. The usage reported on your bill is divided by 1,000 and multiplied by \$4.33 to obtain the usage portion fee of the bill. The minimum usage charge is based on 100 gallons per day of usage, or \$0.433 per day. If your average daily usage is less than 100 gallons, the minimum quarterly usage charge is used. The average usage listed on the bill is for the current quarter, and does not reflect the annual average used to calculate the service fee.

## Calculating Your Bill

1. Calculate the number of Equivalent Units, or E.U.s, currently assigned to your account
  - a. Take the average of the past four quarters of daily usage (your bill shows current quarter's average only)
  - b. Divide the average by 100 to obtain the number of E.U.s. Please note the minimum E.U. value is 1.0.
2. Calculate the Service Charge
  - a. Take the service charge days for the current billing period and divide by 365 days to figure out what portion of the year the bill encompasses
  - b. Multiply that number by \$89.88
  - c. Multiply the result by the number of EUs calculated for your account
3. Calculate the Usage Charge
  - a. If your Average Daily Usage for the current billing period is more than 100 gallons, take the "Usage" reported on the bill and divide it by 1,000. Multiply that number by \$4.33.
  - b. If your Average Daily Usage for the current billing period is less than 100 gallons, multiply the number of days in the billing period by 100. Divide the result by 1,000 and then multiply by \$4.33.
4. Add the Service Charge and the Usage Charge to get the total for the billing period. See the next page for examples.

# EXAMPLE BILL 1

BRISTOL WATER DISTRICT  
PO BOX 249  
BRISTOL VT 05443

**Step 1:** To calculate the number of Equivalent Units (EUs) assigned to the account, it is necessary to know the average usage for the past year. This number can be obtained by averaging the "Average Daily Usage" from the four most recent bills or by contacting the Water District. In this case, the customer's average daily usage for the previous four bills is 120 gallons per day. Divide this number by 100 gallons to get 1.2 EUs. Please note that this number can not be less than 1.0.

**Step 2:** Multiply 1.2 EUs from Step 1 by the service charge for the billing period. The billing period is the number of days listed as "Service Charge Days" on your bill. The service charge for the billing period is:

$\$89.88$  per year per EU x (91 days / 365 days) x 1.2 EUs =  **$\$26.89$**

**Step 3:** Based on the meter readings, there were 10,000 gallons of usage for the billing period. The charge for water usage is  $\$4.33$  per 1,000 gallons of usage, or about  $\$0.00433$  per gallon:

$\$0.00433$  per gallon x 10,000 gallons =  **$\$43.30$**

WATER BILL APRIL 3, 2017

<b>METER READINGS:</b>		
<b>CURRENT :</b>	<b>03/13/17</b>	<b>168000</b>
<b>PREVIOUS:</b>	<b>12/12/16</b>	<b>158000</b>
	<b>USAGE :</b>	<b>10000</b>
<b>AVERAGE DAILY USAGE: 110</b>		
<b>SERVICE CHARGE DAYS: 91</b>		

**Step 4:** Add the Service Charge (Step 2) to the Usage Charge (Step 3) to obtain the total charge for the billing period.

Service Charge + Usage Charge = Total Charge

$\$26.89$  +  $\$43.30$  =  **$\$70.19$**

If you have further questions or need more information, please contact the town office at 802-453-2410.

# EXAMPLE BILL 2

BRISTOL WATER DISTRICT  
PO BOX 249  
BRISTOL VT 05443

**Step 1:** To calculate the number of Equivalent Units (EUs) assigned to the account, it is necessary to know the average usage for the past year. This number can be obtained by averaging the "Average Daily Usage" from the four most recent bills or by contacting the Water District. In this case, the customer's average daily usage for the previous four bills is 93 gallons per day. Divide this number by 100 gallons to get 0.9 EUs. Please note that this number can not be less than 1.0, so the minimum of 1.0 EU will be used.

**Step 2:** Multiply 1.0 EU from Step 1 by the service charge for the billing period. The billing period is the number of days listed as "Service Charge Days" on your bill. The service charge for the billing period is:

$\$89.88$  per year per EU x (94 days / 365 days) x 1.0 EUs =  **$\$23.15$**

**Step 3:** Based on the meter readings, there were 9,000 gallons of usage for the billing period. The charge for water usage is  $\$4.33$  per 1,000 gallons of usage, or about  $\$0.00433$  per gallon. If the average for the quarter is less than 100 gallons per day, 100 gallons per day will be used as a minimum charge. Because of this, we'll have to calculate what the minimum usage fee is based on the billing service period:

$\$0.00433$  per gallon x 94 days x 100 gallons per day =  **$\$40.70$**

WATER BILL APRIL 3, 2017

<b>METER READINGS:</b>		
<b>CURRENT :</b>	<b>3/13/2017</b>	<b>222000</b>
<b>PREVIOUS:</b>	<b>12/9/2017</b>	<b>213000</b>
	<b>USAGE :</b>	<b>9000</b>
<b>AVERAGE DAILY USAGE: 96</b>		
<b>SERVICE CHARGE DAYS: 94</b>		

**Step 4:** Add the Service Charge (Step 2) to the Usage Charge (Step 3) to obtain the total charge for the billing period.

Service Charge + Usage Charge = Total Charge

$\$23.15$  +  $\$40.70$  =  **$\$63.85$**

If you have further questions or need more information, please contact the town office at 802-453-2410.