

**Appendix A to User Charge System**  
 City of Meta Forced Option #1 Rates with Water Tower Fund Transfer - May 2021

This appendix presents the methodology to be used in calculating user charge rates and illustrates the calculations followed in arriving at the first year's user charges. The unit costs established in this appendix are based on estimates of expenses. The actual expenses that occur may differ from these estimates and certainly they will change as time passes. Therefore, the unit cost must be reestablished whenever necessary to reflect actual expenses. Once the system is in use, the expenses can be determined from operating records and the unit costs can be adjusted based on these figures. By using the total water metered to customers as a bases for setting the rate, the cost of water loss is distributed even among users.

**1. Expenses:** The total annual expenses associated with the treatment works, as defined in article II, Section 8, are estimated as follows:

<u>Item</u>	<u>Annual Expense</u>
Billing and Collection	\$ 600.00
Administration	\$ -
Power	\$ 2,000.00
Labor (including fringe benefits)	\$ 8,000.00
Material Costs	\$ -
Replacement Costs (see Appendix C)	\$ 0.00
Transfer to Water Tower Fund	\$ 26,000.00
Insurance	
Professional service	\$ 300.00
Repairs & maintenance	\$ 6,500.00
Misc. Expense	
Vehicle expense	\$ 100.00
Dues and training	\$ 1,100.00
Contract Labor	\$ 17,675.00
Water Testing	\$ 425.00
<b>Total Expenses</b>	<b>\$ 62,700.00</b>

**Revenues Received from Other Sources**

Interest income	\$ -
Fees and charges	\$ -
Other Revenue (specify)	\$ -
Other Revenue (specify)	\$ -
Other Revenue (specify)	\$ -
<b>Total Revenues from Other Sources:</b>	<b>\$ -</b>
<b>Total Expenses to be Derived from User Charges:</b>	<b>\$ 62,700.00</b>

**2. Allocation of Expenses:** The total operation and maintenance, including replacement expenses, is allocated in the following manner:

<u>Minimum</u>	<u>Volume</u>
Billing and Collection	Water Purchased \$ 425.00
Administration	Power \$ 2,000.00
Debt Service*	Labor (including fringe benefits) \$ 8,000.00
Other (specify)	Material \$ -
Other (specify)	Replacement (see Appendix C) \$ 0.00
Other (specify)	Insurance \$ -
Other (specify)	Professional services \$ 300.00
Other (specify)	Repairs & maintenance \$ 6,500.00
Other (specify)	Misc. Expense \$ -
Other (specify)	Vehicle expense \$ 100.00
Other (specify)	Dues and training \$ 1,100.00
<b>Total</b>	<b>Contract Labor \$ 17,675.00</b>
	<b>Total \$ 36,100.00</b>

**3. Annual Metered Water, Billing and, Connection Information**

Total water metered to customers	4,500,000 Gallons Per Year
Number of billing periods	12
Number of Service Connections	106
Gals/month/customer	3,538

**4. Volume Charge**

$$\begin{aligned}
 \text{Volume Unit Charge} &= \frac{\text{Annual cost allocated to volume}}{\text{Total water metered to customers}} \\
 &= \frac{\$ 36,100.00}{4,500,000} \\
 &= \$ 0.008023 \text{ per gallon} \\
 &= \$ 11.00 \text{ per 1000 gallons (rounded up)}
 \end{aligned}$$

**5. Minimum Charge**

$$\begin{aligned}
 \text{Minimum Charge} &= \text{Annual cost allocated to minimum/Number of service connections/Number of billing periods} \\
 &= \$ 11.00
 \end{aligned}$$

**6. Example User Charge**

Assume 3,000 gallons used.

$$\begin{aligned}
 \text{User Charge} &= \text{Minimum Charge} + [(\text{Gallons Used}/1,000) \times \text{Volume Charge per 1,000 gallons}] \\
 &= \$11.00 + [(3,000/1,000) \times \$11.00] \\
 &= \$ 44.00 \text{ per month}
 \end{aligned}$$

**Are rates sufficient?**

$$\begin{aligned}
 \text{Annual revenues generated from Minimum Charge} &= \text{Minimum Charge per billing period} \times \text{Number of Billing Periods} \times \text{Number of Connections} \\
 \text{Annual revenues generated from Minimum Charge} &= \$11.00 \times 12 \times 106 \\
 \text{Annual revenues generated from Minimum Charge} &= \$ 13,992.00 \\
 \text{Annual revenues generated from Residential Unit Charge} &= \text{Volume Charge} \times \text{Total Annual Flow in 1000 gallons} \\
 \text{Annual revenues generated from Residential Unit Charge} &= \$11.00 \times 4,500,000/1000 \\
 \text{Annual revenues generated from Residential Unit Charge} &= \$ 49,500.00 \\
 \text{Total Annual Revenues} &= \text{Annual revenues generated from Minimum Charge} + \text{Annual revenues generated from Residential Unit Charge} \\
 \text{Total Annual Revenues} &= \$13,992.00 + \$49,500.00 \\
 \text{Total Annual Revenues} &= \$ 63,492.00 \\
 \text{Budget Surplus/(Deficit)} &= \text{Total Annual Revenues} - \text{Total Expenses to be Derived From User Charges} \\
 \text{Budget Surplus/(Deficit)} &= \$63,492.00 - \$62,700.00 \\
 \text{Budget Surplus/(Deficit)} &= \$792.00
 \end{aligned}$$