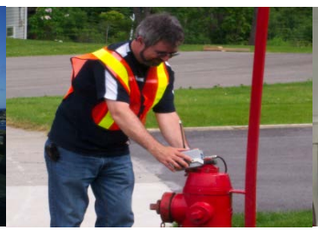


Flow Monitoring and Recording

General Guidelines

- ❑ Identify the type of flowmeter (i.e. magnetic, turbine, ultrasonic, paddle wheel)
- ❑ Identify when the flow meter was installed
- ❑ Identify if the flowmeter records instantaneous and/or total flow
- ❑ Verify logging capability of meter; are flows recorded automatically
- ❑ Ensure flowmeter is calibrated on an annual basis
- ❑ Ensure a by-pass is present to enable servicing and repair of meter

Daily Tasks

- ❑ Ensure that screen displays the appropriate readings (total and/or instantaneous flow)
- ❑ Ensure that the units (gpm, L/s, L/min, m^3/s, etc.) are consistent with previous recordings
- ❑ Record flows on a daily basis to aid in calculating the Daily Flow (sample calculation below)
- ❑ Ensure total flow is read and recorded at the same time each day (when possible)

Sample Flow Meter Record and Calculations

Date	Time of Day	Totalizer Reading (Units)
January 1, 2019	9:00 AM	(Day 1) 205,050 L
January 2, 2019	9:00 AM	(Day 2) 218,020 L
January 3, 2019	9:00 AM	(Day 3) 230,500 L

Sample Calculation 1 - Daily Flow (DF)

$$\text{Day 2 - Day 1} = 218{,}020\ \text{L} - 205{,}050\ \text{L} = 12{,}970\ \text{L/day}$$

Sample Calculation 2 - Average Daily Flow (ADF)

$$\frac{\text{Day 3 - Day 1}}{\text{Number of days between readings}} = \frac{230{,}500\ \text{L} - 205{,}050\ \text{L}}{2\ \text{days}} = 12{,}725\ \text{L/day}$$

Identifying Distribution System Leaks

- ❑ Analyze average daily flow data for at least 30 days and identify any anomalies.
- ❑ Identify if there is a consistent or significant increase in flow compared to previous months; this could indicate leaks in the distribution system
- ❑ Observe instantaneous flow between 1:00 AM and 3:00 AM; a consistent demand during this time could indicate leaks in the distribution system
- ❑ Follow leak detection procedures or hire specialized contractors to locate leaks
- ❑ Check individual houses or properties for internal leaks or open taps

Newfoundland Labrador

Environment, Climate Change & Municipalities
Water Resources Management Division
Drinking Water and Wastewater Section