RESIDENTIAL WATER METER PILOT
BCWWA Operator Continuing Education Day, New Westminster
November 27, 2019
Which address uses more water?
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196,000 Litres per month
RESIDENTIAL WATER METER PILOT STUDY

Which address uses more water?

This is one of the findings from a pilot study involving the installation of 300 residential water meters on a random sample of Vancouver homes.
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Why do a pilot study?

- Vancouver currently meters all new/renovated single family homes + homes on lots larger than 0.4 acres
- Consumption data is skewed because of this biased sample
- Pilot study on random unmetered homes would provide a better idea of actual residential consumption patterns
- 300 meters would be a representative sample
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Participant Criteria:

• Does not have a development permit
• No busy streets
• House not too old (service in poor condition)
• 20 mm service line
• Minimum 5 M from main to PL
• Copper connection, no PVC or Kitec
• Must be more than 50 M from known Archaeological sites
• No deeper than 3 feet so we could pull the service up to 2 feet
• 5 M from trees/light standards
• No landscaping/hardscaping

Extensive groundtruthing reduced the risk of delays and higher costs during the installation phase
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Unmetered older homes use an average 933 litres per day, or 340 m$^3$ per year.

THE LEAK BRIGADE

Five homes on 60 random blocks

AVERAGE INSTALL: $1,600

Created unique route so the meters could be read monthly.
Findings

Top Five

3,653,000 litres in one month
Findings

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3,653,000 litres in one month
Residential Water Meter Pilot Study

Findings

Estimated 11,127,261,600 litres per year lost to leakage

This equals 9.9% of total water purchase

3,653,000 litres in one month
Consumption vs Rates

Unmetered older homes use an average 930 litres per day, or 340 m$^3$ per year.

New homes on similar size lots use an average 1208 litres per day, or 440 m$^3$ per year.
Consumption vs Rates

Average $716 annual flat rate for water

Average $631 metered rate for water
Consumption vs Rates

The new home paying metered water rates uses 22% more water and pays 13.5% less for it than older homes on the flat rate.
The higher consumption occurs during summer months, so it is likely related to landscape irrigation, not increased density.
87% of study participants would pay less on the metered rate for water and sewer than what they are currently paying on the flat rate.
What did we learn?

- $1,600 - Average cost of install (but does not represent true cost)
- Information on consumption/rates will trigger rate review
- Residential leakage could be as high as 15% of total water purchase
- Information on leakage rate triggered new program: Leak Brigade
- Gave us some idea what we might be in for when we go to universal metering
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QUESTIONS