

Taking into consideration the character of the ground in which the mains are laid, and that the pipe system is of cast iron with leaded joints, the leakage from the mains and services should not exceed 10,000 gallons per mile of main, or 1,500,000 gallons per day, or 20 gallons per consumer. For public and commercial purposes about the same quantity may be allowed, leaving 4,500,000 as the domestic consumption, or 60 gallons per capita.

The legitimate domestic consumption may be reduced to 30 gallons per capita by metering the services.

At the Ferguson Avenue Pumping Station the cost of repumping 130,000 gallons daily is now approximately three and one-half cents per thousand gallons.

The service pipes supplied by this system, and the Wentworth street air lift, should be metered.

**Summary of Estimated Costs of Proposed Improvements and
Extensionse now essential.**

(a) Intake and Crib	\$60,000 00
(b) High Level Station.. . . .	67,000 00
(c) Beach Station.. . . .	70,000 00
(d) Force Main	296,000 00
(e) Submains	42,000 00
(f) Conduit.	30,000 00
Total.. . . .	<u>\$565,000 00</u>
Less amount now authorized by by-law.. . . .	<u>35,000 00</u>

Amount required for present extensions and improvements \$530,000 00

Estimated Cost of Additional Improvements and Extensions.

(g) Additional Submains.. . . .	\$73,000 00
(h) Reservoir	120,000 00
(i) 2,000 Meters, set	27,000 00
	<u>\$220,000 00</u>

Respectfully submitted.

ANDREW F. MACALLUM,
City Engineer.

WILLIS CHIPMAN,
Civil and Sanitary Engineer.

Hamilton, October 7th, 1911.