

24 Ridge Road
Longmeadow, MA 01106
Tel: 413/567-1175
July 13, 2015

Longmeadow Board of Selectmen
Longmeadow Water & Sewer Commissioners
20 Williams Street
Longmeadow, MA 01106

Dear Board of Selectmen, Water & Sewer Commissioners:

It is my substantiated opinion that our present Water and Sewer (W&S) policy that forbids residential customers from utilizing irrigation water meters while allowing commercial customers to utilize such meters is an obvious practice of **Undue Rate Discrimination**. MGL c. 41: § 69B and MGL c. 83: §16 require that W&S charges be "JUST (FAIR) AND EQUITABLE." In addition, since we as a community voted to establish the water and sewer departments as separate "**Enterprise Funds**" under G.L.c.44, § 53F1/2, the Massachusetts Department of Revenue guidelines state that, "**The fees imposed for any municipal service must comply with legal standards.**" Collectively, homeowners are billed out approximately **\$585,000** a year for these unjustified sewer charges, for water that never enters the sewers. It is my opinion that to charge our community over a half-million dollars a year for a service not rendered, cannot be considered "**just and equitable**".

It is also my belief that the need to establish "**just and equitable**" W&S policies is required by the oath of office sworn by each Longmeadow elected official:

"I, _____, do solemnly swear and affirm that I will faithfully and impartially discharge and perform all the duties incumbent on me as Town Selectmen, according to the best of my abilities and understanding, agreeably, to the rules and regulations of the constitution, and the laws of this Commonwealth - So help me G-d."

Note: Under the Constitution and Laws of the Commonwealth every person chosen to any office, is required to take and subscribe the above oath or affirmation: (Commonwealth of Massachusetts the Manual for the General Court 1997-1998, pg. 239).

Irrigation water meters have been utilized by commercial customers in Longmeadow for several decades. Irrigation meters for residential customers are common practice in: Agawam, Chicopee, Ludlow, and Springfield; many Longmeadow residents also feel that it is long overdue that Longmeadow W&S policy become “**just and equitable.**”

As an economic good, our water/sewer system must be managed and maintained properly and remain financially accessible through fair and equitable rates for maximum utilization to minimize cost. The Longmeadow Finance Committee in their recent 2015 annual report stated the following:

“The Finance Committee encourages the Select Board (Water & Sewer Commissioners) to form a (Water & Sewer) advisory committee to (i) review the anticipated capital improvements; and (ii) make recommendations for the proper rates to build a capital improvement reserve fund.”

Based on all of the preceding reasoned statements above, I feel that the Longmeadow Water and Sewer Commissioners need to support and implement an irrigation water meter rate policy for any customer that chooses to have an irrigation meter installed or for annual consumption above 150 ccf or other such substantiated policy. [It is noted that the present expected installed price (including labor and materials) for an irrigation water meter is approximately \$315.]

Based on a detailed analysis with historic 2006 usage patterns, the W&S billing determinants with the existing 220 sewer cap policy are as follows:

# Cust			WATER (ccf)	SEWER (ccf)
5493	Residential:	Interior:	439,440	439,440
		Irrigation:	<u>342,922</u>	<u>249,197</u>
			782,362	688,637
148	Non-Residential:	Interior:	66,939	66,939
31		Irrigation:	<u>14,486</u>	
			81,425	
	Totals:	Interior:	506,379	755,576
		Irrigation:	<u>357,408</u>	
			863,787	

Based on a detailed analysis with more recent usage patterns that are approximately **10%** less than previous years, the W&S billing determinants (**without** the 220 sewer cap) with irrigation meters are as follows:

# Cust			WATER (ccf)	SEWER (ccf)
5493	Residential:	Interior:	395,496	395,496
		Irrigation:	<u>308,630</u>	
			704,126	
148	Non-Residential:	Interior:	60,245	60,245
31		Irrigation:	<u>13,037</u>	
			73,283	
	Totals:	Interior:	455,741	455,741
		Irrigation:	<u>321,667</u>	
			777,408	

Based on further analysis, the following billing components will provide sufficient revenue to meet/exceed the recently approved budget of \$4,009,500:

\$2.70 /ccf, water	455,741 ccf	\$ 1,230,500
\$2.97/ccf, irrigation (10% more)	321,667 ccf	<u>\$ 955,350</u>
		\$ 2,185,850
\$3.35, sewer	455,741 ccf	\$ 1,525,827
Metering/Administrative Charges (Estimated)		<u>\$ 301,808</u>
		\$ 1,827,635
	Total:	\$ 4,013,485

Note 1: 10% was added to the irrigation billing component to include electricity costs for the Forest Glen pumping station and an additional amount to stabilize revenue caused by the uneven seasonal irrigation consumption.

Note 2: Metering charges are based on quarterly billings.

Note 3: The **Article 23** chart information was based on the above billing determinants.

Based on a detailed analysis with 3-year average usage patterns (2012-2014), the W&S billing determinants (**without** the 220 sewer cap policy) with irrigation meters are as follows:

# Cust			WATER (ccf)	SEWER (ccf)
5493	Residential:	Interior:	439,440	439,440
		Irrigation:	342,922	
			782,362	
148	Non-Residential:	Interior (<= 1000):	44,372	44,372
(16)	Commercial & Institutional	Interior (> 1000):	22,567	22,567
31		Irrigation:	14,486	
			58,858	
	Totals:	Interior:	506,379	483,812
		Irrigation:	<u>357,408</u>	
			863,787	

Based on further analysis, the following billing components will provide sufficient revenue to meet/exceed the recently approved budget of \$4,009,500:

\$2.50/ccf, water, Residential	439,440 ccf	\$ 1,098,600
\$2.50/ccf, water, Non-Residential	44,372 ccf	\$110,930
\$2.00/ccf , water > 1000 ccf	22,567 ccf	\$45,134
\$2.75/ccf, irrigation (10% more)	357,508 ccf	<u>\$ 982,872</u>
		\$ 2,237,536

\$3.05/ccf, Sewer, Residential	439,440 ccf	\$ 1,340,292
\$3.05/ccf, Sewer, Non-Residential	44,372 ccf	\$135,335
\$2.44/ccf , water > 1000 ccf	22,567 ccf	<u>\$55,063</u>
		\$1,530,690

Metering/Administrative Charges (Approximate): \$ 301,808

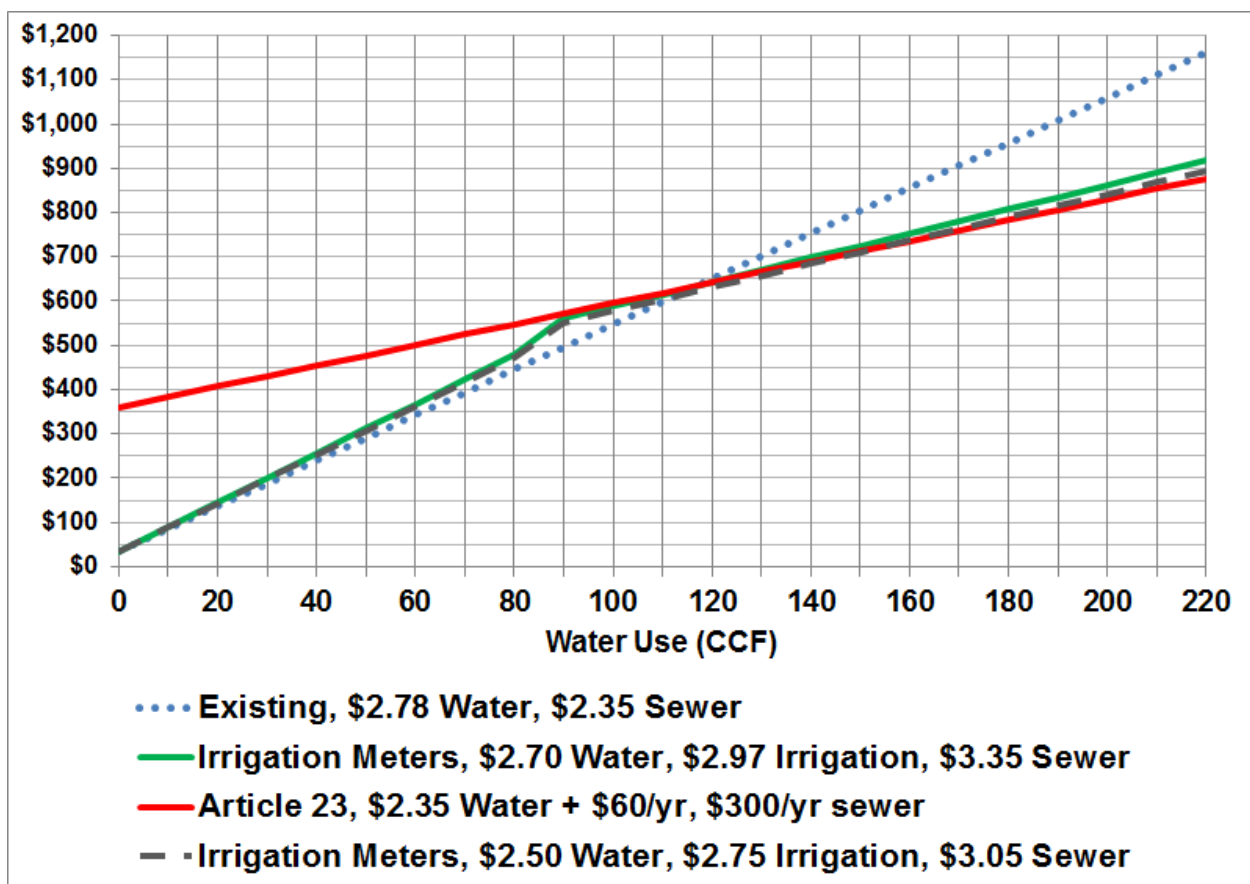
Total: \$ 4,070,034

Note 1: 10% was added to the irrigation billing component to include electricity costs for the Forest Glen pumping station and an additional amount to stabilize revenue caused by the uneven seasonal irrigation consumption.

Note 2: Metering charges are based on quarterly billings.

The chart below was produced using the previously established billing determinants and billing components:

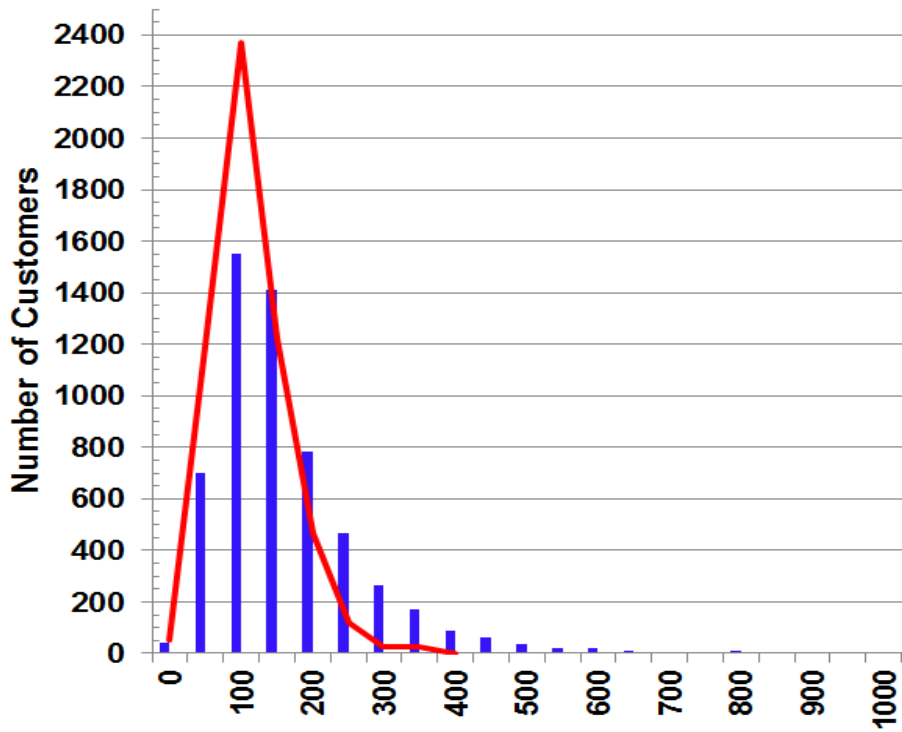
Residential Use [Typical 80 ccf/yr Household Use]



Note A: The **Article 23** chart information (above) was based on the billing determinants on page 3.

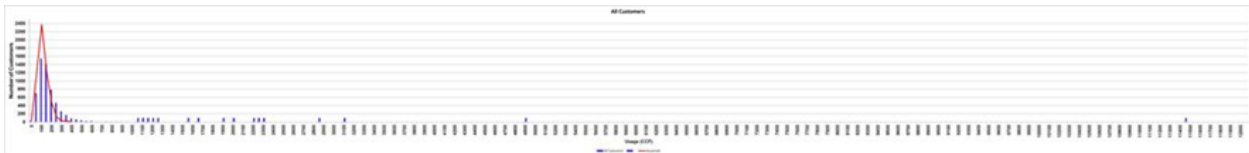
Note B: Proposed irrigation metering rates to include quarterly billing.

Annual Water Use
 [Red – Household Blue – All Customers]

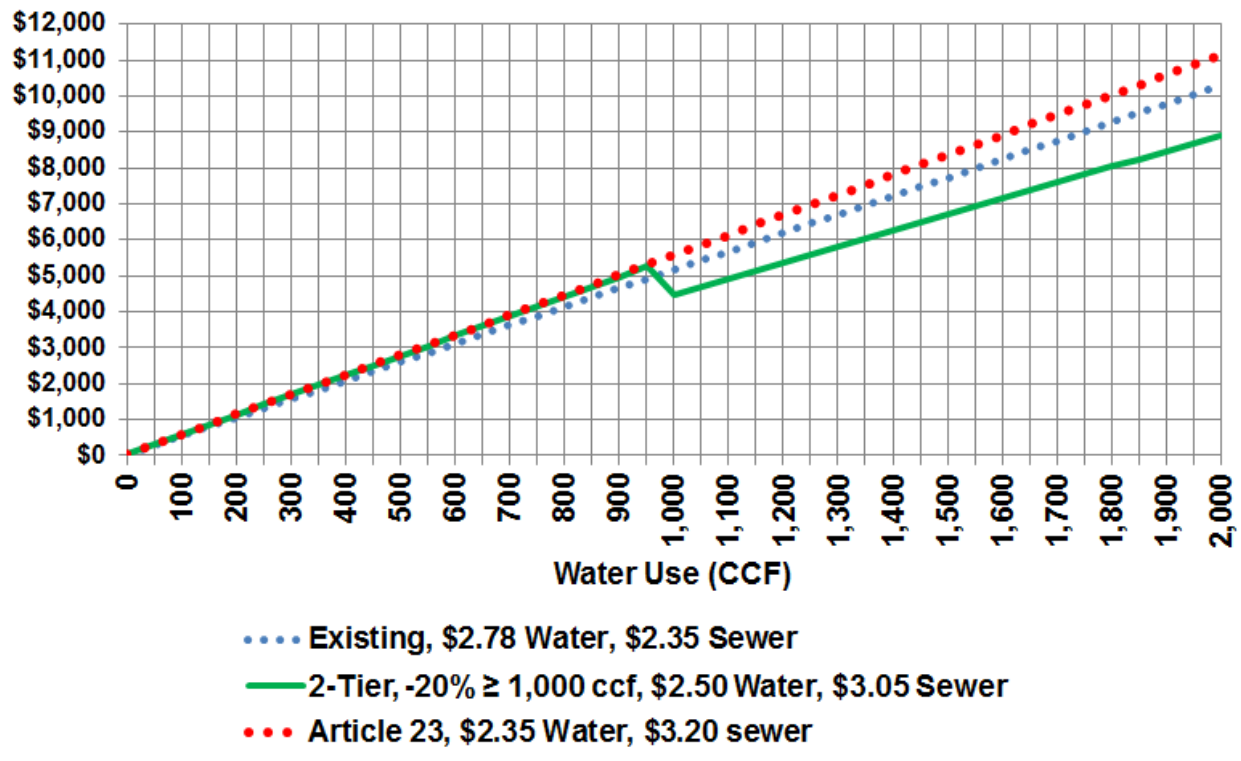


Actual Distribution

Home & Small Commercial: 99% of all customers
 There are approximately 16 (<1%) accounts $\geq 1,000$ ccf
 Large non-residential customers are a special rate class



Non-Residential W&S Cost V. Consumption



Quarterly Billing System:

Since it will likely take more than two years to install the needed irrigation water meters, it is recommended that an interim billing system be established to provide equity using a quarterly billing system:

a) Quarterly billing would provide the following advantages:

- ~ Improved cash flow for DPW;
- ~ Improved feedback to customers of seasonal water use, since the present billing system with February and August semi-annual readings does not allow most customers to review their seasonal water use.

b) A quarterly billing system can allow compensation for irrigation and could be initially achieved by crediting for seasonal differences in consumption;

Example:

1st quarter: 20 ccf (Feb-April)

2nd quarter: 100 ccf (May-July)

3rd quarter: 110ccf (Aug-Oct)

4th quarter: 25 ccf (Nov-Jan)

Billed water use: $20 + 100 + 110 + 25 = 255$ CCF

Billed sewer use: $(1\text{st quarter} + 4\text{th quarter}) \times 2 = (20+25) \times 2 = 90$ CCF

In this way the economy of irrigation water meters would be realized for all customers and the maximum pricing signals for conservation would also be achieved.

The advantage of this approach is that fairness and equity can be achieved for all customers immediately by adopting the above policy; improved and more accurate data will be achieved with the installation of irrigation water meters for larger use accounts (annual water use above 150 ccf) or other customers who request irrigation sub-metering.

CONCLUSION

Due to the dramatically different character of use and cost of service, water and sewer policy is justified in recognizing three distinct rate classes:

- a) Residential and small commercial;
- b) Irrigation;
- c) Large commercial > 1,000 ccf/yr


A policy allowing irrigation water meters for both residential and non-residential customers will provide fair and equitable W&S rates that more accurately and consistently procure budgeted revenue for the Water Enterprise fund and the Sewer Enterprise fund. By separately accounting for irrigation use with irrigation water meters, it will now be possible and desirable to have a somewhat greater (10%) billing component for irrigation water to include pumping costs and factors for seasonal variations in consumption. Large commercial customers with annual usage > 1,000 ccf are the top 1% of all customers and are rightfully placed on a separate customer class; a discount for usage of 20% for amounts greater than 1,000 ccf is justified due to different costs of service for such accounts. In order to be able to better determine an

improved consensus on billing components, it is recommended that there be a more refined determination of:

- i) Long-term and short-term W&S capital projects;
- ii) Water and sewer billing determinants; examine 2012 - 2014 electronic data of water consumption for all customers;
- iii) Monthly consumption data for all customers;
- iv) Specific fees for proposed quarterly billing.

Please feel free to contact me to discuss any of these matters further.

Sincerely,



-Curt M. Freedman, PE, CEM, CEA, LEED AP



Certifications:

- ~ Registered Professional Engineer in: CT, **MA**, MD, ME, NH, NJ, NY, PA, RI, & VT
- ~ Certified Energy Manager (**CEM**) as endorsed by the Association of Energy Engineers
- ~ Certified Energy Auditor (**CEA**) as endorsed by the Association of Energy Engineers
- ~ **LEED** Accredited Professional as endorsed by the U. S. Green Building Council
- ~ Adjunct Professor of Energy Management, Western New England University